

# Chip Coils



# CONTENTS

|                                                      |    |
|------------------------------------------------------|----|
| Part Numbering                                       | 2  |
| Products Guide                                       | 4  |
| Selection Guide                                      | 5  |
| <b>High Frequency</b>                                |    |
| 1 Monolithic Type LQG15H/LQG18H Series               | 6  |
| 2 Film Type LQP03T/LQP15T/LQP15M/LQP18M Series       | 13 |
| 3 Wound Type LQW15A/LQW18A Series                    | 23 |
| 4 Wound Type LQW2BH/LQW31H Series                    | 33 |
| 5 Wound Type LQH31H Series                           | 37 |
| <b>for General Use</b>                               |    |
| 6 Monolithic Type LQM18N/LQM21N Series               | 38 |
| 7 Wound Type LQH31M/LQH32M/LQH43M (N) Series         | 41 |
| <b>for DC-DC Converter</b>                           |    |
| 8 Wound Type LQH2MC Series                           | 47 |
| <b>for Choke</b>                                     |    |
| 9 Monolithic Type LQM21D/LQM21F/LQM31F Series        | 48 |
| 10 Wound Type LQH31C/LQH32C/LQH43C Series            | 52 |
| 11 Magnetic Shielded Type LQH3KS Series              | 57 |
| 12 Wound/Magnetic Shielded Type LQH55D/LQH66S Series | 59 |
| ⚠Caution/Notice                                      | 62 |
| Packaging                                            | 69 |
| Design Kits                                          | 71 |
| Information                                          | 83 |

## ● Part Numbering

### Chip Coils (SMD)

(Part Number)

|    |   |    |   |   |     |   |   |   |   |
|----|---|----|---|---|-----|---|---|---|---|
| LQ | H | 32 | M | N | 331 | K | 2 | 3 | L |
| ①  | ② | ③  | ④ | ⑤ | ⑥   | ⑦ | ⑧ | ⑨ | ⑩ |

#### ① Product ID

| Product ID |            |
|------------|------------|
| LQ         | Chip Coils |

#### ② Structure

| Code | Structure                       |
|------|---------------------------------|
| G    | Monolithic Type (Air-core Coil) |
| H    | Wound Type (Ferrite Core)       |
| M    | Monolithic Type (Ferrite Core)  |
| P    | Film Type                       |
| W    | Wound Type (Air-core Coil)      |

#### ③ Dimensions (L×W)

| Code | Dimensions (L×W) | EIA  |
|------|------------------|------|
| 03   | 0.6×0.3mm        | 0201 |
| 15   | 1.0×0.5mm        | 0402 |
| 18   | 1.6×0.8mm        | 0603 |
| 21   | 2.0×1.25mm       | 0805 |
| 2B   | 2.0×1.5mm        | 0805 |
| 2M   | 2.0×1.6mm        | 0806 |
| 31   | 3.2×1.6mm        | 1206 |
| 32   | 3.2×2.5mm        | 1210 |
| 3K   | 3.3×3.3mm        | 1212 |
| 43   | 4.5×3.2mm        | 1812 |
| 55   | 5.7×5.0mm        | 2220 |
| 66   | 6.3×6.3mm        | 2525 |

#### ④ Applications and Characteristics

| Code | Series | Applications and Characteristics          |
|------|--------|-------------------------------------------|
| H    | LQG    | Monolithic Air-core                       |
| N    |        | for Resonant Circuit                      |
| D    | LQM    | for Choke (Low-current DC Power Supplies) |
| F    |        | for Choke (DC Power Supplies)             |
| M    | LQP    | Film Type                                 |
| T    |        | Film Type (Low DC Resistance Type)        |
| A    | LQW    | High Q Type (UHF-SHF)                     |
| H    |        | High Q Type (VHF-UHF)                     |
| N    |        | for Resonant Circuit                      |
| M    |        | for Resonant Circuit (Coating Type)       |
| D    | LQH    | for Choke                                 |
| C    |        | for Choke (Coating Type)                  |
| S    |        | for Choke (Magnetically Shielded Type)    |
| H    |        | for High-frequency Resonant Circuit       |

#### ⑤ Category

| Code | Category      |
|------|---------------|
| N    | Standard Type |
| S    |               |

#### ⑥ Inductance

Expressed by three figures. The unit is micro-henry (μH). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R". In this case, all figures are significant digits. If inductance is less than 0.1μH, the inductance code is expressed by a combination of two figures and the capital letter "N", and the unit of inductance is nano-henry (nH). The capital letter "N" indicates the unit of "nH", and also expresses a decimal point. In this case, all figures are significant digits.

#### ⑦ Inductance Tolerance

| Code | Inductance Tolerance |
|------|----------------------|
| B    | ±0.1nH               |
| C    | ±0.2nH               |
| D    | ±0.5nH               |
| G    | ±2%                  |
| H    | ±3%                  |
| J    | ±5%                  |
| K    | ±10%                 |
| M    | ±20%                 |
| N    | ±30%                 |
| S    | ±0.3nH               |
| W    | ±0.05nH              |

#### ⑧ Features

| Code | Features                     | Series                  |
|------|------------------------------|-------------------------|
| 0    | Standard Type                | LQG/LQP/LQW/LQM*1/LQH*2 |
| 1    | High-Q/<br>Low DC Resistance | LQW15A/LQW18A/LQW2BH    |
|      | Standard Type                | LQM21N                  |
|      | Low DC Resistance            | LQH32C                  |
| 2    | Standard Type                | LQH32C/LQH32M/LQH3KS    |
| 3    | Low DC Resistance            | LQH32C                  |
| 5    | Low Profile Type             | LQH32C/LQH3KS           |
| 7    | Large Current Type           | LQM21F                  |

\*1 : Except LQM21N Series

\*2 : Except LQH32/LQH3K Series

#### ⑨ Electrode

•Lead (Pb) Free

| Code | Electrode | Series                      |
|------|-----------|-----------------------------|
| 0    | Sn        | LQG18H/LQP03T/LQW□□A/LQM    |
| 2    |           | LQG15H/LQP15T/LQP□□M/LQH2MC |
| 3    | LF Solder | LQW□□H/LQH (Except LQH2MC)  |

Continued on the following page. 

 Continued from the preceding page.

(Part Number)

|   |   |   |   |   |   |   |   |   |    |   |   |   |   |
|---|---|---|---|---|---|---|---|---|----|---|---|---|---|
| L | Q | H | 3 | 2 | M | N | 3 | 3 | 1  | K | 2 | 3 | L |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |   |   |   |   |

10Packaging

| Code | Packaging                    | Series                           |
|------|------------------------------|----------------------------------|
| K    | Plastic Taping (ø330mm Reel) | LQH*1 /LQW□□H/LQM31F/LQM21*2     |
| L    | Plastic Taping (ø180mm Reel) | LQH/LQW□□H/LQM31F/LQM21*2        |
| B    | Bulk                         | All Series                       |
| J    | Paper Taping (ø330mm Reel)   | LQW18A/LQG/LQM18N/LQM21*3 /LQP*4 |
| D    | Paper Taping (ø180mm Reel)   | LQW□□A/LQG/LQM18N/LQM21*3 /LQP   |

\*1 Except LQH43C/LQH66S  
\*2 LQM21D(22 - 47μH)/LQM21F(4.7 - 47μH)/LQM21N(2.7 - 4.7μH) only.  
\*3 LQM21D(1.0 - 10μH)/LQM21F(1.0 - 2.2μH)/LQM21N(0.1 - 2.2μH) only.  
\*4 Except LQP15T

## Products Guide

Murata's LQ□ series of chip coils consists of compact, high-performance inductors. Their innovative coil and case structures mean low DC resistance and outstanding high-frequency characteristics. The series is designed for a variety of applications, facilitating component selection for individual circuit requirements.

| Application                | Part Number | Structure                        | Dimensions     |          | Inductance Range (H) |        |       |         |      |      |    |     |
|----------------------------|-------------|----------------------------------|----------------|----------|----------------------|--------|-------|---------|------|------|----|-----|
|                            |             |                                  | (mm)           | EIA Code | 1n                   | 10n    | 100n  | 1μ      | 10μ  | 100μ | 1m | 10m |
| High Frequency Range       | LQG15H      | Multilayer                       | 1.0<br>■ ±0.5  | 0402     | 1.0nH                |        |       | 270nH   |      |      |    |     |
|                            | LQG18H      |                                  | 1.6<br>■ ±0.8  | 0603     | 1.2nH                |        |       | 100nH   |      |      |    |     |
| Tight Inductance Tolerance | LQP03T      | Film                             | 0.6<br>■ ±0.3  | 0201     | 0.6nH                |        |       | 27nH    |      |      |    |     |
|                            | LQP15T      |                                  | 1.0<br>■ ±0.5  | 0402     | 1.0nH                |        |       | 18nH    |      |      |    |     |
|                            | LQP15M      |                                  | 1.0<br>■ ±0.5  | 0402     | 1.0nH                |        |       | 33nH    |      |      |    |     |
|                            | LQP18M      |                                  | 1.6<br>■ ±0.8  | 0603     | 1.3nH                |        |       | 100nH   |      |      |    |     |
|                            | LQW15A      | Wound (air core)                 | 1.0<br>■ ±0.5  | 0402     | 1.3nH                |        |       | 120nH   |      |      |    |     |
|                            | LQW18A      |                                  | 1.6<br>■ ±0.8  | 0603     | 2.2nH                |        |       | 470nH   |      |      |    |     |
|                            | LQW2BH      |                                  | 2.0<br>■ ±1.5  | 0805     | 2.7nH                |        |       | 470nH   |      |      |    |     |
|                            | LQW31H      |                                  | 3.2<br>■ ±1.6  | 1206     | 8.8nH                |        |       | 100nH   |      |      |    |     |
|                            | LQH31H      | Wound (ferrite core)             | 3.2<br>■ ±1.6  | 1206     |                      | 54nH   |       | 880nH   |      |      |    |     |
| General Frequency Range    | LQM18N      | Magnetically shielded multilayer | 1.6<br>■ ±0.8  | 0603     |                      | 47nH   |       | 2200nH  |      |      |    |     |
|                            | LQM21N      |                                  | 2.0<br>■ ±1.25 | 0805     |                      | 0.1μH  |       | 4.7μH   |      |      |    |     |
|                            | LQH31M      | Wound (ferrite core)             | 3.2<br>■ ±1.6  | 1206     |                      | 0.15μH |       | 100μH   |      |      |    |     |
|                            | LQH32M      |                                  | 3.2<br>■ ±2.5  | 1210     |                      |        | 1.0μH | 560μH   |      |      |    |     |
|                            | LQH43M(N)   |                                  | 4.5<br>■ ±3.2  | 1812     |                      |        | 1.0μH | 2200μH  |      |      |    |     |
| DC-DC Converter Type       | LQH2MC      | Wound                            | 2.0<br>■ ±1.6  | 0806     |                      |        |       | 4.7μH   | 82μH |      |    |     |
| Chokes                     | LQM21D      | Magnetically shielded multilayer | 2.0<br>■ ±1.25 | 0805     |                      |        | 1.0μH | 47μH    |      |      |    |     |
|                            | LQM21F      |                                  | 2.0<br>■ ±1.25 | 0805     |                      |        | 1.0μH | 47μH    |      |      |    |     |
|                            | LQM31F      |                                  | 3.2<br>■ ±1.6  | 1206     |                      |        |       | 10μH    |      |      |    |     |
|                            | LQH31C      | Wound                            | 3.2<br>■ ±1.6  | 1206     |                      | 0.12μH |       | 100μH   |      |      |    |     |
|                            | LQH32C      |                                  | 3.2<br>■ ±2.5  | 1210     |                      | 0.15μH |       | 560μH   |      |      |    |     |
|                            | LQH43C      |                                  | 4.5<br>■ ±3.2  | 1812     |                      |        | 1.0μH | 470μH   |      |      |    |     |
|                            | LQH55D      | Wound                            | 5.7<br>■ ±5.0  | 2220     |                      | 0.12μH |       | 10000μH |      |      |    |     |
|                            | LQH3KS      | Magnetically shielded            | 3.3<br>■ ±3.3  | 1212     |                      |        | 3.3μH | 2200μH  |      |      |    |     |
|                            | LQH66S      | Magnetically shielded            | 6.3<br>■ ±6.3  | 2525     |                      | 0.27μH |       | 10000μH |      |      |    |     |

CAUTION : Use rosin-based flux, but not strong acidic flux (with chlorine content exceeding 0.2wt%) when soldering chip coil.  
Do not use water-soluble flux.

## Selection Guide



# Chip Coils



## High Frequency Monolithic Type LQG15H/LQG18H Series

### LQG15HN Series

The LQG15HN series are chip inductors specifically designed for high frequency applications. The LQG15H series is designed to realize stable characteristics in high frequency range applying integrated multilayer process. The integrated multilayer process enables a wide range of inductance values with tight tolerance.

#### ■ Features

1. High-Q, stable inductance in high frequency is achieved by the original structure that minimizes stray capacitance. It is suitable for the high frequency circuits of mobile communication equipment.
2. The small size of LQG15H (1.0x0.5x0.5mm) is suitable for small and low profile mobile equipment.
3. The external electrodes with nickel barrier structure provide excellent solder heat resistance.
4. Wide variation in inductance value  
1-10nH (E24 step)  
10-120nH (E12 step)

#### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general



| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQG15HN1N0S02 | 1.0 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN1N1S02 | 1.1 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN1N2S02 | 1.2 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN1N3S02 | 1.3 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN1N5S02 | 1.5 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN1N6S02 | 1.6 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN1N8S02 | 1.8 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN2N0S02 | 2.0 ±0.3nH      | 100                  | 300                | 0.12 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN2N2S02 | 2.2 ±0.3nH      | 100                  | 300                | 0.15 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN2N4S02 | 2.4 ±0.3nH      | 100                  | 300                | 0.16 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN2N7S02 | 2.7 ±0.3nH      | 100                  | 300                | 0.17 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN3N0S02 | 3.0 ±0.3nH      | 100                  | 300                | 0.18 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN3N3S02 | 3.3 ±0.3nH      | 100                  | 300                | 0.19 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN3N6S02 | 3.6 ±0.3nH      | 100                  | 300                | 0.19 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN3N9S02 | 3.9 ±0.3nH      | 100                  | 300                | 0.19 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN4N3S02 | 4.3 ±0.3nH      | 100                  | 300                | 0.21 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN4N7S02 | 4.7 ±0.3nH      | 100                  | 300                | 0.23 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HN5N1S02 | 5.1 ±0.3nH      | 100                  | 300                | 0.24 max.           | 8        | 100                  | 6000                                  | 0402 |

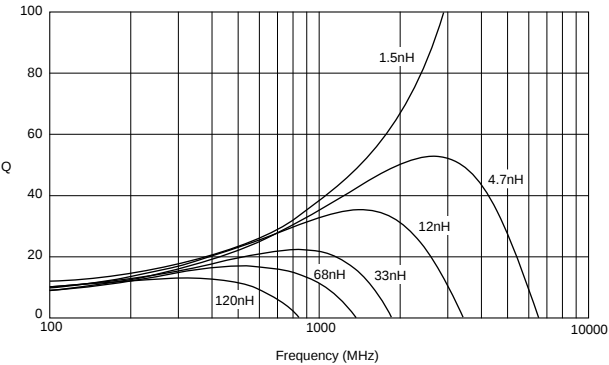
Continued on the following page. ↗

Continued from the preceding page.

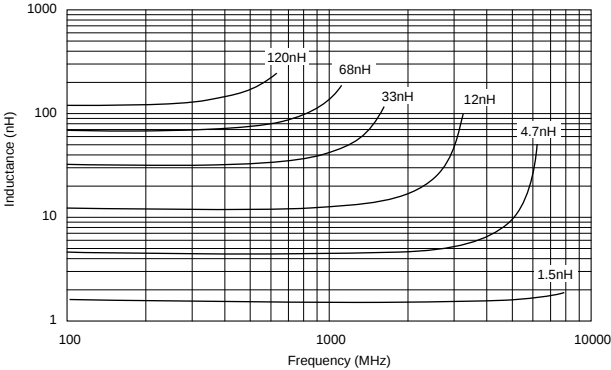
| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQG15HN5N6S02 | 5.6 ±0.3nH      | 100                  | 300                | 0.26 max.           | 8        | 100                  | 5300                                  | 0402 |
| LQG15HN6N2S02 | 6.2 ±0.3nH      | 100                  | 300                | 0.27 max.           | 8        | 100                  | 4300                                  | 0402 |
| LQG15HN6N8J02 | 6.8 ±5%         | 100                  | 300                | 0.29 max.           | 8        | 100                  | 4200                                  | 0402 |
| LQG15HN7N5J02 | 7.5 ±5%         | 100                  | 300                | 0.31 max.           | 8        | 100                  | 3900                                  | 0402 |
| LQG15HN8N2J02 | 8.2 ±5%         | 100                  | 300                | 0.33 max.           | 8        | 100                  | 3600                                  | 0402 |
| LQG15HN9N1J02 | 9.1 ±5%         | 100                  | 300                | 0.34 max.           | 8        | 100                  | 3400                                  | 0402 |
| LQG15HN10NJ02 | 10 ±5%          | 100                  | 300                | 0.35 max.           | 8        | 100                  | 3200                                  | 0402 |
| LQG15HN12NJ02 | 12 ±5%          | 100                  | 300                | 0.41 max.           | 8        | 100                  | 2800                                  | 0402 |
| LQG15HN15NJ02 | 15 ±5%          | 100                  | 300                | 0.46 max.           | 8        | 100                  | 2300                                  | 0402 |
| LQG15HN18NJ02 | 18 ±5%          | 100                  | 300                | 0.51 max.           | 8        | 100                  | 2100                                  | 0402 |
| LQG15HN22NJ02 | 22 ±5%          | 100                  | 300                | 0.58 max.           | 8        | 100                  | 1800                                  | 0402 |
| LQG15HN27NJ02 | 27 ±5%          | 100                  | 300                | 0.67 max.           | 8        | 100                  | 1600                                  | 0402 |
| LQG15HN33NJ02 | 33 ±5%          | 100                  | 200                | 0.67 max.           | 8        | 100                  | 1500                                  | 0402 |
| LQG15HN39NJ02 | 39 ±5%          | 100                  | 200                | 1.06 max.           | 8        | 100                  | 1200                                  | 0402 |
| LQG15HN47NJ02 | 47 ±5%          | 100                  | 200                | 1.15 max.           | 8        | 100                  | 1000                                  | 0402 |
| LQG15HN56NJ02 | 56 ±5%          | 100                  | 200                | 1.20 max.           | 8        | 100                  | 800                                   | 0402 |
| LQG15HN68NJ02 | 68 ±5%          | 100                  | 180                | 1.25 max.           | 8        | 100                  | 800                                   | 0402 |
| LQG15HN82NJ02 | 82 ±5%          | 100                  | 150                | 1.60 max.           | 8        | 100                  | 600                                   | 0402 |
| LQG15HNR10J02 | 100 ±5%         | 100                  | 150                | 1.60 max.           | 8        | 100                  | 600                                   | 0402 |
| LQG15HNR12J02 | 120 ±5%         | 100                  | 150                | 1.60 max.           | 8        | 100                  | 600                                   | 0402 |

Operating Temp. Range: -55°C to +125°C  
Only for reflow soldering.

Q-Frequency Characteristics



Inductance-Frequency Characteristics



## LQG15HS Series

The LQG15HS series are chip inductors specifically designed for high frequency applications. The LQG15H series is designed to realize stable characteristics in high frequency range applying integrated multilayer process. The integrated multilayer process enables a wide range of inductance values with tight tolerance.

Since recent mobile phones install color LCDs and camera modules, the power consumption becomes higher. In order to reduce power consumption a low DC resistance is strongly required. The LQG15HS has achieved the lowest DC resistance.



### ■ Features

1. High-Q, stable inductance in high frequency is achieved by the original structure that minimizes stray capacitance. It is suitable for the high frequency circuits of mobile communication equipment.
2. The small size of LQG15H (1.0x0.5x0.5mm) is suitable for small and low profile mobile equipment.
3. The external electrodes with nickel barrier structure provide excellent solder heat resistance.
4. Wide variation in inductance value
  - 1-10nH (E24 step)
  - 10-270nH (E12 step)

### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general

### ■ Supplements

The product with tight inductance tolerance.

Please contact our local sales or product engineers.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQG15HS1N0S02 | 1.0 ±0.3nH      | 100                  | 300                | 0.07 max.           | 8        | 100                  | 10000                                 | 0402 |
| LQG15HS1N1S02 | 1.1 ±0.3nH      | 100                  | 300                | 0.09 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS1N2S02 | 1.2 ±0.3nH      | 100                  | 300                | 0.09 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS1N3S02 | 1.3 ±0.3nH      | 100                  | 300                | 0.09 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS1N5S02 | 1.5 ±0.3nH      | 100                  | 300                | 0.1 max.            | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS1N6S02 | 1.6 ±0.3nH      | 100                  | 300                | 0.1 max.            | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS1N8S02 | 1.8 ±0.3nH      | 100                  | 300                | 0.1 max.            | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS2N0S02 | 2.0 ±0.3nH      | 100                  | 300                | 0.1 max.            | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS2N2S02 | 2.2 ±0.3nH      | 100                  | 300                | 0.12 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS2N4S02 | 2.4 ±0.3nH      | 100                  | 300                | 0.15 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS2N7S02 | 2.7 ±0.3nH      | 100                  | 300                | 0.15 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS3N0S02 | 3.0 ±0.3nH      | 100                  | 300                | 0.17 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS3N3S02 | 3.3 ±0.3nH      | 100                  | 300                | 0.17 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS3N6S02 | 3.6 ±0.3nH      | 100                  | 300                | 0.18 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS3N9S02 | 3.9 ±0.3nH      | 100                  | 300                | 0.18 max.           | 8        | 100                  | 6000                                  | 0402 |

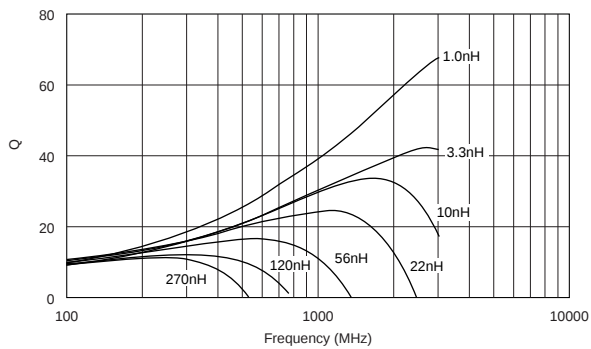
Continued on the following page.

Continued from the preceding page.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQG15HS4N3S02 | 4.3 ±0.3nH      | 100                  | 300                | 0.18 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS4N7S02 | 4.7 ±0.3nH      | 100                  | 300                | 0.18 max.           | 8        | 100                  | 6000                                  | 0402 |
| LQG15HS5N1S02 | 5.1 ±0.3nH      | 100                  | 300                | 0.2 max.            | 8        | 100                  | 5300                                  | 0402 |
| LQG15HS5N6S02 | 5.6 ±0.3nH      | 100                  | 300                | 0.2 max.            | 8        | 100                  | 4500                                  | 0402 |
| LQG15HS6N2S02 | 6.2 ±0.3nH      | 100                  | 300                | 0.22 max.           | 8        | 100                  | 4500                                  | 0402 |
| LQG15HS6N8J02 | 6.8 ±5%         | 100                  | 300                | 0.24 max.           | 8        | 100                  | 4500                                  | 0402 |
| LQG15HS7N5J02 | 7.5 ±5%         | 100                  | 300                | 0.24 max.           | 8        | 100                  | 4200                                  | 0402 |
| LQG15HS8N2J02 | 8.2 ±5%         | 100                  | 300                | 0.24 max.           | 8        | 100                  | 3700                                  | 0402 |
| LQG15HS9N1J02 | 9.1 ±5%         | 100                  | 300                | 0.26 max.           | 8        | 100                  | 3400                                  | 0402 |
| LQG15HS10NJ02 | 10 ±5%          | 100                  | 300                | 0.26 max.           | 8        | 100                  | 3400                                  | 0402 |
| LQG15HS12NJ02 | 12 ±5%          | 100                  | 300                | 0.28 max.           | 8        | 100                  | 3000                                  | 0402 |
| LQG15HS15NJ02 | 15 ±5%          | 100                  | 300                | 0.32 max.           | 8        | 100                  | 2500                                  | 0402 |
| LQG15HS18NJ02 | 18 ±5%          | 100                  | 300                | 0.36 max.           | 8        | 100                  | 2200                                  | 0402 |
| LQG15HS22NJ02 | 22 ±5%          | 100                  | 300                | 0.42 max.           | 8        | 100                  | 1900                                  | 0402 |
| LQG15HS27NJ02 | 27 ±5%          | 100                  | 300                | 0.46 max.           | 8        | 100                  | 1700                                  | 0402 |
| LQG15HS33NJ02 | 33 ±5%          | 100                  | 200                | 0.58 max.           | 8        | 100                  | 1600                                  | 0402 |
| LQG15HS39NJ02 | 39 ±5%          | 100                  | 200                | 0.65 max.           | 8        | 100                  | 1200                                  | 0402 |
| LQG15HS47NJ02 | 47 ±5%          | 100                  | 200                | 0.72 max.           | 8        | 100                  | 1000                                  | 0402 |
| LQG15HS56NJ02 | 56 ±5%          | 100                  | 200                | 0.82 max.           | 8        | 100                  | 800                                   | 0402 |
| LQG15HS68NJ02 | 68 ±5%          | 100                  | 180                | 0.92 max.           | 8        | 100                  | 800                                   | 0402 |
| LQG15HS82NJ02 | 82 ±5%          | 100                  | 150                | 1.2 max.            | 8        | 100                  | 700                                   | 0402 |
| LQG15HSR10J02 | 100 ±5%         | 100                  | 150                | 1.25 max.           | 8        | 100                  | 600                                   | 0402 |
| LQG15HSR12J02 | 120 ±5%         | 100                  | 150                | 1.3 max.            | 8        | 100                  | 600                                   | 0402 |
| LQG15HSR15J02 | 150 ±5%         | 100                  | 140                | 2.99 max.           | 8        | 100                  | 550                                   | 0402 |
| LQG15HSR18J02 | 180 ±5%         | 100                  | 130                | 3.38 max.           | 8        | 100                  | 500                                   | 0402 |
| LQG15HSR22J02 | 220 ±5%         | 100                  | 120                | 3.77 max.           | 8        | 100                  | 450                                   | 0402 |
| LQG15HSR27J02 | 270 ±5%         | 100                  | 110                | 4.94 max.           | 8        | 100                  | 400                                   | 0402 |

Operating Temp. Range: -55°C to +125°C  
Only for reflow soldering.

## Q-Frequency Characteristics



## Inductance-Frequency Characteristics



Continued on the following page. ➤

Continued from the preceding page.

## Reference Data

E4991&16197A

| Part Number   | Inductance (nH)<br>100MHz | Q (typ.) |        |        |        |        | Rdc<br>(Ω typ.) | SRF<br>(MHz typ.) |
|---------------|---------------------------|----------|--------|--------|--------|--------|-----------------|-------------------|
|               |                           | 800MHz   | 900MHz | 1.8GHz | 2.0GHz | 2.4GHz |                 |                   |
| LQG15HS1N0S02 | 1.0                       | 32       | 34     | 51     | 54     | 57     | 0.03            | 11700             |
| LQG15HS1N1S02 | 1.1                       | 35       | 37     | 59     | 62     | 64     |                 | 10000             |
| LQG15HS1N2S02 | 1.2                       | 34       | 36     | 56     | 58     | 60     |                 | 8600              |
| LQG15HS1N3S02 | 1.3                       | 34       | 36     | 56     | 57     | 58     |                 | 7000              |
| LQG15HS1N5S02 | 1.5                       | 31       | 34     | 50     | 53     | 55     | 0.04            | 9700              |
| LQG15HS1N6S02 | 1.6                       | 31       | 33     | 50     | 52     | 54     |                 | 8600              |
| LQG15HS1N8S02 | 1.8                       | 31       | 33     | 48     | 49     | 50     |                 | 7500              |
| LQG15HS2N0S02 | 2.0                       | 31       | 32     | 47     | 48     | 49     |                 | 6400              |
| LQG15HS2N2S02 | 2.2                       | 32       | 34     | 48     | 49     | 50     | 0.05            | 6200              |
| LQG15HS2N4S02 | 2.4                       | 32       | 34     | 51     | 52     | 52     | 0.07            | 10000             |
| LQG15HS2N7S02 | 2.7                       | 31       | 33     | 49     | 50     | 50     | 0.08            | 8700              |
| LQG15HS3N0S02 | 3.0                       | 32       | 34     | 49     | 51     | 50     | 0.09            | 8000              |
| LQG15HS3N3S02 | 3.3                       | 31       | 33     | 46     | 47     | 46     |                 | 6700              |
| LQG15HS3N6S02 | 3.6                       | 31       | 33     | 45     | 47     | 46     | 0.1             | 8000              |
| LQG15HS3N9S02 | 3.9                       | 31       | 33     | 49     | 47     | 46     |                 | 7500              |
| LQG15HS4N3S02 | 4.3                       | 31       | 33     | 44     | 45     | 44     |                 | 6500              |
| LQG15HS4N7S02 | 4.7                       | 31       | 33     | 42     | 43     | 42     | 0.12            | 6200              |
| LQG15HS5N1S02 | 5.1                       | 31       | 33     | 44     | 45     | 42     | 0.13            | 5800              |
| LQG15HS5N6S02 | 5.6                       | 30       | 32     | 41     | 40     | 38     |                 | 5000              |
| LQG15HS6N2S02 | 6.2                       | 29       | 31     | 41     | 41     | 38     | 0.16            | 5100              |
| LQG15HS6N8J02 | 6.8                       | 29       | 30     | 40     | 40     | 37     | 0.17            | 4900              |
| LQG15HS7N5J02 | 7.5                       | 28       | 29     | 38     | 37     | 34     |                 | 4500              |
| LQG15HS8N2J02 | 8.2                       | 27       | 29     | 35     | 34     | 29     |                 | 4100              |
| LQG15HS9N1J02 | 9.1                       | 27       | 29     | 36     | 35     | 31     | 0.18            | 3900              |
| LQG15HS10NJ02 | 10                        | 27       | 29     | 35     | 33     | 28     |                 | 3200              |
| LQG15HS12NJ02 | 12                        | 26       | 27     | 28     | 24     | 18     | 0.22            | 2900              |
| LQG15HS15NJ02 | 15                        | 26       | 27     | 25     | 21     | 13     |                 | 2800              |
| LQG15HS18NJ02 | 18                        | 25       | 25     | 22     | 18     | -      | 0.26            | 2500              |
| LQG15HS22NJ02 | 22                        | 23       | 24     | 16     | -      | -      | 0.30            | 2000              |
| LQG15HS27NJ02 | 27                        | 21       | 21     | -      | -      | -      | 0.33            | 1900              |
| LQG15HS33NJ02 | 33                        | 20       | 20     | -      | -      | -      | 0.40            | 1700              |
| LQG15HS39NJ02 | 39                        | 19       | 18     | -      | -      | -      | 0.44            | 1500              |
| LQG15HS47NJ02 | 47                        | 17       | 16     | -      | -      | -      | 0.48            | 1300              |
| LQG15HS56NJ02 | 56                        | 15       | 13     | -      | -      | -      | 0.55            | 1200              |
| LQG15HS68NJ02 | 68                        | 12       | 10     | -      | -      | -      | 0.63            | 1100              |
| LQG15HS82NJ02 | 82                        | 9        | 6      | -      | -      | -      | 0.77            | 900               |
| LQG15HSR10J02 | 100                       | -        | -      | -      | -      | -      | 0.92            | 800               |
| LQG15HSR12J02 | 120                       | -        | -      | -      | -      | -      | 1.00            |                   |

## LQG18H Series

The LQG18H series is designed to realize stable characteristics in high frequency range applying integrated multilayer process.

### ■ Features

1. High-Q, stable inductance in high frequency is achieved by the original structure that minimizes stray capacitance. It is suitable for the high frequency circuits of mobile communication equipment.
2. Small size of LQG18H (1.6x0.8x0.8mm) is suitable for small, handy equipment, especially for card size equipment.
3. The external electrodes with nickel barrier structure provide excellent solder heat resistance.

### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general



| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQG18HN1N2S00 | 1.2 ±0.3nH      | 100                  | 500                | 0.10 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN1N5S00 | 1.5 ±0.3nH      | 100                  | 500                | 0.10 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN1N8S00 | 1.8 ±0.3nH      | 100                  | 500                | 0.10 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN2N2S00 | 2.2 ±0.3nH      | 100                  | 500                | 0.10 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN2N7S00 | 2.7 ±0.3nH      | 100                  | 500                | 0.15 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN3N3S00 | 3.3 ±0.3nH      | 100                  | 500                | 0.15 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN3N9S00 | 3.9 ±0.3nH      | 100                  | 450                | 0.15 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN4N7S00 | 4.7 ±0.3nH      | 100                  | 450                | 0.20 max.           | 12       | 100                  | 6000                                  | 0603 |
| LQG18HN5N6S00 | 5.6 ±0.3nH      | 100                  | 430                | 0.20 max.           | 12       | 100                  | 5000                                  | 0603 |
| LQG18HN6N8J00 | 6.8 ±5%         | 100                  | 430                | 0.25 max.           | 12       | 100                  | 5000                                  | 0603 |
| LQG18HN8N2J00 | 8.2 ±5%         | 100                  | 400                | 0.25 max.           | 12       | 100                  | 4000                                  | 0603 |
| LQG18HN10NJ00 | 10 ±5%          | 100                  | 400                | 0.30 max.           | 12       | 100                  | 3500                                  | 0603 |
| LQG18HN12NJ00 | 12 ±5%          | 100                  | 400                | 0.35 max.           | 12       | 100                  | 3000                                  | 0603 |
| LQG18HN15NJ00 | 15 ±5%          | 100                  | 350                | 0.40 max.           | 12       | 100                  | 2800                                  | 0603 |
| LQG18HN18NJ00 | 18 ±5%          | 100                  | 350                | 0.45 max.           | 12       | 100                  | 2600                                  | 0603 |
| LQG18HN22NJ00 | 22 ±5%          | 100                  | 300                | 0.50 max.           | 12       | 100                  | 2300                                  | 0603 |
| LQG18HN27NJ00 | 27 ±5%          | 100                  | 300                | 0.55 max.           | 12       | 100                  | 2000                                  | 0603 |
| LQG18HN33NJ00 | 33 ±5%          | 100                  | 300                | 0.60 max.           | 12       | 100                  | 1700                                  | 0603 |
| LQG18HN39NJ00 | 39 ±5%          | 100                  | 300                | 0.65 max.           | 12       | 100                  | 1500                                  | 0603 |
| LQG18HN47NJ00 | 47 ±5%          | 100                  | 300                | 0.70 max.           | 12       | 100                  | 1200                                  | 0603 |
| LQG18HN56NJ00 | 56 ±5%          | 100                  | 300                | 0.75 max.           | 12       | 100                  | 1100                                  | 0603 |
| LQG18HN68NJ00 | 68 ±5%          | 100                  | 300                | 0.80 max.           | 12       | 100                  | 1000                                  | 0603 |
| LQG18HN82NJ00 | 82 ±5%          | 100                  | 300                | 0.85 max.           | 12       | 100                  | 900                                   | 0603 |
| LQG18HNR10J00 | 100 ±5%         | 100                  | 300                | 0.90 max.           | 12       | 100                  | 800                                   | 0603 |

Operating Temp. Range: -40°C to +85°C  
Only for reflow soldering.

1

■ Q-Frequency Characteristics



■ Inductance-Frequency Characteristics



# Chip Coils

**muRata**

## High Frequency Film Type LQP03T/LQP15T/LQP15M/LQP18M Series

2

### LQP03T Series

LQP03T series using Murata's original thin film technology contributes further to miniaturizing high performance equipment because the size is small and the Q-value is high.

#### ■ Features

1. Ultra small and thin size 0.6x0.3x0.3mm
2. High Q value in high frequency range
3. E24 step
  - 0.6 to 3.9nH  $\pm 0.1\text{nH}$
  - 4.3 to 10nH  $\pm 3\%$
4. E12 step
  - 0.6 to 3.9nH  $\pm 0.2\text{nH}$
  - 4.7 to 15nH  $\pm 5\%$
  - 18 to 27nH  $\pm 3\%$ ,  $\pm 5\%$

#### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general



| Part Number   | Inductance (nH)        | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|------------------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQP03TN0N6B00 | 0.6 $\pm 0.1\text{nH}$ | 500                  | 420                | 0.08 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN0N6C00 | 0.6 $\pm 0.2\text{nH}$ | 500                  | 420                | 0.08 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN0N7B00 | 0.7 $\pm 0.1\text{nH}$ | 500                  | 410                | 0.09 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN0N8B00 | 0.8 $\pm 0.1\text{nH}$ | 500                  | 410                | 0.09 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN0N8C00 | 0.8 $\pm 0.2\text{nH}$ | 500                  | 410                | 0.09 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN0N9B00 | 0.9 $\pm 0.1\text{nH}$ | 500                  | 400                | 0.10 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N0B00 | 1.0 $\pm 0.1\text{nH}$ | 500                  | 400                | 0.10 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N0C00 | 1.0 $\pm 0.2\text{nH}$ | 500                  | 400                | 0.10 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N1B00 | 1.1 $\pm 0.1\text{nH}$ | 500                  | 280                | 0.13 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N2B00 | 1.2 $\pm 0.1\text{nH}$ | 500                  | 280                | 0.13 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N2C00 | 1.2 $\pm 0.2\text{nH}$ | 500                  | 280                | 0.13 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N3B00 | 1.3 $\pm 0.1\text{nH}$ | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N5B00 | 1.5 $\pm 0.1\text{nH}$ | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N5C00 | 1.5 $\pm 0.2\text{nH}$ | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N6B00 | 1.6 $\pm 0.1\text{nH}$ | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N8B00 | 1.8 $\pm 0.1\text{nH}$ | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN1N8C00 | 1.8 $\pm 0.2\text{nH}$ | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN2N0B00 | 2.0 $\pm 0.1\text{nH}$ | 500                  | 220                | 0.18 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN2N2B00 | 2.2 $\pm 0.1\text{nH}$ | 500                  | 220                | 0.18 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN2N2C00 | 2.2 $\pm 0.2\text{nH}$ | 500                  | 220                | 0.18 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN2N4B00 | 2.4 $\pm 0.1\text{nH}$ | 500                  | 220                | 0.21 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN2N7B00 | 2.7 $\pm 0.1\text{nH}$ | 500                  | 220                | 0.21 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN2N7C00 | 2.7 $\pm 0.2\text{nH}$ | 500                  | 220                | 0.21 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN3N0B00 | 3.0 $\pm 0.1\text{nH}$ | 500                  | 190                | 0.30 max.           | 11       | 500                  | 6000                                  | 0201 |

Continued on the following page. ↗

Continued from the preceding page.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQP03TN3N3B00 | 3.3 ±0.1nH      | 500                  | 190                | 0.30 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN3N3C00 | 3.3 ±0.2nH      | 500                  | 190                | 0.30 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN3N6B00 | 3.6 ±0.1nH      | 500                  | 170                | 0.45 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN3N9B00 | 3.9 ±0.1nH      | 500                  | 170                | 0.45 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN3N9C00 | 3.9 ±0.2nH      | 500                  | 170                | 0.45 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN4N3H00 | 4.3 ±3%         | 500                  | 160                | 0.55 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN4N7H00 | 4.7 ±3%         | 500                  | 160                | 0.55 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN4N7J00 | 4.7 ±5%         | 500                  | 160                | 0.55 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN5N1H00 | 5.1 ±3%         | 500                  | 140                | 0.68 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN5N6H00 | 5.6 ±3%         | 500                  | 140                | 0.68 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN5N6J00 | 5.6 ±5%         | 500                  | 140                | 0.68 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN6N2H00 | 6.2 ±3%         | 500                  | 130                | 0.75 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN6N8H00 | 6.8 ±3%         | 500                  | 130                | 0.75 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN6N8J00 | 6.8 ±5%         | 500                  | 130                | 0.75 max.           | 11       | 500                  | 6000                                  | 0201 |
| LQP03TN7N5H00 | 7.5 ±3%         | 500                  | 110                | 0.86 max.           | 11       | 500                  | 5500                                  | 0201 |
| LQP03TN8N2H00 | 8.2 ±3%         | 500                  | 110                | 0.86 max.           | 11       | 500                  | 5500                                  | 0201 |
| LQP03TN8N2J00 | 8.2 ±5%         | 500                  | 110                | 0.86 max.           | 11       | 500                  | 5500                                  | 0201 |
| LQP03TN9N1H00 | 9.1 ±3%         | 500                  | 100                | 1.10 max.           | 11       | 500                  | 4500                                  | 0201 |
| LQP03TN10NH00 | 10 ±3%          | 500                  | 100                | 1.10 max.           | 11       | 500                  | 4500                                  | 0201 |
| LQP03TN10NJ00 | 10 ±5%          | 500                  | 100                | 1.10 max.           | 11       | 500                  | 4500                                  | 0201 |
| LQP03TN12NH00 | 12 ±3%          | 500                  | 90                 | 1.25 max.           | 11       | 500                  | 3700                                  | 0201 |
| LQP03TN12NJ00 | 12 ±5%          | 500                  | 90                 | 1.25 max.           | 11       | 500                  | 3700                                  | 0201 |
| LQP03TN15NH00 | 15 ±3%          | 500                  | 90                 | 1.50 max.           | 11       | 500                  | 3300                                  | 0201 |
| LQP03TN15NJ00 | 15 ±5%          | 500                  | 90                 | 1.50 max.           | 11       | 500                  | 3300                                  | 0201 |
| LQP03TN18NH00 | 18 ±3%          | 500                  | 80                 | 2.00 max.           | 11       | 500                  | 3100                                  | 0201 |
| LQP03TN18NJ00 | 18 ±5%          | 500                  | 80                 | 2.00 max.           | 11       | 500                  | 3100                                  | 0201 |
| LQP03TN22NH00 | 22 ±3%          | 500                  | 70                 | 2.60 max.           | 11       | 500                  | 2800                                  | 0201 |
| LQP03TN22NJ00 | 22 ±5%          | 500                  | 70                 | 2.60 max.           | 11       | 500                  | 2800                                  | 0201 |
| LQP03TN27NH00 | 27 ±3%          | 500                  | 70                 | 3.10 max.           | 11       | 500                  | 2500                                  | 0201 |
| LQP03TN27NJ00 | 27 ±5%          | 500                  | 70                 | 3.10 max.           | 11       | 500                  | 2500                                  | 0201 |

Operating Temp. Range: -40°C to +85°C

Only for reflow soldering.

## Q-Frequency Characteristics



## Inductance-Frequency Characteristics



Continued on the following page. ↗

☐ Continued from the preceding page.

## ■ Reference Data

E4991A & 16197A

| Part Number | Inductance (nH) (typ.) |        |        |        |        | Q (Typ.) |         |         |         |         |
|-------------|------------------------|--------|--------|--------|--------|----------|---------|---------|---------|---------|
|             | 800MHz                 | 900MHz | 1.8GHz | 2.0GHz | 2.4GHz | 800MHz   | 900MHz  | 1.8GHz  | 2.0GHz  | 2.4GHz  |
| LQP03TN0N6  | 0.6                    | 0.6    | 0.6    | 0.6    | 0.6    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N7  | 0.7                    | 0.7    | 0.7    | 0.7    | 0.7    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N8  | 0.8                    | 0.8    | 0.8    | 0.8    | 0.8    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N9  | 0.9                    | 0.9    | 0.9    | 0.9    | 0.9    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N0  | 1.0                    | 1.0    | 1.0    | 1.0    | 1.0    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N1  | 1.1                    | 1.1    | 1.1    | 1.1    | 1.1    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N2  | 1.2                    | 1.2    | 1.2    | 1.2    | 1.2    | 50       | 54      | 70      | 73      | 77      |
| LQP03TN1N3  | 1.3                    | 1.3    | 1.3    | 1.3    | 1.3    | 48       | 52      | 67      | 72      | 74      |
| LQP03TN1N5  | 1.5                    | 1.5    | 1.5    | 1.5    | 1.5    | 45       | 48      | 63      | 66      | 69      |
| LQP03TN1N6  | 1.6                    | 1.6    | 1.6    | 1.6    | 1.6    | 43       | 47      | 57      | 64      | 67      |
| LQP03TN1N8  | 1.8                    | 1.8    | 1.8    | 1.8    | 1.8    | 36       | 38      | 50      | 53      | 55      |
| LQP03TN2N0  | 2.0                    | 2.0    | 2.0    | 2.0    | 2.0    | 38       | 40      | 52      | 54      | 57      |
| LQP03TN2N2  | 2.2                    | 2.2    | 2.2    | 2.2    | 2.2    | 28       | 35      | 49      | 52      | 54      |
| LQP03TN2N4  | 2.4                    | 2.4    | 2.4    | 2.4    | 2.4    | 36       | 38      | 50      | 53      | 56      |
| LQP03TN2N7  | 2.7                    | 2.7    | 2.7    | 2.7    | 2.7    | 28       | 30      | 40      | 42      | 44      |
| LQP03TN3N0  | 3.0                    | 3.0    | 3.0    | 3.0    | 3.0    | 28       | 29      | 39      | 41      | 43      |
| LQP03TN3N3  | 3.3                    | 3.3    | 3.3    | 3.3    | 3.4    | 29       | 31      | 42      | 43      | 45      |
| LQP03TN3N6  | 3.6                    | 3.6    | 3.6    | 3.7    | 3.7    | 31       | 33      | 43      | 45      | 47      |
| LQP03TN3N9  | 3.9                    | 3.9    | 3.9    | 4.0    | 4.1    | 29       | 31      | 41      | 43      | 45      |
| LQP03TN4N3  | 4.3                    | 4.3    | 4.3    | 4.4    | 4.5    | 28       | 30      | 40      | 42      | 44      |
| LQP03TN4N7  | 4.7                    | 4.7    | 4.8    | 4.9    | 5.1    | 28       | 30      | 40      | 42      | 43      |
| LQP03TN5N1  | 5.1                    | 5.1    | 5.2    | 5.3    | 5.5    | 26       | 28      | 37      | 39      | 40      |
| LQP03TN5N6  | 5.6                    | 5.6    | 5.8    | 5.9    | 6.1    | 22       | 24      | 32      | 33      | 33      |
| LQP03TN6N2  | 6.2                    | 6.2    | 6.5    | 6.6    | 6.9    | 20       | 21      | 27      | 28      | 28      |
| LQP03TN6N8  | 6.8                    | 6.8    | 7.1    | 7.4    | 7.7    | 21       | 22      | 29      | 30      | 30      |
| LQP03TN7N5  | 7.5                    | 7.5    | 7.9    | 8.2    | 8.7    | 21       | 22      | 28      | 30      | 29      |
| LQP03TN8N2  | 8.2                    | 8.2    | 8.6    | 9.1    | 9.6    | 18       | 19      | 25      | 25      | 24      |
| LQP03TN9N1  | 9.1                    | 9.1    | 9.9    | 10     | 11     | 20       | 21      | 26      | 26      | 25      |
| LQP03TN10N  | 10                     | 10     | 11     | 12     | 13     | 21       | 22      | 28      | 28      | 27      |
| LQP03TN12N  | 12                     | 12     | 13     | 14     | 16     | 21       | 22      | 27      | 27      | 25      |
| LQP03TN15N  | 15                     | 15     | 18     | 19     | 23     | 21       | 21      | 25      | 24      | 22      |
| LQP03TN18N  | 18                     | 18     | 24     | -      | -      | 18       | 19      | 20      | -       | -       |
| LQP03TN22N  | 22                     | 23     | 32     | -      | -      | 16       | 17      | 16      | -       | -       |
| LQP03TN27N  | 28                     | 29     | 47     | -      | -      | 15       | 15      | 13      | -       | -       |

## LQP15T Series

The LQP15T series offers High Q value, tight inductance tolerance with small/thin package using Murata's original film engineering technology.

### ■ Features

1. High Q value
2. Tight inductance tolerance (+/-0.1nH, +/-0.2nH, +/-3%)
3. Ultra small and tight size (1005 size, height 0.4mm)
4. Low DC resistance

### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general



| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQP15TN1N0B02 | 1.0 ±0.1nH      | 500                  | 300                | 0.1 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N0C02 | 1.0 ±0.2nH      | 500                  | 300                | 0.1 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N1B02 | 1.1 ±0.1nH      | 500                  | 300                | 0.1 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N1C02 | 1.1 ±0.2nH      | 500                  | 300                | 0.1 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N2B02 | 1.2 ±0.1nH      | 500                  | 300                | 0.1 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N2C02 | 1.2 ±0.2nH      | 500                  | 300                | 0.1 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N3B02 | 1.3 ±0.1nH      | 500                  | 300                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N3C02 | 1.3 ±0.2nH      | 500                  | 300                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N5B02 | 1.5 ±0.1nH      | 500                  | 300                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N5C02 | 1.5 ±0.2nH      | 500                  | 300                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N6B02 | 1.6 ±0.1nH      | 500                  | 250                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N6C02 | 1.6 ±0.2nH      | 500                  | 250                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N8B02 | 1.8 ±0.1nH      | 500                  | 250                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN1N8C02 | 1.8 ±0.2nH      | 500                  | 250                | 0.15 max.           | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN2N0C02 | 2.0 ±0.2nH      | 500                  | 220                | 0.2 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN2N2C02 | 2.2 ±0.2nH      | 500                  | 220                | 0.2 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN2N4C02 | 2.4 ±0.2nH      | 500                  | 220                | 0.2 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN2N7C02 | 2.7 ±0.2nH      | 500                  | 220                | 0.2 max.            | 17       | 500                  | 6000                                  | 0402 |
| LQP15TN3N0C02 | 3.0 ±0.2nH      | 500                  | 190                | 0.3 max.            | 17       | 500                  | 5500                                  | 0402 |
| LQP15TN3N3C02 | 3.3 ±0.2nH      | 500                  | 190                | 0.3 max.            | 17       | 500                  | 5500                                  | 0402 |
| LQP15TN3N6C02 | 3.6 ±0.2nH      | 500                  | 170                | 0.4 max.            | 17       | 500                  | 5500                                  | 0402 |
| LQP15TN3N9C02 | 3.9 ±0.2nH      | 500                  | 170                | 0.4 max.            | 17       | 500                  | 5500                                  | 0402 |
| LQP15TN4N7C02 | 4.7 ±0.2nH      | 500                  | 160                | 0.5 max.            | 17       | 500                  | 5000                                  | 0402 |
| LQP15TN5N6C02 | 5.6 ±0.2nH      | 500                  | 140                | 0.6 max.            | 17       | 500                  | 4500                                  | 0402 |
| LQP15TN6N8H02 | 6.8 ±3%         | 500                  | 130                | 0.7 max.            | 17       | 500                  | 3500                                  | 0402 |
| LQP15TN8N2H02 | 8.2 ±3%         | 500                  | 110                | 0.8 max.            | 17       | 500                  | 3000                                  | 0402 |
| LQP15TN10NH02 | 10 ±3%          | 500                  | 100                | 1.0 max.            | 17       | 500                  | 2500                                  | 0402 |
| LQP15TN12NH02 | 12 ±3%          | 500                  | 90                 | 1.0 max.            | 17       | 500                  | 2500                                  | 0402 |
| LQP15TN15NH02 | 15 ±3%          | 500                  | 90                 | 1.3 max.            | 17       | 500                  | 2000                                  | 0402 |
| LQP15TN18NH02 | 18 ±3%          | 500                  | 80                 | 1.5 max.            | 17       | 500                  | 1500                                  | 0402 |

Operating Temp. Range: -40°C to +85°C  
Only for reflow soldering.

■ Q-Frequency Characteristics



■ Inductance-Frequency Characteristics



## LQP15M Series

### ■ Features

1. Tight inductance tolerance ( $\pm 0.05\text{nH}$ ,  $\pm 0.1\text{nH}$ ,  $\pm 2\%$ ) realized by Murata's original film technology.  
Various inductance values enable assembly with no tuning.
2. Ultra small size 0402 inductor which is low profile and lightest weight in the world enables miniaturizing of mobile telecommunications equipment.  
LQP15M series weights 0.6mg/pc. while multilayer type inductor weights 0.9mg/pc.
3. High Q at high frequency range.
4. High self resonant frequency due to low stray capacitance and narrow inductance distribution provides stable inductance in high frequency circuits such as telecommunications equipment.



### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general

| Part Number   | Inductance (nH)         | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-------------------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQP15MN1N0B02 | 1.0 $\pm 0.1\text{nH}$  | 500                  | 400                | 0.1 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N0W02 | 1.0 $\pm 0.05\text{nH}$ | 500                  | 400                | 0.1 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N1B02 | 1.1 $\pm 0.1\text{nH}$  | 500                  | 390                | 0.1 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N1W02 | 1.1 $\pm 0.05\text{nH}$ | 500                  | 390                | 0.1 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N2B02 | 1.2 $\pm 0.1\text{nH}$  | 500                  | 390                | 0.1 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N2W02 | 1.2 $\pm 0.05\text{nH}$ | 500                  | 390                | 0.1 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N3B02 | 1.3 $\pm 0.1\text{nH}$  | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N3W02 | 1.3 $\pm 0.05\text{nH}$ | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N4W02 | 1.4 $\pm 0.05\text{nH}$ | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N5B02 | 1.5 $\pm 0.1\text{nH}$  | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N5W02 | 1.5 $\pm 0.05\text{nH}$ | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N6B02 | 1.6 $\pm 0.1\text{nH}$  | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N6W02 | 1.6 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N7W02 | 1.7 $\pm 0.05\text{nH}$ | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N8B02 | 1.8 $\pm 0.1\text{nH}$  | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N8W02 | 1.8 $\pm 0.05\text{nH}$ | 500                  | 280                | 0.2 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN1N9W02 | 1.9 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N0B02 | 2.0 $\pm 0.1\text{nH}$  | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N0W02 | 2.0 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N1W02 | 2.1 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N2B02 | 2.2 $\pm 0.1\text{nH}$  | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N2W02 | 2.2 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N3W02 | 2.3 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N4B02 | 2.4 $\pm 0.1\text{nH}$  | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N4W02 | 2.4 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N5W02 | 2.5 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N6W02 | 2.6 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N7B02 | 2.7 $\pm 0.1\text{nH}$  | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N7W02 | 2.7 $\pm 0.05\text{nH}$ | 500                  | 220                | 0.3 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN2N8W02 | 2.8 $\pm 0.05\text{nH}$ | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |

Continued on the following page.

 Continued from the preceding page.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQP15MN2N9W02 | 2.9 ±0.05nH     | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N0B02 | 3.0 ±0.1nH      | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N0W02 | 3.0 ±0.05nH     | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N1W02 | 3.1 ±0.05nH     | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N2W02 | 3.2 ±0.05nH     | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N3B02 | 3.3 ±0.1nH      | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N3W02 | 3.3 ±0.05nH     | 500                  | 190                | 0.4 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N4W02 | 3.4 ±0.05nH     | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N5W02 | 3.5 ±0.05nH     | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N6B02 | 3.6 ±0.1nH      | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N6W02 | 3.6 ±0.05nH     | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N7W02 | 3.7 ±0.05nH     | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N8W02 | 3.8 ±0.05nH     | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N9B02 | 3.9 ±0.1nH      | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN3N9W02 | 3.9 ±0.05nH     | 500                  | 170                | 0.5 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN4N3B02 | 4.3 ±0.1nH      | 500                  | 160                | 0.6 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN4N7B02 | 4.7 ±0.1nH      | 500                  | 160                | 0.6 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN5N1B02 | 5.1 ±0.1nH      | 500                  | 140                | 0.7 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN5N6B02 | 5.6 ±0.1nH      | 500                  | 140                | 0.7 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN6N2B02 | 6.2 ±0.1nH      | 500                  | 130                | 0.9 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN6N8B02 | 6.8 ±0.1nH      | 500                  | 130                | 0.9 max.            | 13       | 500                  | 6000                                  | 0402 |
| LQP15MN7N5B02 | 7.5 ±0.1nH      | 500                  | 110                | 1.1 max.            | 13       | 500                  | 5500                                  | 0402 |
| LQP15MN8N2B02 | 8.2 ±0.1nH      | 500                  | 110                | 1.1 max.            | 13       | 500                  | 5500                                  | 0402 |
| LQP15MN9N1B02 | 9.1 ±0.1nH      | 500                  | 100                | 1.3 max.            | 13       | 500                  | 4500                                  | 0402 |
| LQP15MN10NG02 | 10 ±2%          | 500                  | 100                | 1.3 max.            | 13       | 500                  | 4500                                  | 0402 |
| LQP15MN12NG02 | 12 ±2%          | 500                  | 90                 | 1.6 max.            | 13       | 500                  | 3700                                  | 0402 |
| LQP15MN15NG02 | 15 ±2%          | 500                  | 90                 | 1.8 max.            | 13       | 500                  | 3300                                  | 0402 |
| LQP15MN18NG02 | 18 ±2%          | 500                  | 80                 | 2.0 max.            | 13       | 500                  | 3100                                  | 0402 |
| LQP15MN22NG02 | 22 ±2%          | 500                  | 70                 | 2.6 max.            | 13       | 500                  | 2800                                  | 0402 |
| LQP15MN27NG02 | 27 ±2%          | 500                  | 70                 | 3.1 max.            | 13       | 500                  | 2500                                  | 0402 |
| LQP15MN33NG02 | 33 ±2%          | 500                  | 60                 | 3.8 max.            | 13       | 500                  | 2100                                  | 0402 |

Operating Temp. Range: -40°C to +85°C  
Only for reflow soldering.

■ Q-Frequency Characteristics



■ Inductance-Frequency Characteristics



Continued on the following page. 

☐ Continued from the preceding page.

## ■ Reference Data

E4991A+16197A

| Part Number | Inductance (nH) (Typ.) |        |        |        |        | Q (Typ.) |        |        |        |        |
|-------------|------------------------|--------|--------|--------|--------|----------|--------|--------|--------|--------|
|             | 800MHz                 | 900MHz | 1.8GHz | 2.0GHz | 2.4GHz | 800MHz   | 900MHz | 1.8GHz | 2.0GHz | 2.4GHz |
| LQP15MN1N0  | 1.0                    | 1.0    | 1.0    | 1.0    | 1.0    | 50       | 55     | 73     | 76     | 85     |
| LQP15MN1N1  | 1.1                    | 1.1    | 1.1    | 1.1    | 1.1    | 44       | 47     | 70     | 76     | 83     |
| LQP15MN1N2  | 1.2                    | 1.2    | 1.2    | 1.2    | 1.2    | 43       | 47     | 69     | 76     | 82     |
| LQP15MN1N3  | 1.3                    | 1.3    | 1.3    | 1.3    | 1.3    | 39       | 43     | 56     | 60     | 65     |
| LQP15MN1N4  | 1.4                    | 1.4    | 1.4    | 1.4    | 1.4    | 39       | 41     | 51     | 54     | 58     |
| LQP15MN1N5  | 1.5                    | 1.5    | 1.5    | 1.5    | 1.5    | 38       | 40     | 49     | 51     | 54     |
| LQP15MN1N6  | 1.6                    | 1.6    | 1.6    | 1.6    | 1.6    | 26       | 28     | 37     | 39     | 42     |
| LQP15MN1N7  | 1.7                    | 1.7    | 1.7    | 1.7    | 1.7    | 37       | 40     | 48     | 49     | 53     |
| LQP15MN1N8  | 1.8                    | 1.8    | 1.8    | 1.8    | 1.8    | 35       | 37     | 46     | 49     | 52     |
| LQP15MN1N9  | 1.9                    | 1.9    | 1.9    | 1.9    | 1.9    | 34       | 36     | 46     | 49     | 52     |
| LQP15MN2N0  | 2.0                    | 2.0    | 2.0    | 2.0    | 2.0    | 34       | 36     | 47     | 50     | 53     |
| LQP15MN2N1  | 2.1                    | 2.1    | 2.1    | 2.1    | 2.1    | 35       | 37     | 47     | 49     | 53     |
| LQP15MN2N2  | 2.2                    | 2.2    | 2.2    | 2.2    | 2.2    | 36       | 38     | 48     | 51     | 56     |
| LQP15MN2N3  | 2.3                    | 2.3    | 2.3    | 2.3    | 2.3    | 36       | 38     | 47     | 49     | 53     |
| LQP15MN2N4  | 2.4                    | 2.4    | 2.4    | 2.4    | 2.4    | 35       | 37     | 47     | 49     | 52     |
| LQP15MN2N5  | 2.5                    | 2.5    | 2.5    | 2.5    | 2.5    | 35       | 37     | 47     | 49     | 53     |
| LQP15MN2N6  | 2.6                    | 2.6    | 2.6    | 2.6    | 2.6    | 35       | 37     | 47     | 49     | 52     |
| LQP15MN2N7  | 2.7                    | 2.7    | 2.7    | 2.7    | 2.7    | 35       | 37     | 48     | 49     | 53     |
| LQP15MN2N8  | 2.8                    | 2.8    | 2.8    | 2.8    | 2.8    | 35       | 37     | 47     | 49     | 53     |
| LQP15MN2N9  | 2.9                    | 2.9    | 2.9    | 2.9    | 2.9    | 33       | 35     | 44     | 46     | 49     |
| LQP15MN3N0  | 3.0                    | 3.0    | 3.0    | 3.0    | 3.0    | 29       | 31     | 41     | 44     | 48     |
| LQP15MN3N1  | 3.1                    | 3.1    | 3.1    | 3.1    | 3.1    | 28       | 29     | 39     | 42     | 45     |
| LQP15MN3N2  | 3.2                    | 3.2    | 3.2    | 3.2    | 3.2    | 27       | 28     | 35     | 36     | 38     |
| LQP15MN3N3  | 3.3                    | 3.3    | 3.3    | 3.3    | 3.4    | 28       | 29     | 38     | 39     | 43     |
| LQP15MN3N4  | 3.4                    | 3.4    | 3.4    | 3.4    | 3.5    | 28       | 29     | 37     | 39     | 41     |
| LQP15MN3N5  | 3.5                    | 3.5    | 3.5    | 3.5    | 3.6    | 28       | 29     | 37     | 38     | 40     |
| LQP15MN3N6  | 3.6                    | 3.6    | 3.6    | 3.7    | 3.7    | 27       | 28     | 35     | 39     | 41     |
| LQP15MN3N7  | 3.7                    | 3.7    | 3.7    | 3.8    | 3.8    | 27       | 28     | 35     | 38     | 41     |
| LQP15MN3N8  | 3.8                    | 3.8    | 3.8    | 3.9    | 3.9    | 28       | 29     | 38     | 39     | 42     |
| LQP15MN3N9  | 3.9                    | 3.9    | 3.9    | 4.0    | 4.0    | 28       | 29     | 37     | 38     | 41     |
| LQP15MN4N3  | 4.3                    | 4.3    | 4.3    | 4.4    | 4.5    | 28       | 30     | 38     | 40     | 42     |
| LQP15MN4N7  | 4.7                    | 4.7    | 4.8    | 4.9    | 5.1    | 28       | 29     | 38     | 39     | 41     |
| LQP15MN5N1  | 5.1                    | 5.1    | 5.2    | 5.3    | 5.5    | 26       | 28     | 36     | 38     | 40     |
| LQP15MN5N6  | 5.6                    | 5.6    | 5.8    | 6.0    | 6.2    | 23       | 25     | 32     | 33     | 34     |
| LQP15MN6N2  | 6.2                    | 6.2    | 6.5    | 6.6    | 6.9    | 23       | 25     | 32     | 33     | 34     |
| LQP15MN6N8  | 6.8                    | 6.8    | 7.1    | 7.4    | 7.7    | 24       | 26     | 33     | 34     | 35     |
| LQP15MN7N5  | 7.5                    | 7.5    | 7.9    | 8.2    | 8.6    | 24       | 25     | 32     | 33     | 34     |
| LQP15MN8N2  | 8.2                    | 8.2    | 8.7    | 9.0    | 9.5    | 24       | 25     | 32     | 33     | 34     |
| LQP15MN9N1  | 9.1                    | 9.1    | 9.8    | 10     | 11     | 23       | 25     | 31     | 32     | 33     |
| LQP15MN10N  | 10                     | 10     | 11     | 12     | 13     | 24       | 26     | 30     | 31     | 31     |
| LQP15MN12N  | 12                     | 12     | 13     | 14     | 16     | 25       | 26     | 29     | 29     | 28     |
| LQP15MN15N  | 15                     | 15     | 18     | 19     | 23     | 23       | 25     | 26     | 27     | 25     |
| LQP15MN18N  | 18                     | 18     | 23     | -      | -      | 22       | 23     | 24     | -      | -      |
| LQP15MN22N  | 22                     | 23     | 29     | -      | -      | 22       | 23     | 22     | -      | -      |
| LQP15MN27N  | 28                     | 28     | 38     | -      | -      | 22       | 23     | 21     | -      | -      |
| LQP15MN33N  | 34                     | 35     | -      | -      | -      | 21       | 22     | -      | -      | -      |

## LQP18M Series

### ■ Features

1. Tight inductance tolerance ( $\pm 0.2\text{nH}$ ,  $\pm 2\%$ ) realized by Murata's original film technology. Various inductance values enable assembly with no tuning.
2. Small size of LQP18M series is suitable for small hand held equipment, especially for card size equipment.
3. High Q at high frequency range
4. High self resonant frequency due to low stray capacitance and narrow inductance distribution provides stable inductance in high frequency circuits such as telecommunications equipment.



### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general

| Part Number   | Inductance (nH)        | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|------------------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQP18MN1N3C02 | 1.3 $\pm 0.2\text{nH}$ | 500                  | 300                | 0.3 max.            | 17       | 500                  | 6000                                  | 0603 |
| LQP18MN1N5C02 | 1.5 $\pm 0.2\text{nH}$ | 500                  | 300                | 0.3 max.            | 17       | 500                  | 6000                                  | 0603 |
| LQP18MN1N8C02 | 1.8 $\pm 0.2\text{nH}$ | 500                  | 250                | 0.4 max.            | 17       | 500                  | 6000                                  | 0603 |
| LQP18MN2N2C02 | 2.2 $\pm 0.2\text{nH}$ | 500                  | 250                | 0.4 max.            | 17       | 500                  | 6000                                  | 0603 |
| LQP18MN2N7C02 | 2.7 $\pm 0.2\text{nH}$ | 500                  | 250                | 0.4 max.            | 17       | 500                  | 6000                                  | 0603 |
| LQP18MN3N3C02 | 3.3 $\pm 0.2\text{nH}$ | 500                  | 250                | 0.4 max.            | 17       | 500                  | 6000                                  | 0603 |
| LQP18MN3N9C02 | 3.9 $\pm 0.2\text{nH}$ | 500                  | 200                | 0.5 max.            | 17       | 500                  | 5900                                  | 0603 |
| LQP18MN4N7C02 | 4.7 $\pm 0.2\text{nH}$ | 500                  | 200                | 0.5 max.            | 17       | 500                  | 5200                                  | 0603 |
| LQP18MN5N6C02 | 5.6 $\pm 0.2\text{nH}$ | 500                  | 200                | 0.6 max.            | 17       | 500                  | 4700                                  | 0603 |
| LQP18MN6N8C02 | 6.8 $\pm 0.2\text{nH}$ | 500                  | 200                | 0.7 max.            | 17       | 500                  | 4300                                  | 0603 |
| LQP18MN8N2C02 | 8.2 $\pm 0.2\text{nH}$ | 500                  | 150                | 0.8 max.            | 17       | 500                  | 3600                                  | 0603 |
| LQP18MN10NG02 | 10 $\pm 2\%$           | 500                  | 150                | 1.0 max.            | 17       | 500                  | 3400                                  | 0603 |
| LQP18MN12NG02 | 12 $\pm 2\%$           | 500                  | 150                | 1.0 max.            | 17       | 500                  | 3000                                  | 0603 |
| LQP18MN15NG02 | 15 $\pm 2\%$           | 500                  | 150                | 1.3 max.            | 17       | 500                  | 2700                                  | 0603 |
| LQP18MN18NG02 | 18 $\pm 2\%$           | 500                  | 100                | 1.5 max.            | 17       | 500                  | 2300                                  | 0603 |
| LQP18MN22NG02 | 22 $\pm 2\%$           | 500                  | 100                | 1.9 max.            | 17       | 500                  | 2100                                  | 0603 |
| LQP18MN27NG02 | 27 $\pm 2\%$           | 500                  | 100                | 2.4 max.            | 17       | 500                  | 1900                                  | 0603 |
| LQP18MN33NG02 | 33 $\pm 2\%$           | 500                  | 100                | 2.8 max.            | 17       | 500                  | 1700                                  | 0603 |
| LQP18MN39NG02 | 39 $\pm 2\%$           | 500                  | 100                | 2.8 max.            | 17       | 500                  | 1400                                  | 0603 |
| LQP18MN47NG02 | 47 $\pm 2\%$           | 300                  | 100                | 2.2 max.            | 17       | 300                  | 1200                                  | 0603 |
| LQP18MN56NG02 | 56 $\pm 2\%$           | 300                  | 50                 | 3.4 max.            | 17       | 300                  | 1000                                  | 0603 |
| LQP18MN68NG02 | 68 $\pm 2\%$           | 300                  | 50                 | 3.5 max.            | 17       | 300                  | 900                                   | 0603 |
| LQP18MN82NG02 | 82 $\pm 2\%$           | 300                  | 50                 | 4.6 max.            | 17       | 300                  | 800                                   | 0603 |
| LQP18MNR10G02 | 100 $\pm 2\%$          | 300                  | 50                 | 6.1 max.            | 17       | 300                  | 700                                   | 0603 |

Operating Temp. Range:  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$   
Only for reflow soldering.

■ Q-Frequency Characteristics



■ Inductance-Frequency Characteristics



# Chip Coils



## High Frequency Wound Type LQW15A/LQW18A Series

### LQW15A\_00 Series

The LQW15A series consists of air core chip coil using a miniature alumina core.  
The tight inductance tolerance ( $\pm 0.2\text{nH}$ ,  $\pm 3\%$ ) is available due to Murata's original wound technology.  
The LQW15A series has high Q value in high frequency range and high self resonant frequency. It is suitable for high frequency circuits which are used in telecommunications equipment.



### ■ Features

1. Horizontal wound structure enables tight inductance tolerance ( $\pm 0.2\text{nH}$ ,  $\pm 3\%$ )  
And tolerance of  $\pm 0.1\text{nH}$ ,  $\pm 2\%$  is available.
2. Wide variation in inductance value.
3. The subminiature dimensions (1.0x0.5mm) allow high density mounting.
4. The high self resonant frequency realizes high Q value and stable inductance at high frequency.
5. Low DC resistance design is ideal for low loss, high output and low power consumption.
6. Resin-coated surface enables excellent mounting.

### ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general

| Part Number   | Inductance (nH)        | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (GHz) | EIA  |
|---------------|------------------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW15AN1N5B00 | 1.5 $\pm 0.1\text{nH}$ | 100                  | 1000               | 0.03 max.           | 10       | 250                  | 18.0                                  | 0402 |
| LQW15AN1N5C00 | 1.5 $\pm 0.2\text{nH}$ | 100                  | 1000               | 0.03 max.           | 10       | 250                  | 18.0                                  | 0402 |
| LQW15AN1N5D00 | 1.5 $\pm 0.5\text{nH}$ | 100                  | 1000               | 0.03 max.           | 10       | 250                  | 18.0                                  | 0402 |
| LQW15AN2N4B00 | 2.4 $\pm 0.1\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N4C00 | 2.4 $\pm 0.2\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N4D00 | 2.4 $\pm 0.5\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N5B00 | 2.5 $\pm 0.1\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N5C00 | 2.5 $\pm 0.2\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N5D00 | 2.5 $\pm 0.5\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N7B00 | 2.7 $\pm 0.1\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N7C00 | 2.7 $\pm 0.2\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N7D00 | 2.7 $\pm 0.5\text{nH}$ | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N9B00 | 2.9 $\pm 0.1\text{nH}$ | 100                  | 750                | 0.07 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N9C00 | 2.9 $\pm 0.2\text{nH}$ | 100                  | 750                | 0.07 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN2N9D00 | 2.9 $\pm 0.5\text{nH}$ | 100                  | 750                | 0.07 max.           | 20       | 250                  | 15.0                                  | 0402 |
| LQW15AN3N9B00 | 3.9 $\pm 0.1\text{nH}$ | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0                                  | 0402 |
| LQW15AN3N9C00 | 3.9 $\pm 0.2\text{nH}$ | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0                                  | 0402 |
| LQW15AN3N9D00 | 3.9 $\pm 0.5\text{nH}$ | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0                                  | 0402 |

Continued on the following page.

Continued from the preceding page.

| Part Number   | Inductance<br>(nH) | Test Frequency<br>(MHz) | Rated<br>Current<br>(mA) | DC Resistance<br>(ohm) | Q<br>(min.) | Test Frequency<br>(MHz) | Self Resonance<br>Frequency (min.)<br>(GHz) | EIA  |
|---------------|--------------------|-------------------------|--------------------------|------------------------|-------------|-------------------------|---------------------------------------------|------|
| LQW15AN4N1B00 | 4.1 ±0.1nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 10.0                                        | 0402 |
| LQW15AN4N1C00 | 4.1 ±0.2nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 10.0                                        | 0402 |
| LQW15AN4N1D00 | 4.1 ±0.5nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 10.0                                        | 0402 |
| LQW15AN4N3B00 | 4.3 ±0.1nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 10.0                                        | 0402 |
| LQW15AN4N3C00 | 4.3 ±0.2nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 10.0                                        | 0402 |
| LQW15AN4N3D00 | 4.3 ±0.5nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 10.0                                        | 0402 |
| LQW15AN4N7B00 | 4.7 ±0.1nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN4N7C00 | 4.7 ±0.2nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN4N7D00 | 4.7 ±0.5nH         | 100                     | 750                      | 0.07 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN5N1B00 | 5.1 ±0.1nH         | 100                     | 600                      | 0.12 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN5N1C00 | 5.1 ±0.2nH         | 100                     | 600                      | 0.12 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN5N1D00 | 5.1 ±0.5nH         | 100                     | 600                      | 0.12 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN5N8B00 | 5.8 ±0.1nH         | 100                     | 700                      | 0.12 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN5N8C00 | 5.8 ±0.2nH         | 100                     | 700                      | 0.12 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN5N8D00 | 5.8 ±0.5nH         | 100                     | 700                      | 0.12 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN6N2B00 | 6.2 ±0.1nH         | 100                     | 700                      | 0.09 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN6N2C00 | 6.2 ±0.2nH         | 100                     | 700                      | 0.09 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN6N2D00 | 6.2 ±0.5nH         | 100                     | 700                      | 0.09 max.              | 25          | 250                     | 8.0                                         | 0402 |
| LQW15AN6N8G00 | 6.8 ±2%            | 100                     | 700                      | 0.09 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN6N8H00 | 6.8 ±3%            | 100                     | 700                      | 0.09 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN6N8J00 | 6.8 ±5%            | 100                     | 700                      | 0.09 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN7N3G00 | 7.3 ±2%            | 100                     | 570                      | 0.13 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN7N3H00 | 7.3 ±3%            | 100                     | 570                      | 0.13 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN7N3J00 | 7.3 ±5%            | 100                     | 570                      | 0.13 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN7N5G00 | 7.5 ±2%            | 100                     | 570                      | 0.13 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN7N5H00 | 7.5 ±3%            | 100                     | 570                      | 0.13 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN7N5J00 | 7.5 ±5%            | 100                     | 570                      | 0.13 max.              | 25          | 250                     | 6.0                                         | 0402 |
| LQW15AN8N2G00 | 8.2 ±2%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN8N2H00 | 8.2 ±3%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN8N2J00 | 8.2 ±5%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN8N7G00 | 8.7 ±2%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN8N7H00 | 8.7 ±3%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN8N7J00 | 8.7 ±5%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN9N1G00 | 9.1 ±2%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN9N1H00 | 9.1 ±3%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN9N1J00 | 9.1 ±5%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN9N5G00 | 9.5 ±2%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN9N5H00 | 9.5 ±3%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN9N5J00 | 9.5 ±5%            | 100                     | 540                      | 0.14 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN10NG00 | 10 ±2%             | 100                     | 500                      | 0.17 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN10NH00 | 10 ±3%             | 100                     | 500                      | 0.17 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN10NJ00 | 10 ±5%             | 100                     | 500                      | 0.17 max.              | 25          | 250                     | 5.5                                         | 0402 |
| LQW15AN11NG00 | 11 ±2%             | 100                     | 500                      | 0.14 max.              | 30          | 250                     | 5.5                                         | 0402 |
| LQW15AN11NH00 | 11 ±3%             | 100                     | 500                      | 0.14 max.              | 30          | 250                     | 5.5                                         | 0402 |
| LQW15AN11NJ00 | 11 ±5%             | 100                     | 500                      | 0.14 max.              | 30          | 250                     | 5.5                                         | 0402 |
| LQW15AN12NG00 | 12 ±2%             | 100                     | 500                      | 0.14 max.              | 30          | 250                     | 5.5                                         | 0402 |
| LQW15AN12NH00 | 12 ±3%             | 100                     | 500                      | 0.14 max.              | 30          | 250                     | 5.5                                         | 0402 |
| LQW15AN12NJ00 | 12 ±5%             | 100                     | 500                      | 0.14 max.              | 30          | 250                     | 5.5                                         | 0402 |
| LQW15AN13NG00 | 13 ±2%             | 100                     | 430                      | 0.21 max.              | 25          | 250                     | 5.0                                         | 0402 |
| LQW15AN13NH00 | 13 ±3%             | 100                     | 430                      | 0.21 max.              | 25          | 250                     | 5.0                                         | 0402 |
| LQW15AN13NJ00 | 13 ±5%             | 100                     | 430                      | 0.21 max.              | 25          | 250                     | 5.0                                         | 0402 |
| LQW15AN15NG00 | 15 ±2%             | 100                     | 460                      | 0.16 max.              | 30          | 250                     | 5.0                                         | 0402 |
| LQW15AN15NH00 | 15 ±3%             | 100                     | 460                      | 0.16 max.              | 30          | 250                     | 5.0                                         | 0402 |
| LQW15AN15NJ00 | 15 ±5%             | 100                     | 460                      | 0.16 max.              | 30          | 250                     | 5.0                                         | 0402 |
| LQW15AN16NG00 | 16 ±2%             | 100                     | 370                      | 0.24 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN16NH00 | 16 ±3%             | 100                     | 370                      | 0.24 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN16NJ00 | 16 ±5%             | 100                     | 370                      | 0.24 max.              | 25          | 250                     | 4.5                                         | 0402 |

Continued on the following page. ↗

Continued from the preceding page.

| Part Number   | Inductance<br>(nH) | Test Frequency<br>(MHz) | Rated<br>Current<br>(mA) | DC Resistance<br>(ohm) | Q<br>(min.) | Test Frequency<br>(MHz) | Self Resonance<br>Frequency (min.)<br>(GHz) | EIA  |
|---------------|--------------------|-------------------------|--------------------------|------------------------|-------------|-------------------------|---------------------------------------------|------|
| LQW15AN18NG00 | 18 ±2%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN18NH00 | 18 ±3%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN18NJ00 | 18 ±5%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN19NG00 | 19 ±2%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN19NH00 | 19 ±3%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN19NJ00 | 19 ±5%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.5                                         | 0402 |
| LQW15AN20NG00 | 20 ±2%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.0                                         | 0402 |
| LQW15AN20NH00 | 20 ±3%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.0                                         | 0402 |
| LQW15AN20NJ00 | 20 ±5%             | 100                     | 370                      | 0.27 max.              | 25          | 250                     | 4.0                                         | 0402 |
| LQW15AN22NG00 | 22 ±2%             | 100                     | 310                      | 0.30 max.              | 25          | 250                     | 4.0                                         | 0402 |
| LQW15AN22NH00 | 22 ±3%             | 100                     | 310                      | 0.30 max.              | 25          | 250                     | 4.0                                         | 0402 |
| LQW15AN22NJ00 | 22 ±5%             | 100                     | 310                      | 0.30 max.              | 25          | 250                     | 4.0                                         | 0402 |
| LQW15AN23NG00 | 23 ±2%             | 100                     | 310                      | 0.30 max.              | 25          | 250                     | 3.8                                         | 0402 |
| LQW15AN23NH00 | 23 ±3%             | 100                     | 310                      | 0.30 max.              | 25          | 250                     | 3.8                                         | 0402 |
| LQW15AN23NJ00 | 23 ±5%             | 100                     | 310                      | 0.30 max.              | 25          | 250                     | 3.8                                         | 0402 |
| LQW15AN24NG00 | 24 ±2%             | 100                     | 280                      | 0.52 max.              | 25          | 250                     | 3.5                                         | 0402 |
| LQW15AN24NH00 | 24 ±3%             | 100                     | 280                      | 0.52 max.              | 25          | 250                     | 3.5                                         | 0402 |
| LQW15AN24NJ00 | 24 ±5%             | 100                     | 280                      | 0.52 max.              | 25          | 250                     | 3.5                                         | 0402 |
| LQW15AN27NG00 | 27 ±2%             | 100                     | 280                      | 0.52 max.              | 25          | 250                     | 3.5                                         | 0402 |
| LQW15AN27NH00 | 27 ±3%             | 100                     | 280                      | 0.52 max.              | 25          | 250                     | 3.5                                         | 0402 |
| LQW15AN27NJ00 | 27 ±5%             | 100                     | 280                      | 0.52 max.              | 25          | 250                     | 3.5                                         | 0402 |
| LQW15AN30NG00 | 30 ±2%             | 100                     | 270                      | 0.58 max.              | 25          | 250                     | 3.3                                         | 0402 |
| LQW15AN30NH00 | 30 ±3%             | 100                     | 270                      | 0.58 max.              | 25          | 250                     | 3.3                                         | 0402 |
| LQW15AN30NJ00 | 30 ±5%             | 100                     | 270                      | 0.58 max.              | 25          | 250                     | 3.3                                         | 0402 |
| LQW15AN33NG00 | 33 ±2%             | 100                     | 260                      | 0.63 max.              | 25          | 250                     | 3.2                                         | 0402 |
| LQW15AN33NH00 | 33 ±3%             | 100                     | 260                      | 0.63 max.              | 25          | 250                     | 3.2                                         | 0402 |
| LQW15AN33NJ00 | 33 ±5%             | 100                     | 260                      | 0.63 max.              | 25          | 250                     | 3.2                                         | 0402 |
| LQW15AN36NG00 | 36 ±2%             | 100                     | 260                      | 0.63 max.              | 25          | 250                     | 3.1                                         | 0402 |
| LQW15AN36NH00 | 36 ±3%             | 100                     | 260                      | 0.63 max.              | 25          | 250                     | 3.1                                         | 0402 |
| LQW15AN36NJ00 | 36 ±5%             | 100                     | 260                      | 0.63 max.              | 25          | 250                     | 3.1                                         | 0402 |
| LQW15AN39NG00 | 39 ±2%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN39NH00 | 39 ±3%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN39NJ00 | 39 ±5%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN40NG00 | 40 ±2%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN40NH00 | 40 ±3%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN40NJ00 | 40 ±5%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN43NG00 | 43 ±2%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN43NH00 | 43 ±3%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN43NJ00 | 43 ±5%             | 100                     | 250                      | 0.70 max.              | 25          | 250                     | 3.0                                         | 0402 |
| LQW15AN47NG00 | 47 ±2%             | 100                     | 210                      | 1.08 max.              | 25          | 200                     | 2.9                                         | 0402 |
| LQW15AN47NH00 | 47 ±3%             | 100                     | 210                      | 1.08 max.              | 25          | 200                     | 2.9                                         | 0402 |
| LQW15AN47NJ00 | 47 ±5%             | 100                     | 210                      | 1.08 max.              | 25          | 200                     | 2.9                                         | 0402 |
| LQW15AN51NG00 | 51 ±2%             | 100                     | 210                      | 1.08 max.              | 25          | 200                     | 2.85                                        | 0402 |
| LQW15AN51NH00 | 51 ±3%             | 100                     | 210                      | 1.08 max.              | 25          | 200                     | 2.85                                        | 0402 |
| LQW15AN51NJ00 | 51 ±5%             | 100                     | 210                      | 1.08 max.              | 25          | 200                     | 2.85                                        | 0402 |
| LQW15AN56NG00 | 56 ±2%             | 100                     | 200                      | 1.17 max.              | 25          | 200                     | 2.8                                         | 0402 |
| LQW15AN56NH00 | 56 ±3%             | 100                     | 200                      | 1.17 max.              | 25          | 200                     | 2.8                                         | 0402 |
| LQW15AN56NJ00 | 56 ±5%             | 100                     | 200                      | 1.17 max.              | 25          | 200                     | 2.8                                         | 0402 |
| LQW15AN62NG00 | 62 ±2%             | 100                     | 145                      | 1.82 max.              | 20          | 200                     | 2.6                                         | 0402 |
| LQW15AN62NH00 | 62 ±3%             | 100                     | 145                      | 1.82 max.              | 20          | 200                     | 2.6                                         | 0402 |
| LQW15AN62NJ00 | 62 ±5%             | 100                     | 145                      | 1.82 max.              | 20          | 200                     | 2.6                                         | 0402 |
| LQW15AN68NG00 | 68 ±2%             | 100                     | 140                      | 1.96 max.              | 20          | 200                     | 2.5                                         | 0402 |
| LQW15AN68NJ00 | 68 ±5%             | 100                     | 140                      | 1.96 max.              | 20          | 200                     | 2.5                                         | 0402 |
| LQW15AN72NG00 | 72 ±2%             | 100                     | 135                      | 2.10 max.              | 20          | 150                     | 2.5                                         | 0402 |
| LQW15AN72NJ00 | 72 ±5%             | 100                     | 135                      | 2.10 max.              | 20          | 150                     | 2.5                                         | 0402 |
| LQW15AN75NG00 | 75 ±2%             | 100                     | 135                      | 2.10 max.              | 20          | 150                     | 2.4                                         | 0402 |
| LQW15AN75NJ00 | 75 ±5%             | 100                     | 135                      | 2.10 max.              | 20          | 150                     | 2.4                                         | 0402 |

Continued on the following page. ↗

Continued from the preceding page.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (GHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW15AN82NG00 | 82 ±2%          | 100                  | 130                | 2.24 max.           | 20       | 150                  | 2.3                                   | 0402 |
| LQW15AN82NJ00 | 82 ±5%          | 100                  | 130                | 2.24 max.           | 20       | 150                  | 2.3                                   | 0402 |
| LQW15AN91NG00 | 91 ±2%          | 100                  | 125                | 2.38 max.           | 20       | 150                  | 2.1                                   | 0402 |
| LQW15AN91NJ00 | 91 ±5%          | 100                  | 125                | 2.38 max.           | 20       | 150                  | 2.1                                   | 0402 |
| LQW15ANR10J00 | 100 ±5%         | 100                  | 120                | 2.52 max.           | 20       | 150                  | 1.5                                   | 0402 |
| LQW15ANR12J00 | 120 ±5%         | 100                  | 110                | 2.66 max.           | 20       | 150                  | 1.0                                   | 0402 |

Operating Temp. Range: -55°C to +125°C  
Only for reflow soldering.

Q-Frequency Characteristics



Inductance-Frequency Characteristics



Continued on the following page.

☐ Continued from the preceding page.

## ■ Reference Data

### LQW15AN 00

E4991A & 16197A

| Part Number | Inductance (nH) | Q (Typ.) |        |        |        |        |        |        |
|-------------|-----------------|----------|--------|--------|--------|--------|--------|--------|
|             | Nominal         | 300MHz   | 800MHz | 900MHz | 1.5GHz | 1.8GHz | 2.0GHz | 2.4GHz |
| LQW15AN1N5  | 1.5             | 30       | 55     | 60     | 65     | 90     | 100    | 115    |
| LQW15AN2N4  | 2.4             | 40       | 65     | 67     | 80     | 98     | 108    | 120    |
| LQW15AN2N5  | 2.5             | 40       | 65     | 67     | 88     | 90     | 100    | 110    |
| LQW15AN2N7  | 2.7             | 40       | 67     | 73     | 85     | 100    | 105    | 120    |
| LQW15AN2N9  | 2.9             | 33       | 53     | 58     | 75     | 80     | 85     | 92     |
| LQW15AN3N9  | 3.9             | 35       | 58     | 61     | 82     | 88     | 92     | 100    |
| LQW15AN4N1  | 4.1             | 35       | 58     | 61     | 82     | 88     | 92     | 100    |
| LQW15AN4N3  | 4.3             | 35       | 58     | 61     | 90     | 88     | 92     | 100    |
| LQW15AN4N7  | 4.7             | 40       | 65     | 67     | 85     | 88     | 92     | 95     |
| LQW15AN5N1  | 5.1             | 35       | 60     | 65     | 78     | 85     | 90     | 95     |
| LQW15AN5N8  | 5.8             | 40       | 63     | 67     | 85     | 88     | 92     | 105    |
| LQW15AN6N2  | 6.2             | 40       | 63     | 65     | 80     | 90     | 95     | 105    |
| LQW15AN6N8  | 6.8             | 45       | 70     | 72     | 90     | 96     | 100    | 103    |
| LQW15AN7N3  | 7.3             | 38       | 58     | 63     | 75     | 88     | 90     | 92     |
| LQW15AN7N5  | 7.5             | 38       | 58     | 63     | 75     | 88     | 90     | 92     |
| LQW15AN8N2  | 8.2             | 40       | 62     | 67     | 80     | 90     | 95     | 102    |
| LQW15AN8N7  | 8.7             | 40       | 60     | 62     | 80     | 85     | 90     | 92     |
| LQW15AN9N1  | 9.1             | 40       | 62     | 68     | 85     | 90     | 92     | 95     |
| LQW15AN9N5  | 9.5             | 40       | 62     | 68     | 85     | 90     | 92     | 95     |
| LQW15AN10N  | 10              | 38       | 60     | 65     | 75     | 82     | 85     | 84     |
| LQW15AN11N  | 11              | 40       | 65     | 70     | 90     | 105    | 110    | 120    |
| LQW15AN12N  | 12              | 40       | 60     | 62     | 80     | 85     | 90     | 91     |
| LQW15AN13N  | 13              | 40       | 60     | 62     | 70     | 72     | 71     | 67     |
| LQW15AN15N  | 15              | 40       | 60     | 65     | 80     | 85     | 88     | 90     |
| LQW15AN16N  | 16              | 40       | 60     | 63     | 80     | 90     | 100    | 110    |
| LQW15AN18N  | 18              | 40       | 63     | 65     | 80     | 88     | 87     | 85     |
| LQW15AN19N  | 19              | 37       | 57     | 62     | 78     | 80     | 82     | 83     |
| LQW15AN20N  | 20              | 37       | 57     | 62     | 78     | 80     | 82     | 83     |
| LQW15AN22N  | 22              | 35       | 55     | 58     | 73     | 75     | 78     | -      |
| LQW15AN23N  | 23              | 35       | 55     | 58     | 73     | 75     | 78     | -      |
| LQW15AN24N  | 24              | 35       | 50     | 50     | 48     | 42     | -      | -      |
| LQW15AN27N  | 27              | 35       | 55     | 56     | 60     | 58     | -      | -      |
| LQW15AN30N  | 30              | 35       | 55     | 58     | 65     | 68     | -      | -      |
| LQW15AN33N  | 33              | 35       | 55     | 56     | 60     | 53     | -      | -      |
| LQW15AN36N  | 36              | 35       | 52     | 52     | 48     | 42     | -      | -      |
| LQW15AN39N  | 39              | 35       | 55     | 56     | 62     | -      | -      | -      |
| LQW15AN40N  | 40              | 35       | 55     | 56     | 62     | -      | -      | -      |
| LQW15AN43N  | 43              | 35       | 55     | 56     | 62     | -      | -      | -      |
| LQW15AN47N  | 47              | 34       | 52     | 54     | 60     | -      | -      | -      |
| LQW15AN51N  | 51              | 34       | 52     | 54     | 60     | -      | -      | -      |
| LQW15AN56N  | 56              | 36       | 53     | 55     | 50     | -      | -      | -      |
| LQW15AN62N  | 62              | 33       | 51     | 52     | -      | -      | -      | -      |
| LQW15AN68N  | 68              | 35       | 49     | 52     | -      | -      | -      | -      |
| LQW15AN72N  | 72              | 33       | 49     | 52     | -      | -      | -      | -      |
| LQW15AN75N  | 75              | 33       | 49     | 52     | -      | -      | -      | -      |
| LQW15AN82N  | 82              | 35       | 49     | 50     | -      | -      | -      | -      |
| LQW15AN91N  | 91              | 35       | 52     | 53     | -      | -      | -      | -      |
| LQW15ANR10  | 100             | 30       | 43     | 43     | -      | -      | -      | -      |
| LQW15ANR12  | 120             | 28       | 30     | 23     | -      | -      | -      | -      |

## LQW15A\_10 Series (High Q/Low DC Resistance Type)

### ■ Features

Lower DC resistance approximately by 50% than current type. Higher Q by 20%, larger rated current by 20%.

Inductance range: 1.3 to 5.6nH

Inductance tolerance:  $\pm 0.2$  or  $0.5$ nH

Q (Typ.): 83 to 122 (at 1GHz)

DC Resistance: 0.017 to 0.051 ohm

Rated Current: 800 to 1200mA



(in mm)

### ■ Applications

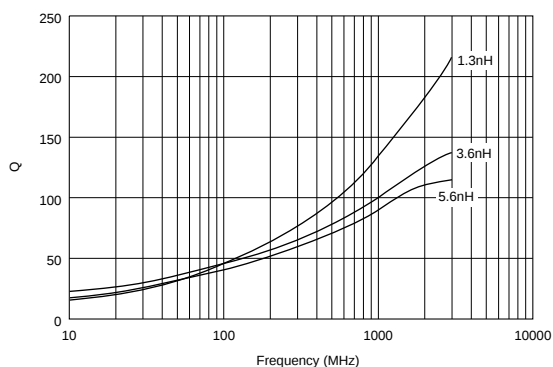
1. Cellular phone and Base station
  2. W-CDMA, GSM, N-CDMA, PDC
  3. Higher Q -- Matching circuit for antenna, SAWFIL
  4. Lower Rdc -- Choke coil for IF, RF circuit like PA
- Equipment with high frequency circuits  
(Wireless LAN, etc.)

| Part Number   | Inductance (nH)  | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (GHz) | EIA  |
|---------------|------------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW15AN1N3C10 | 1.3 $\pm 0.2$ nH | 100                  | 1200               | 0.017 max.          | 20       | 250                  | 16.0                                  | 0402 |
| LQW15AN1N3D10 | 1.3 $\pm 0.5$ nH | 100                  | 1200               | 0.017 max.          | 20       | 250                  | 16.0                                  | 0402 |
| LQW15AN2N2C10 | 2.2 $\pm 0.2$ nH | 100                  | 1000               | 0.027 max.          | 25       | 250                  | 14.0                                  | 0402 |
| LQW15AN2N2D10 | 2.2 $\pm 0.5$ nH | 100                  | 1000               | 0.027 max.          | 25       | 250                  | 14.0                                  | 0402 |
| LQW15AN2N4D10 | 2.4 $\pm 0.5$ nH | 100                  | 1000               | 0.027 max.          | 25       | 250                  | 14.0                                  | 0402 |
| LQW15AN3N3D10 | 3.3 $\pm 0.5$ nH | 100                  | 900                | 0.040 max.          | 30       | 250                  | 12.0                                  | 0402 |
| LQW15AN3N6C10 | 3.6 $\pm 0.2$ nH | 100                  | 900                | 0.040 max.          | 30       | 250                  | 9.5                                   | 0402 |
| LQW15AN3N6D10 | 3.6 $\pm 0.5$ nH | 100                  | 900                | 0.040 max.          | 30       | 250                  | 9.5                                   | 0402 |
| LQW15AN3N9D10 | 3.9 $\pm 0.5$ nH | 100                  | 900                | 0.040 max.          | 30       | 250                  | 7.0                                   | 0402 |
| LQW15AN4N7D10 | 4.7 $\pm 0.5$ nH | 100                  | 800                | 0.051 max.          | 30       | 250                  | 8.0                                   | 0402 |
| LQW15AN5N1C10 | 5.1 $\pm 0.2$ nH | 100                  | 800                | 0.051 max.          | 30       | 250                  | 8.0                                   | 0402 |
| LQW15AN5N1D10 | 5.1 $\pm 0.5$ nH | 100                  | 800                | 0.051 max.          | 30       | 250                  | 8.0                                   | 0402 |
| LQW15AN5N6C10 | 5.6 $\pm 0.2$ nH | 100                  | 800                | 0.051 max.          | 30       | 250                  | 8.0                                   | 0402 |
| LQW15AN5N6D10 | 5.6 $\pm 0.5$ nH | 100                  | 800                | 0.051 max.          | 30       | 250                  | 8.0                                   | 0402 |

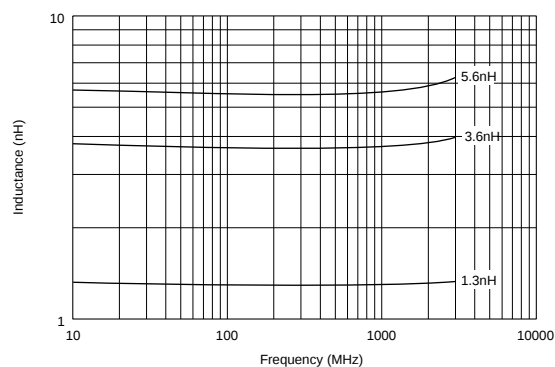
Operating Temp. Range: -55°C to +125°C

Only for reflow soldering.

### ■ Q-Frequency Characteristics



### ■ Inductance-Frequency Characteristics



Continued on the following page. ➤

☐ Continued from the preceding page.

## ■ Reference Data

### LQW15AN 10

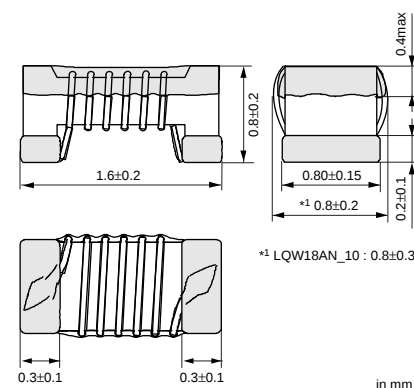
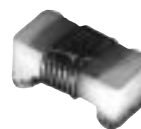
E4991A & 16197A

| Part Number | Inductance (nH) | Q (Typ.) |        |        |        |        |        |        |
|-------------|-----------------|----------|--------|--------|--------|--------|--------|--------|
|             | Nominal         | 800MHz   | 900MHz | 1.0GHz | 1.5GHz | 1.8GHz | 2.0GHz | 2.4GHz |
| LQW15AN1N3  | 1.3             | 90       | 95     | 100    | 130    | 145    | 160    | 180    |
| LQW15AN2N2  | 2.2             | 85       | 90     | 95     | 115    | 130    | 140    | 160    |
| LQW15AN2N4  | 2.4             | 80       | 85     | 90     | 110    | 130    | 140    | 160    |
| LQW15AN3N3  | 3.3             | 80       | 85     | 90     | 110    | 120    | 128    | 140    |
| LQW15AN3N6  | 3.6             | 73       | 75     | 85     | 100    | 110    | 115    | 130    |
| LQW15AN3N9  | 3.9             | 75       | 80     | 83     | 95     | 110    | 115    | 120    |
| LQW15AN4N7  | 4.7             | 75       | 80     | 85     | 100    | 113    | 120    | 132    |
| LQW15AN5N1  | 5.1             | 75       | 80     | 85     | 100    | 110    | 115    | 128    |
| LQW15AN5N6  | 5.6             | 70       | 75     | 78     | 95     | 100    | 105    | 110    |

### LQW18A\_00 Series

## ■ Features

1. Broad range of inductance (2.2nH to 470nH) with E24 step line up.
2. Horizontal wound structure enables tight inductance tolerance (+/-0.2nH, +/-2%). Stable circuit operation is possible.
3. The subminiature dimensions (1.6x0.8mm) allow high density mounting.
4. The high self resonant frequency realizes high Q value and stable inductance at high frequency.
5. Low DC resistance design is ideal for low loss, high output and low power consumption.
6. Resin-coated surface enables excellent mounting.



## ■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. Bluetooth
4. W-LAN
5. High frequency circuits in general

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW18AN2N2D00 | 2.2 ±0.5nH      | 100                  | 700                | 0.049 max.          | 16       | 250                  | 6000                                  | 0603 |
| LQW18AN3N6C00 | 3.6 ±0.2nH      | 100                  | 850                | 0.059 max.          | 25       | 250                  | 6000                                  | 0603 |
| LQW18AN3N6D00 | 3.6 ±0.5nH      | 100                  | 850                | 0.059 max.          | 25       | 250                  | 6000                                  | 0603 |
| LQW18AN3N9C00 | 3.9 ±0.2nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN3N9D00 | 3.9 ±0.5nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN4N3C00 | 4.3 ±0.2nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN4N3D00 | 4.3 ±0.5nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN4N7D00 | 4.7 ±0.5nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN5N6C00 | 5.6 ±0.2nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN5N6D00 | 5.6 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN6N2C00 | 6.2 ±0.2nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN6N2D00 | 6.2 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN6N8C00 | 6.8 ±0.2nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN6N8D00 | 6.8 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN7N5D00 | 7.5 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN8N2D00 | 8.2 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN8N7D00 | 8.7 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN9N1D00 | 9.1 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000                                  | 0603 |
| LQW18AN9N5D00 | 9.5 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000                                  | 0603 |

Continued on the following page. ☐

Continued from the preceding page.

| Part Number   | Inductance<br>(nH) | Test Frequency<br>(MHz) | Rated<br>Current<br>(mA) | DC Resistance<br>(ohm) | Q<br>(min.) | Test Frequency<br>(MHz) | Self Resonance<br>Frequency (min.)<br>(MHz) | EIA  |
|---------------|--------------------|-------------------------|--------------------------|------------------------|-------------|-------------------------|---------------------------------------------|------|
| LQW18AN10NG00 | 10 ±2%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN10NJ00 | 10 ±5%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN11NG00 | 11 ±2%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN11NJ00 | 11 ±5%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN12NG00 | 12 ±2%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN12NJ00 | 12 ±5%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN13NG00 | 13 ±2%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN13NJ00 | 13 ±5%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000                                        | 0603 |
| LQW18AN15NG00 | 15 ±2%             | 100                     | 600                      | 0.13 max.              | 40          | 250                     | 6000                                        | 0603 |
| LQW18AN15NJ00 | 15 ±5%             | 100                     | 600                      | 0.13 max.              | 40          | 250                     | 6000                                        | 0603 |
| LQW18AN16NG00 | 16 ±2%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500                                        | 0603 |
| LQW18AN16NJ00 | 16 ±5%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500                                        | 0603 |
| LQW18AN18NG00 | 18 ±2%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500                                        | 0603 |
| LQW18AN18NJ00 | 18 ±5%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500                                        | 0603 |
| LQW18AN20NG00 | 20 ±2%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 4900                                        | 0603 |
| LQW18AN20NJ00 | 20 ±5%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 4900                                        | 0603 |
| LQW18AN22NG00 | 22 ±2%             | 100                     | 500                      | 0.17 max.              | 40          | 250                     | 4600                                        | 0603 |
| LQW18AN22NJ00 | 22 ±5%             | 100                     | 500                      | 0.17 max.              | 40          | 250                     | 4600                                        | 0603 |
| LQW18AN24NG00 | 24 ±2%             | 100                     | 500                      | 0.21 max.              | 40          | 250                     | 3800                                        | 0603 |
| LQW18AN24NJ00 | 24 ±5%             | 100                     | 500                      | 0.21 max.              | 40          | 250                     | 3800                                        | 0603 |
| LQW18AN27NG00 | 27 ±2%             | 100                     | 440                      | 0.21 max.              | 40          | 250                     | 3700                                        | 0603 |
| LQW18AN27NJ00 | 27 ±5%             | 100                     | 440                      | 0.21 max.              | 40          | 250                     | 3700                                        | 0603 |
| LQW18AN30NG00 | 30 ±2%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3300                                        | 0603 |
| LQW18AN30NJ00 | 30 ±5%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3300                                        | 0603 |
| LQW18AN33NG00 | 33 ±2%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3200                                        | 0603 |
| LQW18AN33NJ00 | 33 ±5%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3200                                        | 0603 |
| LQW18AN36NG00 | 36 ±2%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2900                                        | 0603 |
| LQW18AN36NJ00 | 36 ±5%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2900                                        | 0603 |
| LQW18AN39NG00 | 39 ±2%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2800                                        | 0603 |
| LQW18AN39NJ00 | 39 ±5%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2800                                        | 0603 |
| LQW18AN43NG00 | 43 ±2%             | 100                     | 380                      | 0.29 max.              | 40          | 200                     | 2700                                        | 0603 |
| LQW18AN43NJ00 | 43 ±5%             | 100                     | 380                      | 0.29 max.              | 40          | 200                     | 2700                                        | 0603 |
| LQW18AN47NG00 | 47 ±2%             | 100                     | 380                      | 0.29 max.              | 38          | 200                     | 2600                                        | 0603 |
| LQW18AN47NJ00 | 47 ±5%             | 100                     | 380                      | 0.29 max.              | 38          | 200                     | 2600                                        | 0603 |
| LQW18AN51NG00 | 51 ±2%             | 100                     | 370                      | 0.33 max.              | 38          | 200                     | 2500                                        | 0603 |
| LQW18AN51NJ00 | 51 ±5%             | 100                     | 370                      | 0.33 max.              | 38          | 200                     | 2500                                        | 0603 |
| LQW18AN56NG00 | 56 ±2%             | 100                     | 360                      | 0.35 max.              | 38          | 200                     | 2400                                        | 0603 |
| LQW18AN56NJ00 | 56 ±5%             | 100                     | 360                      | 0.35 max.              | 38          | 200                     | 2400                                        | 0603 |
| LQW18AN62NG00 | 62 ±2%             | 100                     | 280                      | 0.51 max.              | 38          | 200                     | 2300                                        | 0603 |
| LQW18AN62NJ00 | 62 ±5%             | 100                     | 280                      | 0.51 max.              | 38          | 200                     | 2300                                        | 0603 |
| LQW18AN68NG00 | 68 ±2%             | 100                     | 340                      | 0.38 max.              | 38          | 200                     | 2200                                        | 0603 |
| LQW18AN68NJ00 | 68 ±5%             | 100                     | 340                      | 0.38 max.              | 38          | 200                     | 2200                                        | 0603 |
| LQW18AN72NG00 | 72 ±2%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2100                                        | 0603 |
| LQW18AN72NJ00 | 72 ±5%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2100                                        | 0603 |
| LQW18AN75NG00 | 75 ±2%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2050                                        | 0603 |
| LQW18AN75NJ00 | 75 ±5%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2050                                        | 0603 |
| LQW18AN82NG00 | 82 ±2%             | 100                     | 250                      | 0.60 max.              | 34          | 150                     | 2000                                        | 0603 |
| LQW18AN82NJ00 | 82 ±5%             | 100                     | 250                      | 0.60 max.              | 34          | 150                     | 2000                                        | 0603 |
| LQW18AN91NG00 | 91 ±2%             | 100                     | 230                      | 0.64 max.              | 34          | 150                     | 1900                                        | 0603 |
| LQW18AN91NJ00 | 91 ±5%             | 100                     | 230                      | 0.64 max.              | 34          | 150                     | 1900                                        | 0603 |
| LQW18ANR10G00 | 100 ±2%            | 100                     | 220                      | 0.68 max.              | 34          | 150                     | 1800                                        | 0603 |
| LQW18ANR10J00 | 100 ±5%            | 100                     | 220                      | 0.68 max.              | 34          | 150                     | 1800                                        | 0603 |
| LQW18ANR11G00 | 110 ±2%            | 100                     | 200                      | 1.2 max.               | 32          | 150                     | 1350                                        | 0603 |
| LQW18ANR11J00 | 110 ±5%            | 100                     | 200                      | 1.2 max.               | 32          | 150                     | 1350                                        | 0603 |
| LQW18ANR12G00 | 120 ±2%            | 100                     | 180                      | 1.3 max.               | 32          | 150                     | 1600                                        | 0603 |
| LQW18ANR12J00 | 120 ±5%            | 100                     | 180                      | 1.3 max.               | 32          | 150                     | 1600                                        | 0603 |
| LQW18ANR13G00 | 130 ±2%            | 100                     | 170                      | 1.4 max.               | 32          | 150                     | 1450                                        | 0603 |

Continued on the following page. ↗

Continued from the preceding page.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW18ANR13J00 | 130 ±5%         | 100                  | 170                | 1.4 max.            | 32       | 150                  | 1450                                  | 0603 |
| LQW18ANR15G00 | 150 ±2%         | 100                  | 160                | 1.5 max.            | 32       | 150                  | 1400                                  | 0603 |
| LQW18ANR15J00 | 150 ±5%         | 100                  | 160                | 1.5 max.            | 32       | 150                  | 1400                                  | 0603 |
| LQW18ANR16G00 | 160 ±2%         | 100                  | 150                | 2.1 max.            | 32       | 150                  | 1350                                  | 0603 |
| LQW18ANR16J00 | 160 ±5%         | 100                  | 150                | 2.1 max.            | 32       | 150                  | 1350                                  | 0603 |
| LQW18ANR18G00 | 180 ±2%         | 100                  | 140                | 2.2 max.            | 25       | 100                  | 1300                                  | 0603 |
| LQW18ANR18J00 | 180 ±5%         | 100                  | 140                | 2.2 max.            | 25       | 100                  | 1300                                  | 0603 |
| LQW18ANR20G00 | 200 ±2%         | 100                  | 120                | 2.4 max.            | 25       | 100                  | 1250                                  | 0603 |
| LQW18ANR20J00 | 200 ±5%         | 100                  | 120                | 2.4 max.            | 25       | 100                  | 1250                                  | 0603 |
| LQW18ANR22G00 | 220 ±2%         | 100                  | 120                | 2.5 max.            | 25       | 100                  | 1200                                  | 0603 |
| LQW18ANR22J00 | 220 ±5%         | 100                  | 120                | 2.5 max.            | 25       | 100                  | 1200                                  | 0603 |
| LQW18ANR27G00 | 270 ±2%         | 100                  | 110                | 3.4 max.            | 30       | 100                  | 960                                   | 0603 |
| LQW18ANR27J00 | 270 ±5%         | 100                  | 110                | 3.4 max.            | 30       | 100                  | 960                                   | 0603 |
| LQW18ANR33G00 | 330 ±2%         | 100                  | 85                 | 5.5 max.            | 30       | 100                  | 800                                   | 0603 |
| LQW18ANR33J00 | 330 ±5%         | 100                  | 85                 | 5.5 max.            | 30       | 100                  | 800                                   | 0603 |
| LQW18ANR39G00 | 390 ±2%         | 100                  | 80                 | 6.2 max.            | 30       | 100                  | 800                                   | 0603 |
| LQW18ANR39J00 | 390 ±5%         | 100                  | 80                 | 6.2 max.            | 30       | 100                  | 800                                   | 0603 |
| LQW18ANR47G00 | 470 ±2%         | 100                  | 75                 | 7.0 max.            | 30       | 100                  | 700                                   | 0603 |
| LQW18ANR47J00 | 470 ±5%         | 100                  | 75                 | 7.0 max.            | 30       | 100                  | 700                                   | 0603 |

Operating Temp. Range: -55°C to +125°C  
Only for reflow soldering.

Q-Frequency Characteristics



Inductance-Frequency Characteristics



## LQW18A\_10 Series (High Q/Low DC Resistance Type)

### ■ Features

DC Resistance is about 50% less than current type.  
Q is about 10% higher, and allowable current is about 20% higher than current type. Tight inductance tolerance is available.

### ■ Applications

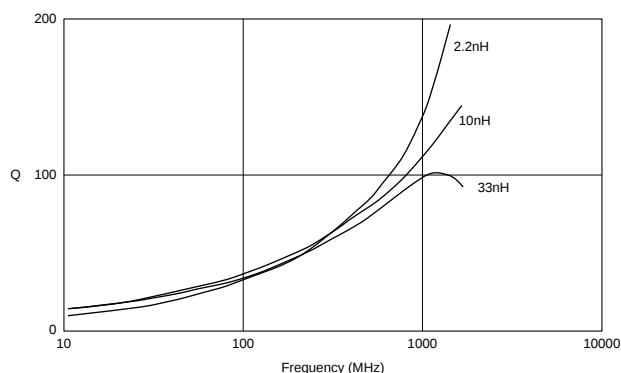
Cellular phone and Base station.  
W-CDMA, GSM, N-CDMA, PDC.  
Higher Q -- Matching circuit for antenna, SAWFIL.  
Lower Rdc -- Choke coil for IF, RF circuit like PA.  
Equipment with high frequency circuits  
(Wireless LAN etc.)



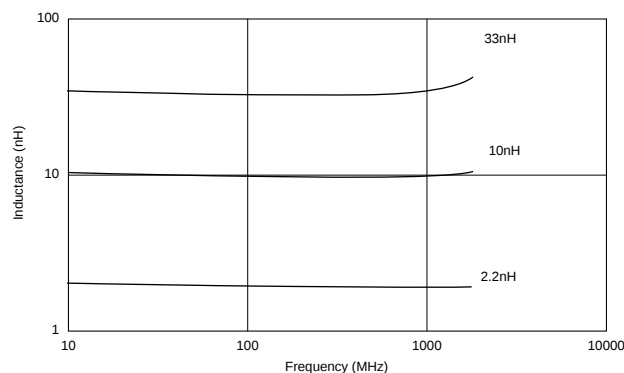
| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW18AN2N2D10 | 2.2 ±0.5nH      | 100                  | 1400               | 0.018 max.          | 25       | 250                  | 18000                                 | 0603 |
| LQW18AN3N9C10 | 3.9 ±0.2nH      | 100                  | 1000               | 0.032 max.          | 38       | 250                  | 11000                                 | 0603 |
| LQW18AN3N9D10 | 3.9 ±0.5nH      | 100                  | 1000               | 0.032 max.          | 38       | 250                  | 11000                                 | 0603 |
| LQW18AN5N6D10 | 5.6 ±0.5nH      | 100                  | 900                | 0.045 max.          | 38       | 250                  | 10000                                 | 0603 |
| LQW18AN6N8C10 | 6.8 ±0.2nH      | 100                  | 900                | 0.045 max.          | 38       | 250                  | 7000                                  | 0603 |
| LQW18AN6N8D10 | 6.8 ±0.5nH      | 100                  | 900                | 0.045 max.          | 38       | 250                  | 7000                                  | 0603 |
| LQW18AN8N2D10 | 8.2 ±0.5nH      | 100                  | 800                | 0.058 max.          | 38       | 250                  | 7000                                  | 0603 |
| LQW18AN10NG10 | 10 ±2%          | 100                  | 800                | 0.058 max.          | 38       | 250                  | 5000                                  | 0603 |
| LQW18AN10NJ10 | 10 ±5%          | 100                  | 800                | 0.058 max.          | 38       | 250                  | 5000                                  | 0603 |
| LQW18AN12NG10 | 12 ±2%          | 100                  | 750                | 0.071 max.          | 38       | 250                  | 5000                                  | 0603 |
| LQW18AN12NJ10 | 12 ±5%          | 100                  | 750                | 0.071 max.          | 38       | 250                  | 5000                                  | 0603 |
| LQW18AN15NJ10 | 15 ±5%          | 100                  | 700                | 0.085 max.          | 42       | 250                  | 4500                                  | 0603 |
| LQW18AN18NG10 | 18 ±2%          | 100                  | 700                | 0.085 max.          | 42       | 250                  | 3500                                  | 0603 |
| LQW18AN18NJ10 | 18 ±5%          | 100                  | 700                | 0.085 max.          | 42       | 250                  | 3500                                  | 0603 |
| LQW18AN22NG10 | 22 ±2%          | 100                  | 640                | 0.099 max.          | 42       | 250                  | 3200                                  | 0603 |
| LQW18AN22NJ10 | 22 ±5%          | 100                  | 640                | 0.099 max.          | 42       | 250                  | 3200                                  | 0603 |
| LQW18AN27NG10 | 27 ±2%          | 100                  | 590                | 0.116 max.          | 42       | 250                  | 2800                                  | 0603 |
| LQW18AN27NJ10 | 27 ±5%          | 100                  | 590                | 0.116 max.          | 42       | 250                  | 2800                                  | 0603 |
| LQW18AN33NJ10 | 33 ±5%          | 100                  | 550                | 0.132 max.          | 42       | 250                  | 2500                                  | 0603 |

Operating Temp. Range: -55°C to +125°C  
Only for reflow soldering.

### ■ Q-Frequency Characteristics



### ■ Inductance-Frequency Characteristics



# Chip Coils



## High Frequency Wound Type LQW2BH/LQW31H Series

LQW2BH series consists of air-core chip coil using a sub-miniature alumina core as a bobbin. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.

### ■ Features (LQW2BH\_03)

1. Inductance: 3.3 to 470nH (Wide inductance ranges)
2. High self-resonant frequency characteristics
3. High Q value and highly stable inductance in high frequency
4. Low DC resistance and large rated current

### ■ Features (LQW2BH\_13)

LQW2BH\_13 using thick wire has higher Q value than existing LQW2BH\_03 series.

1. Inductance: 2.7 to 27nH
2. DC resistance: 0.02 to 0.06 ohm
3. Q value: 85 to 95 (Typ.) at 800MHz
4. Rated current: 900 to 1900mA

### ■ Applications

1. High frequency circuit in telecommunications equipment, such as DECT, PHS, PCS, PCN, GSM and CDMA.
2. Impedance Matching
  - PA module
  - SAW filter
3. Resonance circuit
  - VCO



(in mm)

### LQW2BH\_03 Series

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW2BHN3N3D03 | 3.3 ±0.5nH      | 100                  | 910                | 0.05 max.           | 10       | 250                  | 6000                                  | 0805 |
| LQW2BHN6N8D03 | 6.8 ±0.5nH      | 100                  | 680                | 0.11 max.           | 20       | 250                  | 5400                                  | 0805 |
| LQW2BHN8N2D03 | 8.2 ±0.5nH      | 100                  | 630                | 0.12 max.           | 20       | 250                  | 3900                                  | 0805 |
| LQW2BHN10NJ03 | 10 ±5%          | 100                  | 1320               | 0.03 max.           | 30       | 250                  | 3300                                  | 0805 |
| LQW2BHN12NJ03 | 12 ±5%          | 100                  | 680                | 0.11 max.           | 30       | 250                  | 3200                                  | 0805 |
| LQW2BHN15NJ03 | 15 ±5%          | 100                  | 630                | 0.12 max.           | 30       | 250                  | 2700                                  | 0805 |
| LQW2BHN18NJ03 | 18 ±5%          | 100                  | 690                | 0.10 max.           | 30       | 250                  | 2600                                  | 0805 |
| LQW2BHN22NJ03 | 22 ±5%          | 100                  | 720                | 0.09 max.           | 30       | 250                  | 2100                                  | 0805 |
| LQW2BHN27NJ03 | 27 ±5%          | 100                  | 540                | 0.17 max.           | 40       | 250                  | 2300                                  | 0805 |
| LQW2BHN33NG03 | 33 ±2%          | 100                  | 570                | 0.15 max.           | 40       | 250                  | 1900                                  | 0805 |
| LQW2BHN33NJ03 | 33 ±5%          | 100                  | 570                | 0.15 max.           | 40       | 250                  | 1900                                  | 0805 |
| LQW2BHN39NG03 | 39 ±2%          | 100                  | 730                | 0.09 max.           | 40       | 250                  | 1700                                  | 0805 |
| LQW2BHN39NJ03 | 39 ±5%          | 100                  | 730                | 0.09 max.           | 40       | 250                  | 1700                                  | 0805 |
| LQW2BHN47NG03 | 47 ±2%          | 100                  | 450                | 0.23 max.           | 40       | 200                  | 1600                                  | 0805 |
| LQW2BHN47NJ03 | 47 ±5%          | 100                  | 450                | 0.23 max.           | 40       | 200                  | 1600                                  | 0805 |
| LQW2BHN56NG03 | 56 ±2%          | 100                  | 430                | 0.26 max.           | 40       | 200                  | 1500                                  | 0805 |
| LQW2BHN56NJ03 | 56 ±5%          | 100                  | 430                | 0.26 max.           | 40       | 200                  | 1500                                  | 0805 |

Continued on the following page. ↗

Continued from the preceding page.

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW2BHN68NG03 | 68 ±2%          | 100                  | 460                | 0.23 max.           | 40       | 200                  | 1200                                  | 0805 |
| LQW2BHN68NJ03 | 68 ±5%          | 100                  | 460                | 0.23 max.           | 40       | 200                  | 1200                                  | 0805 |
| LQW2BHN82NG03 | 82 ±2%          | 100                  | 320                | 0.42 max.           | 40       | 150                  | 1100                                  | 0805 |
| LQW2BHN82NJ03 | 82 ±5%          | 100                  | 320                | 0.42 max.           | 40       | 150                  | 1100                                  | 0805 |
| LQW2BHNR10G03 | 100 ±2%         | 100                  | 270                | 0.55 max.           | 35       | 150                  | 900                                   | 0805 |
| LQW2BHNR10J03 | 100 ±5%         | 100                  | 350                | 0.38 max.           | 40       | 150                  | 900                                   | 0805 |
| LQW2BHNR12G03 | 120 ±2%         | 100                  | 320                | 0.40 max.           | 40       | 150                  | 750                                   | 0805 |
| LQW2BHNR12J03 | 120 ±5%         | 100                  | 320                | 0.40 max.           | 40       | 150                  | 750                                   | 0805 |
| LQW2BHNR15G03 | 150 ±2%         | 100                  | 260                | 0.68 max.           | 30       | 150                  | 350                                   | 0805 |
| LQW2BHNR15J03 | 150 ±5%         | 100                  | 390                | 0.47 max.           | 30       | 150                  | 350                                   | 0805 |
| LQW2BHNR18G03 | 180 ±2%         | 100                  | 250                | 0.71 max.           | 35       | 100                  | 700                                   | 0805 |
| LQW2BHNR18J03 | 180 ±5%         | 100                  | 250                | 0.71 max.           | 35       | 100                  | 700                                   | 0805 |
| LQW2BHNR22G03 | 220 ±2%         | 100                  | 240                | 0.70 max.           | 35       | 100                  | 500                                   | 0805 |
| LQW2BHNR22J03 | 220 ±5%         | 100                  | 240                | 0.70 max.           | 35       | 100                  | 500                                   | 0805 |
| LQW2BHNR27J03 | 270 ±5%         | 10                   | 190                | 2.00 max.           | 15       | 25.2                 | 550                                   | 0805 |
| LQW2BHNR27K03 | 270 ±10%        | 10                   | 190                | 2.00 max.           | 15       | 25.2                 | 550                                   | 0805 |
| LQW2BHNR33J03 | 330 ±5%         | 10                   | 180                | 2.20 max.           | 15       | 25.2                 | 500                                   | 0805 |
| LQW2BHNR33K03 | 330 ±10%        | 10                   | 180                | 2.20 max.           | 15       | 25.2                 | 500                                   | 0805 |
| LQW2BHNR39J03 | 390 ±5%         | 10                   | 170                | 2.50 max.           | 15       | 25.2                 | 400                                   | 0805 |
| LQW2BHNR39K03 | 390 ±10%        | 10                   | 170                | 2.50 max.           | 15       | 25.2                 | 400                                   | 0805 |
| LQW2BHNR47J03 | 470 ±5%         | 10                   | 160                | 2.80 max.           | 15       | 25.2                 | 350                                   | 0805 |
| LQW2BHNR47K03 | 470 ±10%        | 10                   | 160                | 2.80 max.           | 15       | 25.2                 | 350                                   | 0805 |

Operating Temp. Range: -25°C to +85°C

## LQW2BH\_13 Series (High Q/Low DC Resistance Type)

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW2BHN2N7D13 | 2.7 ±0.5nH      | 100                  | 1900               | 0.02 max.           | 20       | 250                  | 6000                                  | 0805 |
| LQW2BHN3N1D13 | 3.1 ±0.5nH      | 100                  | 1800               | 0.02 max.           | 20       | 250                  | 6000                                  | 0805 |
| LQW2BHN3N3D13 | 3.3 ±0.5nH      | 100                  | 1700               | 0.02 max.           | 20       | 250                  | 6000                                  | 0805 |
| LQW2BHN5N6D13 | 5.6 ±0.5nH      | 100                  | 1500               | 0.02 max.           | 35       | 250                  | 6000                                  | 0805 |
| LQW2BHN6N8D13 | 6.8 ±0.5nH      | 100                  | 1400               | 0.02 max.           | 35       | 250                  | 5400                                  | 0805 |
| LQW2BHN8N6D13 | 8.6 ±0.5nH      | 100                  | 1300               | 0.03 max.           | 35       | 250                  | 3900                                  | 0805 |
| LQW2BHN10NJ13 | 10 ±5%          | 100                  | 1320               | 0.03 max.           | 35       | 250                  | 3300                                  | 0805 |
| LQW2BHN12NK13 | 12 ±10%         | 100                  | 1100               | 0.04 max.           | 40       | 250                  | 3200                                  | 0805 |
| LQW2BHN15NK13 | 15 ±10%         | 100                  | 1000               | 0.04 max.           | 40       | 250                  | 3100                                  | 0805 |
| LQW2BHN18NK13 | 18.8 ±10%       | 100                  | 1000               | 0.05 max.           | 40       | 250                  | 2600                                  | 0805 |
| LQW2BHN21NK13 | 21 ±10%         | 100                  | 950                | 0.05 max.           | 40       | 250                  | 2200                                  | 0805 |
| LQW2BHN27NK13 | 27 ±10%         | 100                  | 900                | 0.06 max.           | 40       | 250                  | 1800                                  | 0805 |

Operating Temp. Range: -25°C to +85°C

■ Q-Frequency Characteristics



■ Inductance-Frequency Characteristics



## LQW31H Series

LQW31H series is alumina-core-type chip inductor for high frequency circuit. Its low dc resistance and high Q due to wound structure are suitable for hand held telecommunications equipment.

### ■ Features

1. Inductance range from 8.8 to 100nH.
2. Because of the high self resonant frequency, it can be used in high frequency range.
3. Tight inductance tolerance (+/-5%)



| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQW31HN8N8J03 | 8.8 ±5%         | 100                  | 750                | 0.029 ±40%          | 50       | 436                  | 1000                                  | 1206 |
| LQW31HN8N8K03 | 8.8 ±10%        | 100                  | 750                | 0.029 ±40%          | 50       | 436                  | 1000                                  | 1206 |
| LQW31HN15NJ03 | 14.7 ±5%        | 100                  | 680                | 0.035 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN15NK03 | 14.7 ±10%       | 100                  | 680                | 0.035 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN17NJ03 | 17 ±5%          | 100                  | 650                | 0.037 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN17NK03 | 17 ±10%         | 100                  | 650                | 0.037 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN23NJ03 | 23 ±5%          | 100                  | 590                | 0.046 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN23NK03 | 23 ±10%         | 100                  | 590                | 0.046 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN27NJ03 | 27 ±5%          | 100                  | 560                | 0.051 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN27NK03 | 27 ±10%         | 100                  | 560                | 0.051 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN33NJ03 | 33 ±5%          | 100                  | 530                | 0.057 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN33NK03 | 33 ±10%         | 100                  | 530                | 0.057 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN39NJ03 | 39 ±5%          | 100                  | 490                | 0.067 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN39NK03 | 39 ±10%         | 100                  | 490                | 0.067 ±40%          | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN47NJ03 | 47 ±5%          | 100                  | 380                | 0.11 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN47NK03 | 47 ±10%         | 100                  | 380                | 0.11 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN56NJ03 | 56 ±5%          | 100                  | 330                | 0.14 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN56NK03 | 56 ±10%         | 100                  | 330                | 0.14 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN64NJ03 | 64 ±5%          | 100                  | 290                | 0.18 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN64NK03 | 64 ±10%         | 100                  | 290                | 0.18 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN84NJ03 | 84 ±5%          | 100                  | 240                | 0.28 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HN84NK03 | 84 ±10%         | 100                  | 240                | 0.28 ±40%           | 60       | 436                  | 1000                                  | 1206 |
| LQW31HNR10J03 | 100 ±5%         | 100                  | 230                | 0.3 ±40%            | 60       | 436                  | 900                                   | 1206 |
| LQW31HNR10K03 | 100 ±10%        | 100                  | 230                | 0.3 ±40%            | 60       | 436                  | 900                                   | 1206 |

Operating Temp. Range: -25°C to +85°C

### ■ Q-Frequency Characteristics



# Chip Coils



## High Frequency Wound Type LQH31H Series

LQH31H series is wound type chip coil with ferrite core for high frequency.

### ■ Features

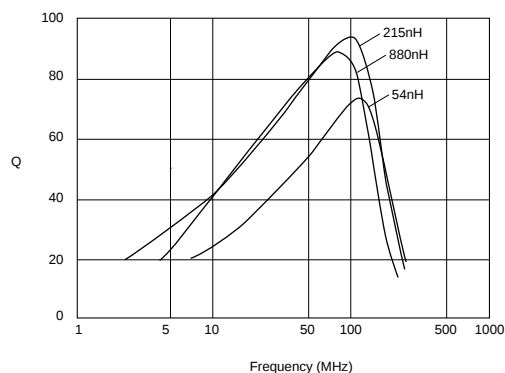
1. Inductance range from 54 to 880nH
2. High Q value and stable inductance in high frequency range from 30 to 150MHz
3. Both flow and reflow soldering methods can be employed for excellent solder heat resistance.



| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQH31HN54NK03 | 54 ±10%         | 1                    | 920                | 0.035 ±30%          | 50       | 100                  | 800                                   | 1206 |
| LQH31HN95NK03 | 95 ±10%         | 1                    | 790                | 0.047 ±30%          | 60       | 100                  | 650                                   | 1206 |
| LQH31HNR14J03 | 145 ±5%         | 1                    | 700                | 0.061 ±30%          | 60       | 100                  | 500                                   | 1206 |
| LQH31HNR14K03 | 145 ±10%        | 1                    | 700                | 0.061 ±30%          | 60       | 100                  | 500                                   | 1206 |
| LQH31HNR21J03 | 215 ±5%         | 1                    | 520                | 0.11 ±30%           | 60       | 100                  | 430                                   | 1206 |
| LQH31HNR21K03 | 215 ±10%        | 1                    | 520                | 0.11 ±30%           | 60       | 100                  | 430                                   | 1206 |
| LQH31HNR29J03 | 290 ±5%         | 1                    | 420                | 0.17 ±30%           | 60       | 100                  | 360                                   | 1206 |
| LQH31HNR29K03 | 290 ±10%        | 1                    | 420                | 0.17 ±30%           | 60       | 100                  | 360                                   | 1206 |
| LQH31HNR39J03 | 390 ±5%         | 1                    | 330                | 0.26 ±30%           | 60       | 100                  | 300                                   | 1206 |
| LQH31HNR39K03 | 390 ±10%        | 1                    | 330                | 0.26 ±30%           | 60       | 100                  | 300                                   | 1206 |
| LQH31HNR50J03 | 500 ±5%         | 1                    | 260                | 0.44 ±30%           | 60       | 100                  | 270                                   | 1206 |
| LQH31HNR50K03 | 500 ±10%        | 1                    | 260                | 0.44 ±30%           | 60       | 100                  | 270                                   | 1206 |
| LQH31HNR61J03 | 610 ±5%         | 1                    | 250                | 0.48 ±30%           | 60       | 100                  | 240                                   | 1206 |
| LQH31HNR61K03 | 610 ±10%        | 1                    | 250                | 0.48 ±30%           | 60       | 100                  | 240                                   | 1206 |
| LQH31HNR75J03 | 750 ±5%         | 1                    | 190                | 0.79 ±30%           | 60       | 100                  | 220                                   | 1206 |
| LQH31HNR75K03 | 750 ±10%        | 1                    | 190                | 0.79 ±30%           | 60       | 100                  | 220                                   | 1206 |
| LQH31HNR88J03 | 880 ±5%         | 1                    | 180                | 0.86 ±30%           | 60       | 100                  | 200                                   | 1206 |
| LQH31HNR88K03 | 880 ±10%        | 1                    | 180                | 0.86 ±30%           | 60       | 100                  | 200                                   | 1206 |

Operating Temp. Range: -25°C to +85°C

### ■ Q-Frequency Characteristics



# Chip Coils



## for General Use Monolithic Type LQM18N/LQM21N Series

### LQM18N Series

The LQM18N series of magnetically shielded chip coils was developed by using original multilayer process technology and magnetic materials. Compact size is suitable for high density mounting. Shielded construction is not affected by interference from peripheral components.

#### ■ Features

1. Magnetically shielded structure provides excellent characteristics in crosstalk and magnetic coupling.
2. Compact size (1.6x0.8mm) and light weight
3. The external electrodes with nickel barrier structure provide excellent solder heat resistance. Both flow and reflow soldering can be applicable.



(in mm)

#### ■ Applications

1. Resonance circuit, traps, filter circuits
2. RF choke in telecommunications equipment, cordless phones, radio equipment

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQM18NN47NM00 | 47 ±20%         | 50                   | 50                 | 0.30 max.           | 10       | 50                   | 260                                   | 0603 |
| LQM18NN68NM00 | 68 ±20%         | 50                   | 50                 | 0.30 max.           | 10       | 50                   | 250                                   | 0603 |
| LQM18NN82NM00 | 82 ±20%         | 50                   | 50                 | 0.30 max.           | 10       | 50                   | 245                                   | 0603 |
| LQM18NNR10K00 | 100 ±10%        | 25                   | 50                 | 0.50 max.           | 15       | 25                   | 240                                   | 0603 |
| LQM18NNR12K00 | 120 ±10%        | 25                   | 50                 | 0.50 max.           | 15       | 25                   | 205                                   | 0603 |
| LQM18NNR15K00 | 150 ±10%        | 25                   | 50                 | 0.60 max.           | 15       | 25                   | 180                                   | 0603 |
| LQM18NNR18K00 | 180 ±10%        | 25                   | 50                 | 0.60 max.           | 15       | 25                   | 165                                   | 0603 |
| LQM18NNR22K00 | 220 ±10%        | 25                   | 50                 | 0.80 max.           | 15       | 25                   | 150                                   | 0603 |
| LQM18NNR27K00 | 270 ±10%        | 25                   | 50                 | 0.80 max.           | 15       | 25                   | 136                                   | 0603 |
| LQM18NNR33K00 | 330 ±10%        | 25                   | 35                 | 0.85 max.           | 15       | 25                   | 125                                   | 0603 |
| LQM18NNR39K00 | 390 ±10%        | 25                   | 35                 | 1.00 max.           | 15       | 25                   | 110                                   | 0603 |
| LQM18NNR47K00 | 470 ±10%        | 25                   | 35                 | 1.35 max.           | 15       | 25                   | 105                                   | 0603 |
| LQM18NNR56K00 | 560 ±10%        | 25                   | 35                 | 1.55 max.           | 15       | 25                   | 95                                    | 0603 |
| LQM18NNR68K00 | 680 ±10%        | 25                   | 35                 | 1.70 max.           | 15       | 25                   | 90                                    | 0603 |
| LQM18NNR82K00 | 820 ±10%        | 25                   | 35                 | 2.10 max.           | 15       | 25                   | 85                                    | 0603 |
| LQM18NN1R0K00 | 1000 ±10%       | 10                   | 25                 | 0.60 max.           | 35       | 10                   | 75                                    | 0603 |
| LQM18NN1R2K00 | 1200 ±10%       | 10                   | 25                 | 0.80 max.           | 35       | 10                   | 65                                    | 0603 |
| LQM18NN1R5K00 | 1500 ±10%       | 10                   | 25                 | 0.80 max.           | 35       | 10                   | 60                                    | 0603 |
| LQM18NN1R8K00 | 1800 ±10%       | 10                   | 25                 | 0.95 max.           | 35       | 10                   | 55                                    | 0603 |
| LQM18NN2R2K00 | 2200 ±10%       | 10                   | 15                 | 1.15 max.           | 35       | 10                   | 50                                    | 0603 |

Operating Temp. Range: -40°C to +85°C

## ■ Q-Frequency Characteristics



## ■ Inductance-Frequency Characteristics



## LQM21N Series

### ■ Features

The LQM21N series consists of magnetically shielded chip inductors developed using Murata's original multilayer process technology and magnetic materials. The miniature size of 2.0x1.25mm enables compact design of electric equipment. Inductance range from 0.1 micro H to 4.7 micro H is available.

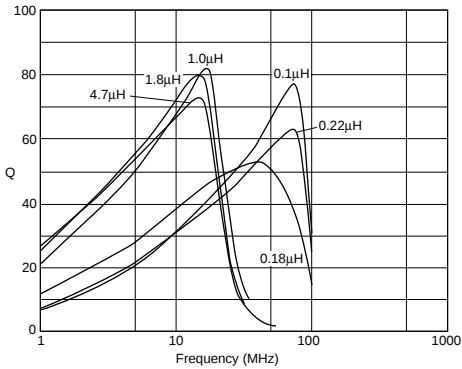


|                |                           |          |
|----------------|---------------------------|----------|
| Dimension of t | Inductance : 0.1 to 2.2μH | 0.85±0.2 |
|                | Inductance : 2.7 to 4.7μH | 1.25±0.2 |

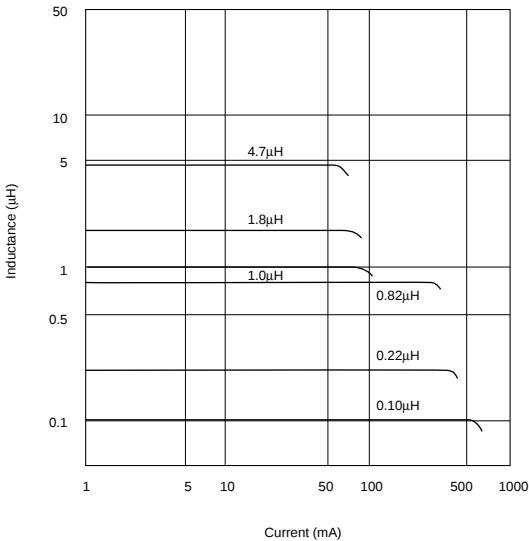
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQM21NNR10K10 | 0.1 ±10%        | 25                   | 250                | 0.26 max.           | 20       | 25                   | 340                                   | 0805 |
| LQM21NNR12K10 | 0.12 ±10%       | 25                   | 250                | 0.29 max.           | 20       | 25                   | 310                                   | 0805 |
| LQM21NNR15K10 | 0.15 ±10%       | 25                   | 250                | 0.32 max.           | 20       | 25                   | 270                                   | 0805 |
| LQM21NNR18K10 | 0.18 ±10%       | 25                   | 250                | 0.35 max.           | 20       | 25                   | 250                                   | 0805 |
| LQM21NNR22K10 | 0.22 ±10%       | 25                   | 250                | 0.38 max.           | 20       | 25                   | 220                                   | 0805 |
| LQM21NNR27K10 | 0.27 ±10%       | 25                   | 250                | 0.42 max.           | 20       | 25                   | 200                                   | 0805 |
| LQM21NNR33K10 | 0.33 ±10%       | 25                   | 250                | 0.48 max.           | 20       | 25                   | 180                                   | 0805 |
| LQM21NNR39K10 | 0.39 ±10%       | 25                   | 200                | 0.53 max.           | 25       | 25                   | 165                                   | 0805 |
| LQM21NNR47K10 | 0.47 ±10%       | 25                   | 200                | 0.57 max.           | 25       | 25                   | 150                                   | 0805 |
| LQM21NNR56K10 | 0.56 ±10%       | 25                   | 150                | 0.63 max.           | 25       | 25                   | 140                                   | 0805 |
| LQM21NNR68K10 | 0.68 ±10%       | 25                   | 150                | 0.72 max.           | 25       | 25                   | 125                                   | 0805 |
| LQM21NNR82K10 | 0.82 ±10%       | 25                   | 150                | 0.81 max.           | 25       | 25                   | 115                                   | 0805 |
| LQM21NN1R0K10 | 1 ±10%          | 10                   | 50                 | 0.40 max.           | 45       | 10                   | 107                                   | 0805 |
| LQM21NN1R2K10 | 1.2 ±10%        | 10                   | 50                 | 0.47 max.           | 45       | 10                   | 97                                    | 0805 |
| LQM21NN1R5K10 | 1.5 ±10%        | 10                   | 50                 | 0.50 max.           | 45       | 10                   | 87                                    | 0805 |
| LQM21NN1R8K10 | 1.8 ±10%        | 10                   | 50                 | 0.57 max.           | 45       | 10                   | 80                                    | 0805 |
| LQM21NN2R2K10 | 2.2 ±10%        | 10                   | 30                 | 0.63 max.           | 45       | 10                   | 71                                    | 0805 |
| LQM21NN2R7K10 | 2.7 ±10%        | 10                   | 30                 | 0.69 max.           | 45       | 10                   | 66                                    | 0805 |
| LQM21NN3R3K10 | 3.3 ±10%        | 10                   | 30                 | 0.80 max.           | 45       | 10                   | 59                                    | 0805 |
| LQM21NN3R9K10 | 3.9 ±10%        | 10                   | 30                 | 0.89 max.           | 45       | 10                   | 53                                    | 0805 |
| LQM21NN4R7K10 | 4.7 ±10%        | 10                   | 30                 | 1.00 max.           | 45       | 10                   | 47                                    | 0805 |

Operating Temp. Range: -40°C to +85°C

■ Q-Frequency Characteristics



■ Inductance-Current Characteristics



# Chip Coils

**muRata**

## for General Use Wound Type LQH31M/LQH32M/LQH43M (N) Series

### LQH31M Series

LQH31M series consists of wound type chip coils using Murata's original ferrite core and auto winding technology.

#### ■ Features

1. Wide inductance range from 0.15 to 100 micro H
2. High Q value at high frequencies and low DC resistance
3. Small size (3.2x1.6x1.8mm) and tight pitch mounting
4. Low DC resistance and large current
5. Both flow and reflow soldering heat resistance



| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQH31MNR15K03 | 0.15 ±10%       | 1                    | 250                | 0.39 ±40%           | 20       | 25                   | 250                                   | 1206 |
| LQH31MNR22K03 | 0.22 ±10%       | 1                    | 240                | 0.43 ±40%           | 20       | 25                   | 250                                   | 1206 |
| LQH31MNR33K03 | 0.33 ±10%       | 1                    | 230                | 0.45 ±40%           | 30       | 25                   | 250                                   | 1206 |
| LQH31MNR47K03 | 0.47 ±10%       | 1                    | 215                | 0.83 ±40%           | 30       | 25                   | 200                                   | 1206 |
| LQH31MNR56K03 | 0.56 ±10%       | 1                    | 200                | 0.61 ±40%           | 30       | 25                   | 180                                   | 1206 |
| LQH31MNR68K03 | 0.68 ±10%       | 1                    | 190                | 0.67 ±40%           | 30       | 25                   | 160                                   | 1206 |
| LQH31MNR82K03 | 0.82 ±10%       | 1                    | 185                | 0.73 ±40%           | 30       | 25                   | 120                                   | 1206 |
| LQH31MN1R0K03 | 1.0 ±10%        | 1                    | 175                | 0.49 ±30%           | 35       | 10                   | 100                                   | 1206 |
| LQH31MN1R2K03 | 1.2 ±10%        | 1                    | 165                | 0.9 ±30%            | 35       | 10                   | 90                                    | 1206 |
| LQH31MN1R5J03 | 1.5 ±5%         | 1                    | 155                | 1.0 ±30%            | 35       | 10                   | 75                                    | 1206 |
| LQH31MN1R5K03 | 1.5 ±10%        | 1                    | 155                | 1.0 ±30%            | 35       | 10                   | 75                                    | 1206 |
| LQH31MN1R8J03 | 1.8 ±5%         | 1                    | 150                | 1.6 ±30%            | 35       | 10                   | 60                                    | 1206 |
| LQH31MN1R8K03 | 1.8 ±10%        | 1                    | 150                | 1.6 ±30%            | 35       | 10                   | 60                                    | 1206 |
| LQH31MN2R2J03 | 2.2 ±5%         | 1                    | 140                | 0.7 ±30%            | 35       | 10                   | 50                                    | 1206 |
| LQH31MN2R2K03 | 2.2 ±10%        | 1                    | 140                | 0.7 ±30%            | 35       | 10                   | 50                                    | 1206 |
| LQH31MN2R7J03 | 2.7 ±5%         | 1                    | 135                | 0.55 ±30%           | 35       | 10                   | 43                                    | 1206 |
| LQH31MN2R7K03 | 2.7 ±10%        | 1                    | 135                | 0.55 ±30%           | 35       | 10                   | 43                                    | 1206 |
| LQH31MN3R3J03 | 3.3 ±5%         | 1                    | 130                | 1.4 ±30%            | 35       | 8                    | 38                                    | 1206 |
| LQH31MN3R3K03 | 3.3 ±10%        | 1                    | 130                | 1.4 ±30%            | 35       | 8                    | 38                                    | 1206 |
| LQH31MN3R9J03 | 3.9 ±5%         | 1                    | 125                | 1.5 ±30%            | 35       | 8                    | 35                                    | 1206 |
| LQH31MN3R9K03 | 3.9 ±10%        | 1                    | 125                | 1.5 ±30%            | 35       | 8                    | 35                                    | 1206 |
| LQH31MN4R7J03 | 4.7 ±5%         | 1                    | 120                | 1.7 ±30%            | 35       | 8                    | 31                                    | 1206 |
| LQH31MN4R7K03 | 4.7 ±10%        | 1                    | 120                | 1.7 ±30%            | 35       | 8                    | 31                                    | 1206 |
| LQH31MN5R6J03 | 5.6 ±5%         | 1                    | 115                | 1.8 ±30%            | 35       | 8                    | 28                                    | 1206 |
| LQH31MN5R6K03 | 5.6 ±10%        | 1                    | 115                | 1.8 ±30%            | 35       | 8                    | 28                                    | 1206 |
| LQH31MN6R8J03 | 6.8 ±5%         | 1                    | 110                | 2.0 ±30%            | 35       | 8                    | 25                                    | 1206 |
| LQH31MN6R8K03 | 6.8 ±10%        | 1                    | 110                | 2.0 ±30%            | 35       | 8                    | 25                                    | 1206 |
| LQH31MN8R2J03 | 8.2 ±5%         | 1                    | 105                | 2.2 ±30%            | 35       | 8                    | 23                                    | 1206 |
| LQH31MN8R2K03 | 8.2 ±10%        | 1                    | 105                | 2.2 ±30%            | 35       | 8                    | 23                                    | 1206 |
| LQH31MN100J03 | 10 ±5%          | 1                    | 100                | 2.5 ±30%            | 35       | 5                    | 20                                    | 1206 |
| LQH31MN100K03 | 10 ±10%         | 1                    | 100                | 2.5 ±30%            | 35       | 5                    | 20                                    | 1206 |
| LQH31MN120J03 | 12 ±5%          | 1                    | 95                 | 2.7 ±30%            | 35       | 5                    | 18                                    | 1206 |
| LQH31MN120K03 | 12 ±10%         | 1                    | 95                 | 2.7 ±30%            | 35       | 5                    | 18                                    | 1206 |
| LQH31MN150J03 | 15 ±5%          | 1                    | 90                 | 3.0 ±30%            | 35       | 5                    | 16                                    | 1206 |
| LQH31MN150K03 | 15 ±10%         | 1                    | 90                 | 3 ±30%              | 35       | 5                    | 16                                    | 1206 |
| LQH31MN180J03 | 18 ±5%          | 1                    | 85                 | 3.4 ±30%            | 35       | 5                    | 15                                    | 1206 |

Continued on the following page. ↗

**muRata**

Continued from the preceding page.

| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|---------------------------------------|------|
| LQH31MN180K03 | 18 ±10%         | 1                    | 85                 | 3.4 ±30%            | 35       | 5                    | 15                                    | 1206 |
| LQH31MN220J03 | 22 ±5%          | 1                    | 85                 | 3.1 ±30%            | 40       | 2.5                  | 14                                    | 1206 |
| LQH31MN220K03 | 22 ±10%         | 1                    | 85                 | 3.1 ±30%            | 40       | 2.5                  | 14                                    | 1206 |
| LQH31MN270J03 | 27 ±5%          | 1                    | 85                 | 3.4 ±30%            | 40       | 2.5                  | 13                                    | 1206 |
| LQH31MN270K03 | 27 ±10%         | 1                    | 85                 | 3.4 ±30%            | 40       | 2.5                  | 13                                    | 1206 |
| LQH31MN330J03 | 33 ±5%          | 1                    | 80                 | 3.8 ±30%            | 40       | 2.5                  | 12                                    | 1206 |
| LQH31MN330K03 | 33 ±10%         | 1                    | 80                 | 3.8 ±30%            | 40       | 2.5                  | 12                                    | 1206 |
| LQH31MN390J03 | 39 ±5%          | 1                    | 55                 | 7.2 ±30%            | 40       | 2.5                  | 11                                    | 1206 |
| LQH31MN390K03 | 39 ±10%         | 1                    | 55                 | 7.2 ±30%            | 40       | 2.5                  | 11                                    | 1206 |
| LQH31MN470J03 | 47 ±5%          | 1                    | 55                 | 8 ±30%              | 40       | 2.5                  | 10                                    | 1206 |
| LQH31MN470K03 | 47 ±10%         | 1                    | 55                 | 8.0 ±30%            | 40       | 2.5                  | 10                                    | 1206 |
| LQH31MN560J03 | 56 ±5%          | 1                    | 50                 | 8.9 ±30%            | 40       | 2.5                  | 9                                     | 1206 |
| LQH31MN560K03 | 56 ±10%         | 1                    | 50                 | 8.9 ±30%            | 40       | 2.5                  | 9                                     | 1206 |
| LQH31MN680J03 | 68 ±5%          | 1                    | 50                 | 9.9 ±30%            | 40       | 2.5                  | 8.5                                   | 1206 |
| LQH31MN680K03 | 68 ±10%         | 1                    | 50                 | 9.9 ±30%            | 40       | 2.5                  | 8.5                                   | 1206 |
| LQH31MN820J03 | 82 ±5%          | 1                    | 45                 | 11 ±30%             | 40       | 2.5                  | 7.5                                   | 1206 |
| LQH31MN820K03 | 82 ±10%         | 1                    | 45                 | 11 ±30%             | 40       | 2.5                  | 7.5                                   | 1206 |
| LQH31MN101J03 | 100 ±5%         | 1                    | 45                 | 12 ±30%             | 40       | 2.5                  | 7                                     | 1206 |
| LQH31MN101K03 | 100 ±10%        | 1                    | 45                 | 12 ±30%             | 40       | 2.5                  | 7                                     | 1206 |

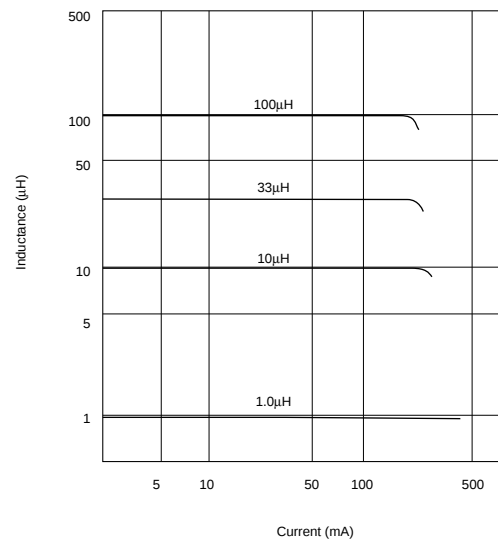
Operating Temp. Range: -25°C to +85°C

7

## Q-Frequency Characteristics



## Inductance-Current Characteristics



## Coupling Coefficient

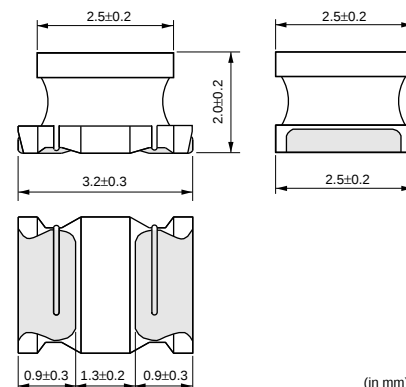


## LQH32M Series

LQH32M series consists of miniature chip inductors wound on a special ferrite core.

### ■ Features

1. High Q value at high frequencies and low DC resistance
2. Wide inductance range from 1.0 to 560 micro H



(in mm)

| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|----------|----------------|---------------------------------------|------|
| LQH32MN1R0M23 | 1.0 ±20%        | 1MHz           | 445                | 0.5 max.            | 20       | 1MHz           | 100                                   | 1210 |
| LQH32MN1R2M23 | 1.2 ±20%        | 1MHz           | 425                | 0.6 max.            | 20       | 1MHz           | 100                                   | 1210 |
| LQH32MN1R5K23 | 1.5 ±10%        | 1MHz           | 400                | 0.6 max.            | 20       | 1MHz           | 75                                    | 1210 |
| LQH32MN1R8K23 | 1.8 ±10%        | 1MHz           | 390                | 0.7 max.            | 20       | 1MHz           | 60                                    | 1210 |
| LQH32MN2R2K23 | 2.2 ±10%        | 1MHz           | 370                | 0.8 max.            | 20       | 1MHz           | 50                                    | 1210 |
| LQH32MN2R7K23 | 2.7 ±10%        | 1MHz           | 320                | 0.9 max.            | 20       | 1MHz           | 43                                    | 1210 |
| LQH32MN3R3K23 | 3.3 ±10%        | 1MHz           | 300                | 1.0 max.            | 20       | 1MHz           | 38                                    | 1210 |
| LQH32MN3R9K23 | 3.9 ±10%        | 1MHz           | 290                | 1.1 max.            | 20       | 1MHz           | 35                                    | 1210 |
| LQH32MN4R7K23 | 4.7 ±10%        | 1MHz           | 270                | 1.2 max.            | 20       | 1MHz           | 31                                    | 1210 |
| LQH32MN5R6K23 | 5.6 ±10%        | 1MHz           | 250                | 1.3 max.            | 20       | 1MHz           | 28                                    | 1210 |
| LQH32MN6R8K23 | 6.8 ±10%        | 1MHz           | 240                | 1.5 max.            | 20       | 1MHz           | 25                                    | 1210 |
| LQH32MN8R2K23 | 8.2 ±10%        | 1MHz           | 225                | 1.6 max.            | 20       | 1MHz           | 23                                    | 1210 |
| LQH32MN100J23 | 10 ±5%          | 1MHz           | 190                | 1.8 max.            | 35       | 1MHz           | 20                                    | 1210 |
| LQH32MN100K23 | 10 ±10%         | 1MHz           | 190                | 1.8 max.            | 35       | 1MHz           | 20                                    | 1210 |
| LQH32MN120J23 | 12 ±5%          | 1MHz           | 180                | 2.0 max.            | 35       | 1MHz           | 18                                    | 1210 |
| LQH32MN120K23 | 12 ±10%         | 1MHz           | 180                | 2.0 max.            | 35       | 1MHz           | 18                                    | 1210 |
| LQH32MN150J23 | 15 ±5%          | 1MHz           | 170                | 2.2 max.            | 35       | 1MHz           | 16                                    | 1210 |
| LQH32MN150K23 | 15 ±10%         | 1MHz           | 170                | 2.2 max.            | 35       | 1MHz           | 16                                    | 1210 |
| LQH32MN180J23 | 18 ±5%          | 1MHz           | 165                | 2.5 max.            | 35       | 1MHz           | 15                                    | 1210 |
| LQH32MN180K23 | 18 ±10%         | 1MHz           | 165                | 2.5 max.            | 35       | 1MHz           | 15                                    | 1210 |
| LQH32MN220J23 | 22 ±5%          | 1MHz           | 150                | 2.8 max.            | 35       | 1MHz           | 14                                    | 1210 |
| LQH32MN220K23 | 22 ±10%         | 1MHz           | 150                | 2.8 max.            | 35       | 1MHz           | 14                                    | 1210 |
| LQH32MN270J23 | 27 ±5%          | 1MHz           | 125                | 3.1 max.            | 35       | 1MHz           | 13                                    | 1210 |
| LQH32MN270K23 | 27 ±10%         | 1MHz           | 125                | 3.1 max.            | 35       | 1MHz           | 13                                    | 1210 |
| LQH32MN330J23 | 33 ±5%          | 1MHz           | 115                | 3.5 max.            | 40       | 1MHz           | 12                                    | 1210 |
| LQH32MN330K23 | 33 ±10%         | 1MHz           | 115                | 3.5 max.            | 40       | 1MHz           | 12                                    | 1210 |
| LQH32MN390J23 | 39 ±5%          | 1MHz           | 110                | 3.9 max.            | 40       | 1MHz           | 11                                    | 1210 |
| LQH32MN390K23 | 39 ±10%         | 1MHz           | 110                | 3.9 max.            | 40       | 1MHz           | 11                                    | 1210 |
| LQH32MN470J23 | 47 ±5%          | 1MHz           | 100                | 4.3 max.            | 40       | 1MHz           | 11                                    | 1210 |
| LQH32MN470K23 | 47 ±10%         | 1MHz           | 100                | 4.3 max.            | 40       | 1MHz           | 11                                    | 1210 |
| LQH32MN560J23 | 56 ±5%          | 1MHz           | 85                 | 4.9 max.            | 40       | 1MHz           | 10                                    | 1210 |
| LQH32MN560K23 | 56 ±10%         | 1MHz           | 85                 | 4.9 max.            | 40       | 1MHz           | 10                                    | 1210 |
| LQH32MN680J23 | 68 ±5%          | 1MHz           | 80                 | 5.5 max.            | 40       | 1MHz           | 9                                     | 1210 |
| LQH32MN680K23 | 68 ±10%         | 1MHz           | 80                 | 5.5 max.            | 40       | 1MHz           | 9                                     | 1210 |
| LQH32MN820J23 | 82 ±5%          | 1MHz           | 70                 | 6.2 max.            | 40       | 1MHz           | 8.5                                   | 1210 |
| LQH32MN820K23 | 82 ±10%         | 1MHz           | 70                 | 6.2 max.            | 40       | 1MHz           | 8.5                                   | 1210 |
| LQH32MN101J23 | 100 ±5%         | 1MHz           | 80                 | 7.0 max.            | 40       | 796kHz         | 8                                     | 1210 |
| LQH32MN101K23 | 100 ±10%        | 1MHz           | 80                 | 7.0 max.            | 40       | 796kHz         | 8                                     | 1210 |
| LQH32MN121J23 | 120 ±5%         | 1MHz           | 75                 | 8.0 max.            | 40       | 796kHz         | 7.5                                   | 1210 |
| LQH32MN121K23 | 120 ±10%        | 1MHz           | 75                 | 8.0 max.            | 40       | 796kHz         | 7.5                                   | 1210 |
| LQH32MN151J23 | 150 ±5%         | 1MHz           | 70                 | 9.3 max.            | 40       | 796kHz         | 7                                     | 1210 |
| LQH32MN151K23 | 150 ±10%        | 1MHz           | 70                 | 9.3 max.            | 40       | 796kHz         | 7                                     | 1210 |

Continued on the following page.

 Continued from the preceding page.

| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|----------|----------------|---------------------------------------|------|
| LQH32MN181J23 | 180 ±5%         | 1MHz           | 65                 | 10.2 max.           | 40       | 796kHz         | 6                                     | 1210 |
| LQH32MN181K23 | 180 ±10%        | 1MHz           | 65                 | 10.2 max.           | 40       | 796kHz         | 6                                     | 1210 |
| LQH32MN221J23 | 220 ±5%         | 1MHz           | 65                 | 11.8 max.           | 40       | 796kHz         | 5.5                                   | 1210 |
| LQH32MN221K23 | 220 ±10%        | 1MHz           | 65                 | 11.8 max.           | 40       | 796kHz         | 5.5                                   | 1210 |
| LQH32MN271J23 | 270 ±5%         | 1MHz           | 65                 | 12.5 max.           | 40       | 796kHz         | 5                                     | 1210 |
| LQH32MN271K23 | 270 ±10%        | 1MHz           | 65                 | 12.5 max.           | 40       | 796kHz         | 5                                     | 1210 |
| LQH32MN331J23 | 330 ±5%         | 1MHz           | 65                 | 13.0 max.           | 40       | 796kHz         | 5                                     | 1210 |
| LQH32MN331K23 | 330 ±10%        | 1MHz           | 65                 | 13.0 max.           | 40       | 796kHz         | 5                                     | 1210 |
| LQH32MN391J23 | 390 ±5%         | 1MHz           | 50                 | 22.0 max.           | 50       | 796kHz         | 5                                     | 1210 |
| LQH32MN391K23 | 390 ±10%        | 1MHz           | 50                 | 22.0 max.           | 50       | 796kHz         | 5                                     | 1210 |
| LQH32MN471J23 | 470 ±5%         | 1kHz           | 45                 | 25.0 max.           | 50       | 796kHz         | 5                                     | 1210 |
| LQH32MN471K23 | 470 ±10%        | 1kHz           | 45                 | 25.0 max.           | 50       | 796kHz         | 5                                     | 1210 |
| LQH32MN561J23 | 560 ±5%         | 1kHz           | 40                 | 28.0 max.           | 50       | 796kHz         | 5                                     | 1210 |
| LQH32MN561K23 | 560 ±10%        | 1kHz           | 40                 | 28.0 max.           | 50       | 796kHz         | 5                                     | 1210 |

Operating Temp. Range: -25°C to +85°C

■ Q-Frequency Characteristics



■ Inductance-Current Characteristics



## LQH43M/N Series

LQH43M/N series consists of wound type chip coils for general use by Murata's original auto winding technology and ferrite core.

### ■ Features

1. High Q value at high frequency and low DC resistance
2. Wide inductance range from 1.0 to 2200 micro H
3. Large current and large inductance



(in mm)

| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|----------|----------------|---------------------------------------|------|
| LQH43MN1R0M03 | 1.0 ±20%        | 1MHz           | 500                | 0.20 max.           | 20       | 1MHz           | 120                                   | 1812 |
| LQH43MN1R2M03 | 1.2 ±20%        | 1MHz           | 500                | 0.20 max.           | 20       | 1MHz           | 100                                   | 1812 |
| LQH43MN1R5M03 | 1.5 ±20%        | 1MHz           | 500                | 0.30 max.           | 20       | 1MHz           | 85                                    | 1812 |
| LQH43MN1R8M03 | 1.8 ±20%        | 1MHz           | 500                | 0.30 max.           | 20       | 1MHz           | 75                                    | 1812 |
| LQH43MN2R2M03 | 2.2 ±20%        | 1MHz           | 500                | 0.30 max.           | 20       | 1MHz           | 62                                    | 1812 |
| LQH43MN2R7M03 | 2.7 ±20%        | 1MHz           | 500                | 0.32 max.           | 20       | 1MHz           | 53                                    | 1812 |
| LQH43MN3R3M03 | 3.3 ±20%        | 1MHz           | 500                | 0.35 max.           | 20       | 1MHz           | 47                                    | 1812 |
| LQH43MN3R9M03 | 3.9 ±20%        | 1MHz           | 500                | 0.38 max.           | 20       | 1MHz           | 41                                    | 1812 |
| LQH43MN4R7K03 | 4.7 ±10%        | 1MHz           | 500                | 0.40 max.           | 30       | 1MHz           | 38                                    | 1812 |
| LQH43MN5R6K03 | 5.6 ±10%        | 1MHz           | 500                | 0.47 max.           | 30       | 1MHz           | 33                                    | 1812 |
| LQH43MN6R8K03 | 6.8 ±10%        | 1MHz           | 450                | 0.50 max.           | 30       | 1MHz           | 31                                    | 1812 |
| LQH43MN8R2K03 | 8.2 ±10%        | 1MHz           | 450                | 0.56 max.           | 30       | 1MHz           | 27                                    | 1812 |
| LQH43MN100J03 | 10 ±5%          | 1MHz           | 400                | 0.56 max.           | 35       | 1MHz           | 23                                    | 1812 |
| LQH43MN100K03 | 10 ±10%         | 1MHz           | 400                | 0.56 max.           | 35       | 1MHz           | 23                                    | 1812 |
| LQH43MN120J03 | 12 ±5%          | 1MHz           | 380                | 0.62 max.           | 35       | 1MHz           | 21                                    | 1812 |
| LQH43MN120K03 | 12 ±10%         | 1MHz           | 380                | 0.62 max.           | 35       | 1MHz           | 21                                    | 1812 |
| LQH43MN150J03 | 15 ±5%          | 1MHz           | 360                | 0.73 max.           | 35       | 1MHz           | 19                                    | 1812 |
| LQH43MN150K03 | 15 ±10%         | 1MHz           | 360                | 0.73 max.           | 35       | 1MHz           | 19                                    | 1812 |
| LQH43MN180J03 | 18 ±5%          | 1MHz           | 340                | 0.82 max.           | 35       | 1MHz           | 17                                    | 1812 |
| LQH43MN180K03 | 18 ±10%         | 1MHz           | 340                | 0.82 max.           | 35       | 1MHz           | 17                                    | 1812 |
| LQH43MN220J03 | 22 ±5%          | 1MHz           | 320                | 0.94 max.           | 35       | 1MHz           | 15                                    | 1812 |
| LQH43MN220K03 | 22 ±10%         | 1MHz           | 320                | 0.94 max.           | 35       | 1MHz           | 15                                    | 1812 |
| LQH43MN270J03 | 27 ±5%          | 1MHz           | 300                | 1.1 max.            | 35       | 1MHz           | 14                                    | 1812 |
| LQH43MN270K03 | 27 ±10%         | 1MHz           | 300                | 1.1 max.            | 35       | 1MHz           | 14                                    | 1812 |
| LQH43MN330J03 | 33 ±5%          | 1MHz           | 270                | 1.2 max.            | 35       | 1MHz           | 12                                    | 1812 |
| LQH43MN330K03 | 33 ±10%         | 1MHz           | 270                | 1.2 max.            | 35       | 1MHz           | 12                                    | 1812 |
| LQH43MN390J03 | 39 ±5%          | 1MHz           | 240                | 1.4 max.            | 35       | 1MHz           | 11                                    | 1812 |
| LQH43MN390K03 | 39 ±10%         | 1MHz           | 240                | 1.4 max.            | 35       | 1MHz           | 11                                    | 1812 |
| LQH43MN470J03 | 47 ±5%          | 1MHz           | 220                | 1.5 max.            | 35       | 1MHz           | 10                                    | 1812 |
| LQH43MN470K03 | 47 ±10%         | 1MHz           | 220                | 1.5 max.            | 35       | 1MHz           | 10                                    | 1812 |
| LQH43MN560J03 | 56 ±5%          | 1MHz           | 200                | 1.7 max.            | 35       | 1MHz           | 9.3                                   | 1812 |
| LQH43MN560K03 | 56 ±10%         | 1MHz           | 200                | 1.7 max.            | 35       | 1MHz           | 9.3                                   | 1812 |
| LQH43MN680J03 | 68 ±5%          | 1MHz           | 180                | 1.9 max.            | 35       | 1MHz           | 8.4                                   | 1812 |
| LQH43MN680K03 | 68 ±10%         | 1MHz           | 180                | 1.9 max.            | 35       | 1MHz           | 8.4                                   | 1812 |
| LQH43MN820J03 | 82 ±5%          | 1MHz           | 170                | 2.2 max.            | 35       | 1MHz           | 7.5                                   | 1812 |
| LQH43MN820K03 | 82 ±10%         | 1MHz           | 170                | 2.2 max.            | 35       | 1MHz           | 7.5                                   | 1812 |
| LQH43MN101J03 | 100 ±5%         | 1MHz           | 160                | 2.5 max.            | 40       | 796kHz         | 6.8                                   | 1812 |
| LQH43MN101K03 | 100 ±10%        | 1MHz           | 160                | 2.5 max.            | 40       | 796kHz         | 6.8                                   | 1812 |
| LQH43MN121J03 | 120 ±5%         | 1MHz           | 150                | 3.0 max.            | 40       | 796kHz         | 6.2                                   | 1812 |
| LQH43MN121K03 | 120 ±10%        | 1MHz           | 150                | 3.0 max.            | 40       | 796kHz         | 6.2                                   | 1812 |
| LQH43MN151J03 | 150 ±5%         | 1MHz           | 130                | 3.7 max.            | 40       | 796kHz         | 5.5                                   | 1812 |
| LQH43MN151K03 | 150 ±10%        | 1MHz           | 130                | 3.7 max.            | 40       | 796kHz         | 5.5                                   | 1812 |

Continued on the following page. ↗

Continued from the preceding page.

| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|----------|----------------|---------------------------------------|------|
| LQH43MN181J03 | 180 ±5%         | 1MHz           | 120                | 4.5 max.            | 40       | 796kHz         | 5                                     | 1812 |
| LQH43MN181K03 | 180 ±10%        | 1MHz           | 120                | 4.5 max.            | 40       | 796kHz         | 5                                     | 1812 |
| LQH43MN221J03 | 220 ±5%         | 1MHz           | 110                | 5.4 max.            | 40       | 796kHz         | 4.5                                   | 1812 |
| LQH43MN221K03 | 220 ±10%        | 1MHz           | 110                | 5.4 max.            | 40       | 796kHz         | 4.5                                   | 1812 |
| LQH43MN271J03 | 270 ±5%         | 1MHz           | 100                | 6.8 max.            | 40       | 796kHz         | 4                                     | 1812 |
| LQH43MN271K03 | 270 ±10%        | 1MHz           | 100                | 6.8 max.            | 40       | 796kHz         | 4                                     | 1812 |
| LQH43MN331J03 | 330 ±5%         | 1MHz           | 95                 | 8.2 max.            | 40       | 796kHz         | 3.6                                   | 1812 |
| LQH43MN331K03 | 330 ±10%        | 1MHz           | 95                 | 8.2 max.            | 40       | 796kHz         | 3.6                                   | 1812 |
| LQH43MN391J03 | 390 ±5%         | 1MHz           | 90                 | 9.7 max.            | 40       | 796kHz         | 3.3                                   | 1812 |
| LQH43MN391K03 | 390 ±10%        | 1MHz           | 90                 | 9.7 max.            | 40       | 796kHz         | 3.3                                   | 1812 |
| LQH43MN471J03 | 470 ±5%         | 1kHz           | 80                 | 11.8 max.           | 40       | 796kHz         | 3                                     | 1812 |
| LQH43MN471K03 | 470 ±10%        | 1kHz           | 80                 | 11.8 max.           | 40       | 796kHz         | 3                                     | 1812 |
| LQH43MN561J03 | 560 ±5%         | 1kHz           | 70                 | 14.5 max.           | 40       | 796kHz         | 2.7                                   | 1812 |
| LQH43MN561K03 | 560 ±10%        | 1kHz           | 70                 | 14.5 max.           | 40       | 796kHz         | 2.7                                   | 1812 |
| LQH43MN681J03 | 680 ±5%         | 1kHz           | 65                 | 17.0 max.           | 40       | 796kHz         | 2.5                                   | 1812 |
| LQH43MN681K03 | 680 ±10%        | 1kHz           | 65                 | 17.0 max.           | 40       | 796kHz         | 2.5                                   | 1812 |
| LQH43MN821J03 | 820 ±5%         | 1kHz           | 60                 | 20.5 max.           | 40       | 796kHz         | 2.2                                   | 1812 |
| LQH43MN821K03 | 820 ±10%        | 1kHz           | 60                 | 20.5 max.           | 40       | 796kHz         | 2.2                                   | 1812 |
| LQH43MN102J03 | 1000 ±5%        | 1kHz           | 50                 | 25.0 max.           | 40       | 252kHz         | 2                                     | 1812 |
| LQH43MN102K03 | 1000 ±10%       | 1kHz           | 50                 | 25.0 max.           | 40       | 252kHz         | 2                                     | 1812 |
| LQH43MN122J03 | 1200 ±5%        | 1kHz           | 45                 | 30.0 max.           | 40       | 252kHz         | 1.8                                   | 1812 |
| LQH43MN122K03 | 1200 ±10%       | 1kHz           | 45                 | 30.0 max.           | 40       | 252kHz         | 1.8                                   | 1812 |
| LQH43MN152J03 | 1500 ±5%        | 1kHz           | 40                 | 37.0 max.           | 40       | 252kHz         | 1.6                                   | 1812 |
| LQH43MN152K03 | 1500 ±10%       | 1kHz           | 40                 | 37.0 max.           | 40       | 252kHz         | 1.6                                   | 1812 |
| LQH43NN182J03 | 1800 ±5%        | 1kHz           | 35                 | 45.0 max.           | 40       | 252kHz         | 1.5                                   | 1812 |
| LQH43NN182K03 | 1800 ±10%       | 1kHz           | 35                 | 45.0 max.           | 40       | 252kHz         | 1.5                                   | 1812 |
| LQH43NN222J03 | 2200 ±5%        | 1kHz           | 30                 | 50.0 max.           | 40       | 252kHz         | 1.3                                   | 1812 |
| LQH43NN222K03 | 2200 ±10%       | 1kHz           | 30                 | 50.0 max.           | 40       | 252kHz         | 1.3                                   | 1812 |

Operating Temp. Range: -25°C to +85°C

Q-Frequency Characteristics



Inductance-Current Characteristics



# Chip Coils

**muRata**

## for DC-DC Converter WoundType LQH2MC Series

### ■ Features

1. Wound type with 0.95mm low-profile
2. Size: 2.0x1.6mm
3. Rated current: 300mA (4.7 micro H)
4. Wide inductance range: 4.7 to 82 micro H

### ■ Applications

For DC-DC converter



(in mm)

| Part Number   | Inductance (μH) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) |
|---------------|-----------------|--------------------|---------------------|---------------------------------------|
| LQH2MCN4R7M02 | 4.7 ±20%        | 300                | 0.8 ±30%            | 60                                    |
| LQH2MCN5R6M02 | 5.6 ±20%        | 280                | 0.9 ±30%            | 60                                    |
| LQH2MCN6R8M02 | 6.8 ±20%        | 255                | 1.0 ±30%            | 55                                    |
| LQH2MCN8R2M02 | 8.2 ±20%        | 235                | 1.1 ±30%            | 50                                    |
| LQH2MCN100K02 | 10 ±10%         | 225                | 1.2 ±30%            | 48                                    |
| LQH2MCN120K02 | 12 ±10%         | 210                | 1.4 ±30%            | 44                                    |
| LQH2MCN150K02 | 15 ±10%         | 200                | 1.6 ±30%            | 40                                    |
| LQH2MCN180K02 | 18 ±10%         | 190                | 1.8 ±30%            | 35                                    |
| LQH2MCN220K02 | 22 ±10%         | 185                | 2.1 ±30%            | 30                                    |
| LQH2MCN270K02 | 27 ±10%         | 180                | 2.5 ±30%            | 30                                    |
| LQH2MCN330K02 | 33 ±10%         | 160                | 2.8 ±30%            | 28                                    |
| LQH2MCN390K02 | 39 ±20%         | 125                | 4.4 ±30%            | 24                                    |
| LQH2MCN470K02 | 47 ±20%         | 120                | 5.1 ±30%            | 18                                    |
| LQH2MCN560K02 | 56 ±20%         | 110                | 5.7 ±30%            | 17                                    |
| LQH2MCN680K02 | 68 ±20%         | 100                | 6.6 ±30%            | 14                                    |
| LQH2MCN820K02 | 82 ±20%         | 90                 | 7.5 ±30%            | 14                                    |

Operating Temp. Range: -40°C to +85°C

Only for reflow soldering.

### ■ Inductance-Frequency Characteristics



### ■ Inductance-Current Characteristics



Chip Coils



for Choke Monolithic Type LQM21D/LQM21F/LQM31F Series

LQM21D Series

The LQM21D series consists of magnetically shielded chip inductors. It has less than half the DC resistance of our conventional monolithic chip inductors as well as high inductance.

■ Features

- 1. The inductors have very low DC resistance.
- 2. The series has an inductance range of 1.0 micro H to 47 micro H.
- 3. Magnetically shielded structure provides excellent crosstalk characteristics.
- 4. Compact (2.0x1.25mm) and lightweight
- 5. Outstanding solder heat resistance. Either flow or reflow soldering methods can be employed.



|                |                          |          |
|----------------|--------------------------|----------|
| Dimension of t | Inductance : 1.0 to 10μH | 0.85±0.2 |
|                | Inductance : 22 to 47μH  | 1.25±0.2 |

| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQM21DN1R0N00 | 1.0 ±30%        | 1                    | 60                 | 0.10 max.           | 75                                    | 0805 |
| LQM21DN2R2N00 | 2.2 ±30%        | 1                    | 40                 | 0.17 max.           | 50                                    | 0805 |
| LQM21DN4R7N00 | 4.7 ±30%        | 1                    | 30                 | 0.30 max.           | 35                                    | 0805 |
| LQM21DN100N00 | 10 ±30%         | 1                    | 15                 | 0.50 max.           | 24                                    | 0805 |
| LQM21DN220N00 | 22 ±30%         | 1                    | 13                 | 0.65 max.           | 16                                    | 0805 |
| LQM21DN470N00 | 47 ±30%         | 1                    | 7                  | 1.20 max.           | 7.5                                   | 0805 |

Operating Temp. Range: -40°C to +85°C

■ Impedance-Frequency Characteristics



## LQM21F\_00 Series

The LQM21F series consists of magnetically shielded chip coils based on Murata's technologies of multilayer process and magnetic materials. Excellent direct current characteristics are realized by using magnetic materials which have excellent saturation characteristics. The inductance of LQM21F is four times as large as that of conventional items.



|                |                          |          |
|----------------|--------------------------|----------|
| Dimension of t | Inductance : 1.0 to 10μH | 0.85±0.2 |
|                | Inductance : 22 to 47μH  | 1.25±0.2 |

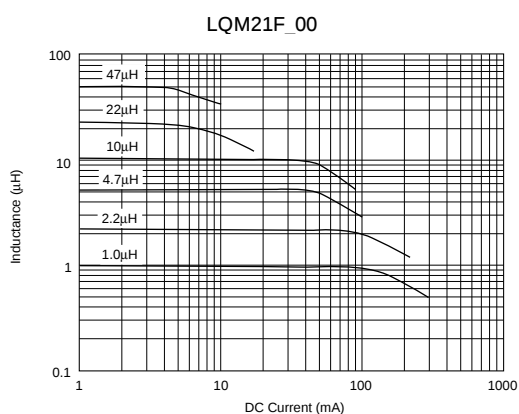
### ■ Features

1. LQM21F series is suitable for power line choke because of its excellent direct current characteristics. The series has larger rated current (60mA at 10 micro H) than conventional rated current.
2. Low DC resistance is realized.
3. The crosstalk characteristics are excellent because of the use of magnetically shielded structure.
4. Small size (2.0x1.25mm) and light weight
5. The series has excellent solder heat resistance. Both flow and reflow soldering can be employed.

| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQM21FN1R0N00 | 1.0 ±30%        | 1                    | 220                | 0.20 ±30%           | 105                                   | 0805 |
| LQM21FN2R2N00 | 2.2 ±30%        | 1                    | 150                | 0.28 ±30%           | 70                                    | 0805 |
| LQM21FN4R7N00 | 4.7 ±30%        | 1                    | 80                 | 0.30 ±30%           | 25                                    | 0805 |
| LQM21FN100N00 | 10 ±30%         | 1                    | 60                 | 0.50 ±30%           | 15                                    | 0805 |
| LQM21FN220N00 | 22 ±30%         | 1                    | 13                 | 0.35 ±30%           | 15                                    | 0805 |
| LQM21FN470N00 | 47 ±30%         | 1                    | 7                  | 0.60 ±30%           | 7.5                                   | 0805 |

Operating Temp. Range: -40°C to +85°C

### ■ Inductance-Current Characteristics



### ■ Impedance-Frequency Characteristics



LQM21F\_70 Series

■ Features

Rated Current is larger than previous (LQM21F\_00) series.

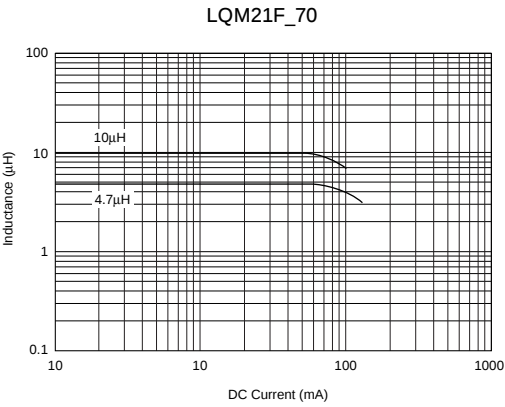
Rated Current: 100mA (10 micro H)



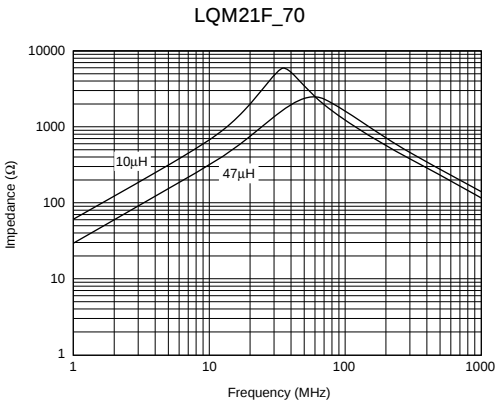
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQM21FN4R7M70 | 4.7 ±20%        | 1                    | 120                | 0.35 ±30%           | 25                                    | 0805 |
| LQM21FN100M70 | 10 ±20%         | 1                    | 100                | 0.60 ±30%           | 15                                    | 0805 |

Operating Temp. Range: -55°C to +125°C

■ Inductance-Current Characteristics



■ Impedance-Frequency Characteristics



LQM31F Series

LQM31F series consists of magnetically shielded chip coils based on Murata's technologies of multilayer process and magnetic materials. Excellent direct current characteristics and low DC resistance are realized by using magnetic materials which have excellent saturation characteristics and high permeability.

■ Features

- 1. LQM31F series is suitable for power line choke because of its excellent direct current characteristics and large rated current (70mA at 10 micro H).
- 2. Low DC resistance is realized.
- 3. The crosstalk characteristics are excellent because of magnetically shielded structure.
- 4. Low profile 1.0mm
- 5. The series has excellent solder heat resistance. Both flow and reflow soldering can be employed.

■ Applications

Circuits for DC power line choke of telecommunications equipment such as PDAs, Note-PCs, digital cameras, MD and DVD-RAM



| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQM31FN100M00 | 10 ±20%         | 1                    | 70                 | 0.50 max.           | 20                                    | 1206 |

Operating Temp. Range: -40°C to +85°C

■ Impedance-Frequency Characteristics



■ Inductance-Current Characteristics



# Chip Coils

**muRata**

## for Choke Wound Type LQH31C/LQH32C/LQH43C Series

### LQH31C Series

#### ■ Features

LQH31C series consists of miniature chip inductors with low DC resistance, high current capacity, and high impedance characteristics. It is suitable for use as choke coils in DC power supply circuits. High rated current up to 970mA is available.



| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQH31CNR12M03 | 0.12 ±20%       | 1                    | 970                | 0.08 ±40%           | 250                                   | 1206 |
| LQH31CNR22M03 | 0.22 ±20%       | 1                    | 850                | 0.1 ±40%            | 250                                   | 1206 |
| LQH31CNR47M03 | 0.47 ±20%       | 1                    | 700                | 0.15 ±40%           | 180                                   | 1206 |
| LQH31CN1R0M03 | 1.0 ±20%        | 1                    | 510                | 0.28 ±30%           | 100                                   | 1206 |
| LQH31CN2R2M03 | 2.2 ±20%        | 1                    | 430                | 0.41 ±30%           | 50                                    | 1206 |
| LQH31CN4R7M03 | 4.7 ±20%        | 1                    | 340                | 0.65 ±30%           | 31                                    | 1206 |
| LQH31CN100K03 | 10 ±10%         | 1                    | 230                | 1.3 ±30%            | 20                                    | 1206 |
| LQH31CN220K03 | 22 ±10%         | 1                    | 160                | 3.0 ±30%            | 14                                    | 1206 |
| LQH31CN470K03 | 47 ±10%         | 1                    | 100                | 8.0 ±30%            | 10                                    | 1206 |
| LQH31CN101K03 | 100 ±10%        | 1                    | 80                 | 12 ±30%             | 7                                     | 1206 |

Operating Temp. Range: -25°C to +85°C

10

#### ■ Impedance-Frequency Characteristics



#### ■ Inductance-Current Characteristics



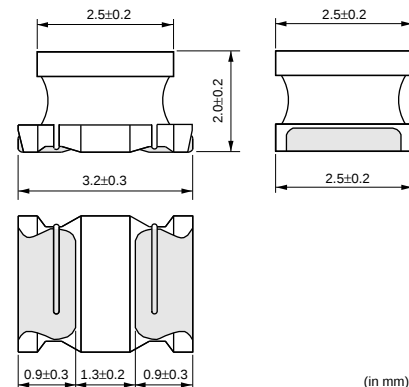
LQH32C series consists of miniature chip coils with low DC resistance, high current capacity, and high impedance characteristics. These features are made possible by the development of Murata's innovative automatic wound techniques.

### ■ Features (LQH32C\_23/\_33)

1. Low DC resistance, high rated current and high inductance. Inductance: 0.15 to 560 micro H.
2. The series exhibits low voltage drops and small variations in inductance with respect to temperature rise and DC current level. This makes them excellent for use as power supply line choke coils.
3. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.



LQH32C\_23/\_33



(in mm)

### LQH32C\_23 Series

| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|---------------------------------------|------|
| LQH32CN1R0M23 | 1.0 ±20%        | 1MHz           | 800                | 0.09 ±30%           | 96                                    | 1210 |
| LQH32CN2R2M23 | 2.2 ±20%        | 1MHz           | 600                | 0.13 ±30%           | 64                                    | 1210 |
| LQH32CN4R7M23 | 4.7 ±20%        | 1MHz           | 450                | 0.2 ±30%            | 43                                    | 1210 |
| LQH32CN100K23 | 10 ±10%         | 1MHz           | 300                | 0.44 ±30%           | 26                                    | 1210 |
| LQH32CN220K23 | 22 ±10%         | 1MHz           | 250                | 0.71 ±30%           | 19                                    | 1210 |
| LQH32CN470K23 | 47 ±10%         | 1MHz           | 170                | 1.3 ±30%            | 15                                    | 1210 |
| LQH32CN101K23 | 100 ±10%        | 1MHz           | 100                | 3.5 ±30%            | 10                                    | 1210 |
| LQH32CN221K23 | 220 ±10%        | 1MHz           | 70                 | 8.4 ±30%            | 6.8                                   | 1210 |
| LQH32CN331K23 | 330 ±10%        | 1MHz           | 60                 | 10 ±30%             | 5.6                                   | 1210 |
| LQH32CN391K23 | 390 ±10%        | 1MHz           | 60                 | 17 ±30%             | 5                                     | 1210 |
| LQH32CN471K23 | 470 ±10%        | 1kHz           | 60                 | 19 ±30%             | 5                                     | 1210 |
| LQH32CN561K23 | 560 ±10%        | 1kHz           | 60                 | 22 ±30%             | 5                                     | 1210 |

Operating Temp. Range: -25°C to +85°C

10

### LQH32C\_33 Series (Low DC Resistance Type)

| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQH32CNR15M33 | 0.15 ±20%       | 1                    | 1450               | 0.028 ±30%          | 400                                   | 1210 |
| LQH32CNR27M33 | 0.27 ±20%       | 1                    | 1250               | 0.034 ±30%          | 250                                   | 1210 |
| LQH32CNR47M33 | 0.47 ±20%       | 1                    | 1100               | 0.042 ±30%          | 150                                   | 1210 |
| LQH32CN1R0M33 | 1.0 ±20%        | 1                    | 1000               | 0.06 ±30%           | 100                                   | 1210 |
| LQH32CN2R2M33 | 2.2 ±20%        | 1                    | 790                | 0.097 ±30%          | 64                                    | 1210 |
| LQH32CN4R7M33 | 4.7 ±20%        | 1                    | 650                | 0.15 ±30%           | 43                                    | 1210 |
| LQH32CN100K33 | 10 ±10%         | 1                    | 450                | 0.3 ±30%            | 26                                    | 1210 |

Operating Temp. Range: -25°C to +85°C

■ Impedance-Frequency Characteristics



■ Inductance-Current Characteristics



## LQH32C\_53 Series (Low Profile Type)

LQH32C\_53 series consists of miniature chip coils with low DC resistance, high current capacity, and high impedance characteristics. These features are made possible by the development of Murata's innovative wound techniques. They are excellent for use as choke coils in DC power supply circuits. The LQH32C\_53 series has achieved Max 1.7mm height and high rated current.



### ■ Features

1. The series has a wide inductance range of 1.0 to 100 micro H.
2. The series exhibit low voltage drops and small variations in inductance with respect to temperature rise and DC current level. This makes them excellent for use as power supply line choke coils.
3. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.

| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQH32CN1R0M53 | 1.0 ±20%        | 1                    | 1000               | 0.060 ±30%          | 100                                   | 1210 |
| LQH32CN2R2M53 | 2.2 ±20%        | 1                    | 790                | 0.097 ±30%          | 64                                    | 1210 |
| LQH32CN4R7M53 | 4.7 ±20%        | 1                    | 650                | 0.15 ±30%           | 43                                    | 1210 |
| LQH32CN100K53 | 10 ±10%         | 1                    | 450                | 0.30 ±30%           | 26                                    | 1210 |
| LQH32CN150K53 | 15 ±10%         | 1                    | 300                | 0.58 ±30%           | 26                                    | 1210 |
| LQH32CN220K53 | 22 ±10%         | 1                    | 250                | 0.71 ±30%           | 19                                    | 1210 |
| LQH32CN330K53 | 33 ±10%         | 1                    | 200                | 1.1 ±30%            | 17                                    | 1210 |
| LQH32CN470K53 | 47 ±10%         | 1                    | 170                | 1.3 ±30%            | 15                                    | 1210 |
| LQH32CN680K53 | 68 ±10%         | 1                    | 130                | 2.2 ±30%            | 12                                    | 1210 |
| LQH32CN101K53 | 100 ±10%        | 1                    | 100                | 3.5 ±30%            | 10                                    | 1210 |

Operating Temp. Range: -25°C to +85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics



## LQH43C Series

LQH43C series consists of miniature chip inductors with low DC resistance, high current capacity, and high impedance characteristics. It is suitable for use as choke coils in DC power supply circuits.

### ■ Features

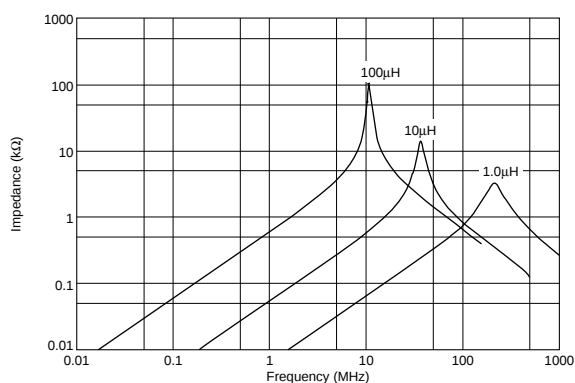
1. Various inductance ranges are available.
2. The series exhibits low voltage drops and small change in inductance with respect to temperature rise and DC current level. This makes them excellent to use as power supply line choke coils.
3. Small size 4.5x3.2mm and realized low height 2.8mm max.
4. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.



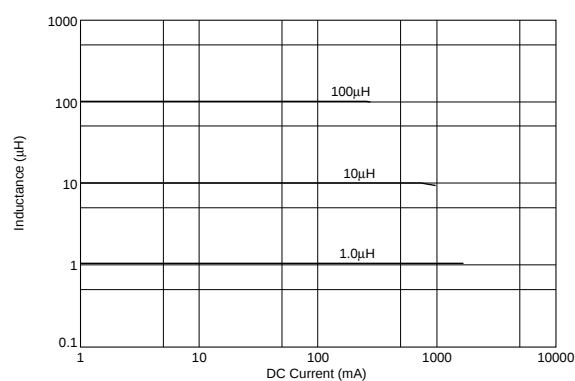
| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|---------------------------------------|------|
| LQH43CN1R0M03 | 1.0 ±20%        | 1MHz           | 1080               | 0.08 max.           | 100                                   | 1812 |
| LQH43CN1R5M03 | 1.5 ±20%        | 1MHz           | 1000               | 0.09 max.           | 85                                    | 1812 |
| LQH43CN2R2M03 | 2.2 ±20%        | 1MHz           | 900                | 0.11 max.           | 60                                    | 1812 |
| LQH43CN3R3M03 | 3.3 ±20%        | 1MHz           | 800                | 0.13 max.           | 47                                    | 1812 |
| LQH43CN4R7M03 | 4.7 ±20%        | 1MHz           | 750                | 0.15 max.           | 35                                    | 1812 |
| LQH43CN6R8M03 | 6.8 ±20%        | 1MHz           | 720                | 0.20 max.           | 30                                    | 1812 |
| LQH43CN100K03 | 10 ±10%         | 1MHz           | 650                | 0.24 max.           | 23                                    | 1812 |
| LQH43CN150K03 | 15 ±10%         | 1MHz           | 570                | 0.32 max.           | 20                                    | 1812 |
| LQH43CN220K03 | 22 ±10%         | 1MHz           | 420                | 0.6 max.            | 15                                    | 1812 |
| LQH43CN330K03 | 33 ±10%         | 1MHz           | 310                | 1.0 max.            | 12                                    | 1812 |
| LQH43CN470K03 | 47 ±10%         | 1MHz           | 280                | 1.1 max.            | 10                                    | 1812 |
| LQH43CN680K03 | 68 ±10%         | 1MHz           | 220                | 1.7 max.            | 8.4                                   | 1812 |
| LQH43CN101K03 | 100 ±10%        | 1MHz           | 190                | 2.2 max.            | 6.8                                   | 1812 |
| LQH43CN151K03 | 150 ±10%        | 1MHz           | 130                | 3.5 max.            | 5.5                                   | 1812 |
| LQH43CN221K03 | 220 ±10%        | 1MHz           | 110                | 4.0 max.            | 4.5                                   | 1812 |
| LQH43CN331K03 | 330 ±10%        | 1MHz           | 100                | 6.8 max.            | 3.6                                   | 1812 |
| LQH43CN471K03 | 470 ±10%        | 1kHz           | 90                 | 8.5 max.            | 3.0                                   | 1812 |

Operating Temp. Range: -25°C to +85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics



Chip Coils



for Choke Magnetic Shielded Type LQH3KS Series

LQH3KS\_23 Series

■ Features

- 1. Low profile dimension (2.1mm max.) and small size of 1212 (3.3x3.3mm) are suitable for portable equipment.
- 2. The series has low DC Resistance.
- 3. Large inductance of 560 to 2200 micro H
- 4. Magnetically shielded structure prevents interference occurring between peripheral components.



| Part Number   | Inductance (μH) | Test Frequency (kHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|---------------------------------------|------|
| LQH3KSN561N23 | 560 ±30%        | 100                  | 50                 | 7.8 ±30%            | 3.0                                   | 1212 |
| LQH3KSN681N23 | 680 ±30%        | 100                  | 40                 | 9.1 ±30%            | 2.6                                   | 1212 |
| LQH3KSN102N23 | 1000 ±30%       | 10                   | 30                 | 11 ±30%             | 2.1                                   | 1212 |
| LQH3KSN152N23 | 1500 ±30%       | 10                   | 25                 | 23 ±30%             | 1.7                                   | 1212 |
| LQH3KSN222N23 | 2200 ±30%       | 10                   | 20                 | 28 ±30%             | 1.5                                   | 1212 |

Operating Temp. Range: -25°C to +85°C  
Only for reflow soldering.

■ Impedance-Frequency Characteristics



■ Inductance-Current Characteristics



## LQH3KS\_53 Series (Low Profile Type)

LQH3KS\_53 series is miniature chip inductor with high current capacity and low DC resistance. These features are achieved by Murata's innovative winding technology.

### ■ Features

1. Low profile (1.8mm max.) and small size (3.3x3.3mm)
2. The series has large inductance of 3.3 to 820 micro H.
3. Low DC resistance



| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|---------------------------------------|------|
| LQH3KSN3R3N53 | 3.3 ±30%        | 1MHz           | 320                | 0.07 ±30%           | 50                                    | 1212 |
| LQH3KSN4R7N53 | 4.7 ±30%        | 1MHz           | 260                | 0.09 ±30%           | 42                                    | 1212 |
| LQH3KSN6R8N53 | 6.8 ±30%        | 1MHz           | 210                | 0.10 ±30%           | 35                                    | 1212 |
| LQH3KSN100M53 | 10 ±20%         | 1MHz           | 180                | 0.17 ±30%           | 28                                    | 1212 |
| LQH3KSN220M53 | 22 ±20%         | 1MHz           | 120                | 0.40 ±30%           | 19                                    | 1212 |
| LQH3KSN330M53 | 33 ±20%         | 1MHz           | 100                | 0.50 ±30%           | 16                                    | 1212 |
| LQH3KSN471M53 | 470 ±20%        | 100kHz         | 30                 | 6.90 ±30%           | 4.2                                   | 1212 |
| LQH3KSN561M53 | 560 ±20%        | 100kHz         | 30                 | 7.60 ±30%           | 3.8                                   | 1212 |
| LQH3KSN821M53 | 820 ±20%        | 100kHz         | 20                 | 15.5 ±30%           | 3.2                                   | 1212 |

Operating Temp. Range: -25°C to +85°C  
Only for reflow soldering.

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics



# Chip Coils

**muRata**

## for Choke Wound/Magnetic Shielded Type LQH55D/LQH66S Series

### LQH55D Series

LQH55D series are winding type coils for choke by using high performance thick wire wound technology.

#### ■ Features

1. Low direct current resistance, large current capacity and large inductance
2. For DC-DC converters and DC power supply circuits



| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|---------------------------------------|------|
| LQH55DNR12M03 | 0.12 ±20%       | 1MHz           | 6000               | 0.007 ±40%          | 450                                   | 2220 |
| LQH55DNR27M03 | 0.27 ±20%       | 1MHz           | 5300               | 0.010 ±40%          | 300                                   | 2220 |
| LQH55DNR47M03 | 0.47 ±20%       | 1MHz           | 4800               | 0.013 ±40%          | 200                                   | 2220 |
| LQH55DN1R0M03 | 1.0 ±20%        | 1MHz           | 4000               | 0.019 ±40%          | 150                                   | 2220 |
| LQH55DN1R5M03 | 1.5 ±20%        | 1MHz           | 3700               | 0.022 ±40%          | 110                                   | 2220 |
| LQH55DN2R2M03 | 2.2 ±20%        | 1MHz           | 3200               | 0.029 ±40%          | 80                                    | 2220 |
| LQH55DN3R3M03 | 3.3 ±20%        | 1MHz           | 2900               | 0.036 ±40%          | 40                                    | 2220 |
| LQH55DN4R7M03 | 4.7 ±20%        | 1MHz           | 2700               | 0.041 ±40%          | 30                                    | 2220 |
| LQH55DN6R8M03 | 6.8 ±20%        | 1MHz           | 2000               | 0.074 ±40%          | 25                                    | 2220 |
| LQH55DN100M03 | 10 ±20%         | 1MHz           | 1700               | 0.093 ±40%          | 20                                    | 2220 |
| LQH55DN150M03 | 15 ±20%         | 1MHz           | 1400               | 0.15 ±40%           | 17                                    | 2220 |
| LQH55DN220M03 | 22 ±20%         | 1MHz           | 1200               | 0.19 ±40%           | 15                                    | 2220 |
| LQH55DN330M03 | 33 ±20%         | 1MHz           | 900                | 0.32 ±40%           | 12                                    | 2220 |
| LQH55DN470M03 | 47 ±20%         | 1MHz           | 800                | 0.40 ±40%           | 10                                    | 2220 |
| LQH55DN680M03 | 68 ±20%         | 1MHz           | 640                | 0.67 ±40%           | 7.6                                   | 2220 |
| LQH55DN101M03 | 100 ±20%        | 100kHz         | 560                | 0.86 ±40%           | 6.5                                   | 2220 |
| LQH55DN151M03 | 150 ±20%        | 100kHz         | 420                | 1.9 ±40%            | 5.0                                   | 2220 |
| LQH55DN221M03 | 220 ±20%        | 100kHz         | 320                | 2.4 ±40%            | 4.0                                   | 2220 |
| LQH55DN331M03 | 330 ±20%        | 100kHz         | 270                | 4.4 ±40%            | 3.1                                   | 2220 |
| LQH55DN471M03 | 470 ±20%        | 100kHz         | 240                | 5.4 ±40%            | 2.4                                   | 2220 |
| LQH55DN681M03 | 680 ±20%        | 100kHz         | 190                | 8.1 ±40%            | 1.9                                   | 2220 |
| LQH55DN102M03 | 1000 ±20%       | 10kHz          | 150                | 10.3 ±40%           | 1.7                                   | 2220 |
| LQH55DN222M03 | 2200 ±20%       | 10kHz          | 100                | 21.5 ±40%           | 1.2                                   | 2220 |
| LQH55DN472M03 | 4700 ±20%       | 10kHz          | 70                 | 43.6 ±40%           | 0.8                                   | 2220 |
| LQH55DN103M03 | 10000 ±20%      | 10kHz          | 50                 | 100 ±40%            | 0.5                                   | 2220 |

Operating Temp. Range: -25°C to +80°C

Only for reflow soldering.

## ■ Impedance-Frequency Characteristics



## ■ Inductance-Current Characteristics

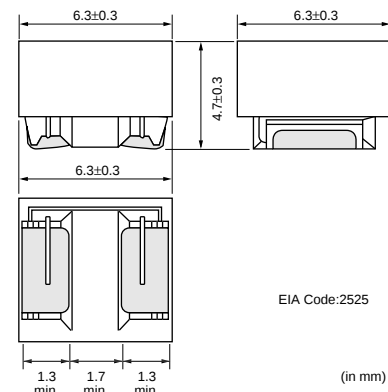


### LQH66S Series

LQH66S series are magnetic shielded type coils for choke by using high performance thick wire wound technology.

#### ■ Features

1. Low direct current resistance, large current capacity and large inductance
2. High density mounting
3. For DC-DC converters and DC power supply circuits



| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (min.) (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|---------------------------------------|------|
| LQH66SNR27M03 | 0.27 ±20%       | 1MHz           | 6000               | 0.007 ±40%          | 300                                   | 2525 |
| LQH66SNR68M03 | 0.68 ±20%       | 1MHz           | 5300               | 0.010 ±40%          | 180                                   | 2525 |
| LQH66SN1R0M03 | 1.0 ±20%        | 1MHz           | 4700               | 0.013 ±40%          | 150                                   | 2525 |
| LQH66SN1R5M03 | 1.5 ±20%        | 1MHz           | 3800               | 0.016 ±40%          | 110                                   | 2525 |
| LQH66SN2R2M03 | 2.2 ±20%        | 1MHz           | 3300               | 0.019 ±40%          | 80                                    | 2525 |
| LQH66SN3R3M03 | 3.3 ±20%        | 1MHz           | 2600               | 0.022 ±40%          | 40                                    | 2525 |
| LQH66SN4R7M03 | 4.7 ±20%        | 1MHz           | 2200               | 0.025 ±40%          | 30                                    | 2525 |
| LQH66SN6R8M03 | 6.8 ±20%        | 1MHz           | 1800               | 0.029 ±40%          | 25                                    | 2525 |
| LQH66SN100M03 | 10 ±20%         | 1MHz           | 1600               | 0.036 ±40%          | 20                                    | 2525 |
| LQH66SN150M03 | 15 ±20%         | 1MHz           | 1300               | 0.069 ±40%          | 17                                    | 2525 |
| LQH66SN220M03 | 22 ±20%         | 1MHz           | 1100               | 0.087 ±40%          | 15                                    | 2525 |
| LQH66SN330M03 | 33 ±20%         | 1MHz           | 860                | 0.14 ±40%           | 12                                    | 2525 |
| LQH66SN470M03 | 47 ±20%         | 1MHz           | 760                | 0.17 ±40%           | 10                                    | 2525 |
| LQH66SN680M03 | 68 ±20%         | 1MHz           | 600                | 0.29 ±40%           | 7.6                                   | 2525 |
| LQH66SN101M03 | 100 ±20%        | 100kHz         | 520                | 0.36 ±40%           | 6.5                                   | 2525 |
| LQH66SN151M03 | 150 ±20%        | 100kHz         | 420                | 0.63 ±40%           | 5.0                                   | 2525 |
| LQH66SN221M03 | 220 ±20%        | 100kHz         | 350                | 0.79 ±40%           | 4.0                                   | 2525 |
| LQH66SN331M03 | 330 ±20%        | 100kHz         | 280                | 1.8 ±40%            | 3.2                                   | 2525 |
| LQH66SN471M03 | 470 ±20%        | 100kHz         | 240                | 2.2 ±40%            | 2.5                                   | 2525 |
| LQH66SN681M03 | 680 ±20%        | 100kHz         | 200                | 3.9 ±40%            | 2.0                                   | 2525 |
| LQH66SN102M03 | 1000 ±20%       | 10kHz          | 160                | 4.9 ±40%            | 1.7                                   | 2525 |
| LQH66SN222M03 | 2200 ±20%       | 10kHz          | 100                | 9.4 ±40%            | 1.2                                   | 2525 |
| LQH66SN472M03 | 4700 ±20%       | 10kHz          | 70                 | 19.5 ±40%           | 0.8                                   | 2525 |
| LQH66SN103M03 | 10000 ±20%      | 10kHz          | 50                 | 39.7 ±40%           | 0.5                                   | 2525 |

Operating Temp. Range: -25°C to +80°C Only for reflow soldering.

■ Impedance-Frequency Characteristics



■ Inductance-Current Characteristics



## ⚠Caution/Notice

### ■ ⚠Caution (Rating)

Do not use products beyond the rated current as this may create excessive heat.

### ■ Notice (Storage and Operating Condition)

#### <Operating Environment>

Do not use products in chemical atmosphere such as chlorine gas, acid or sulfide gas.

#### <Storage Requirements>

##### 1. Storage Period

LQG/LQM series should be used within 6 months; the other products should be used within 12 months.

Check solderability if this period is exceeded.

##### 2. Storage conditions

(1) Store products in a warehouse in compliance with the following conditions:

Temperature: -10 to 40 degree C.

Humidity: 30 to 70% (relative humidity)

Do not subject products to rapid changes in temperature and humidity.

Do not store them in chemical atmosphere such as one containing sulfurous acid gas or alkaline gas.

This will prevent electrode oxidation which causes poor solderability and possible corrosion of coils.

- (2) Do not store products in bulk packaging to prevent collision among coils which causes core chipping and wire breakage.
- (3) Store products on pallets to protect from humidity, dust, etc.
- (4) Avoid heat shock, vibration, direct sunlight, etc.

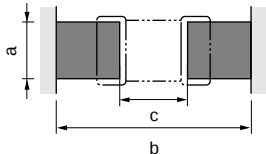
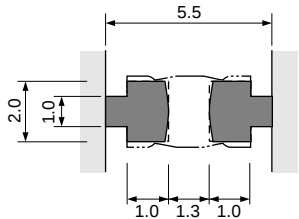
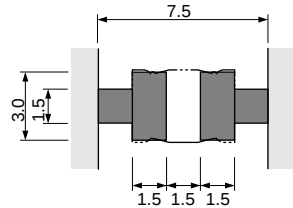
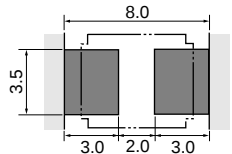
⚠Caution/Notice

■ Notice (Soldering and Mounting)

1. Standard Land Dimensions

A high Q value is achieved when the PCB electrode land pattern is designed so that it does not project beyond the chip coil electrode.

Land Pattern  
Solder Resist  
(in mm)

| Series                                                                                                                                                       | Standard Land Dimensions                                                            |                            |                                                                                     |         |         |         |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|----------------------------|-------------------------------------------------------------------------------------|---------|---------|---------|
| LQG15H<br>LQG18H<br>LQM18N<br>LQM21N/21D/21F<br>LQM31F<br>LQP03T<br>LQP15M/15T<br>LQP18M<br>LQH2MC<br>LQW15A<br>LQW18A<br>LQW2BH<br>LQW31H<br>LQH31M/31C/31H |    | Part Number                | a                                                                                   | b       | c       |         |
|                                                                                                                                                              |                                                                                     | LQG15H                     |                                                                                     | 0.5-0.6 | 1.4-1.5 | 0.4     |
|                                                                                                                                                              |                                                                                     | LQG18H                     |                                                                                     | 0.6-0.8 | 1.8-2.2 | 0.6-0.8 |
|                                                                                                                                                              |                                                                                     | LQM18N                     | Flow                                                                                | 0.7     | 2.2-2.6 | 0.7     |
|                                                                                                                                                              |                                                                                     |                            | Reflow                                                                              |         | 1.8-2.0 |         |
|                                                                                                                                                              |                                                                                     | LQM21N/21D/21F             |                                                                                     | 1.0     | 3.0-4.0 | 1.2     |
|                                                                                                                                                              |                                                                                     | LQM31F                     |                                                                                     | 1.2     | 4.2-5.2 | 2.0     |
|                                                                                                                                                              |                                                                                     | LQP03T                     |                                                                                     | 0.2-0.3 | 0.8-0.9 | 0.2-0.3 |
|                                                                                                                                                              |                                                                                     | LQP15M/15T                 |                                                                                     | 0.5-0.6 | 1.4-1.5 | 0.4     |
|                                                                                                                                                              |                                                                                     | LQP18M                     |                                                                                     | 0.7-0.9 | 1.8-2.2 | 0.6-0.8 |
|                                                                                                                                                              |                                                                                     | LQH2MC                     |                                                                                     | 1.0     | 2.6     | 0.8     |
|                                                                                                                                                              |                                                                                     | LQH31M/31C/31H<br>LQW31H   |                                                                                     | 1.5     | 4.5     | 1.0     |
|                                                                                                                                                              |                                                                                     | LQW2BH                     |                                                                                     | 1.2     | 3.0     | 0.8     |
|                                                                                                                                                              |                                                                                     | LQW18A                     |                                                                                     | 0.7-1.0 | 1.8-2.0 | 0.6-0.8 |
|                                                                                                                                                              |                                                                                     | LQW15A                     |                                                                                     | 0.65    | 1.2     | 0.50    |
|                                                                                                                                                              |                                                                                     | LQH32M<br>LQH32C<br>LQH3KS |  |         |         |         |
|                                                                                                                                                              |                                                                                     |                            |                                                                                     |         |         |         |
|                                                                                                                                                              |                                                                                     |                            |                                                                                     |         |         |         |
| LQH43M<br>LQH43N<br>LQH43C                                                                                                                                   |  |                            |                                                                                     |         |         |         |
|                                                                                                                                                              |                                                                                     |                            |                                                                                     |         |         |         |
|                                                                                                                                                              |                                                                                     |                            |                                                                                     |         |         |         |
| LQH55D<br>LQH66S                                                                                                                                             |  |                            |                                                                                     |         |         |         |
|                                                                                                                                                              |                                                                                     |                            |                                                                                     |         |         |         |

Attention should be paid to potential magnetic coupling effects when using the coil as a resonator.

Continued on the following page. ↗

## ⚠Caution/Notice

☐ Continued from the preceding page.

### 2. Standard Soldering Conditions

#### (1) Soldering method

Chip coils can be flow or reflow soldered.

Please contact Murata regarding other soldering methods.

As for LQG, LQP, LQW15A/18A, LQH2MC/3KS/55D/66S series, please use reflow soldering.

Solder: Use H60A, H63A (JIS Z 3282) or equivalent.

Use solder paste equivalent to H60A for LQP03T/15M/15T/18M and LQG15H/18H.

In case of Lead-free solder, use Sn-3.0Ag-0.5Cu solder.

Flux: Use rosin-based flux, but not strongly acidic flux (with chlorine content exceeding 0.2wt%).

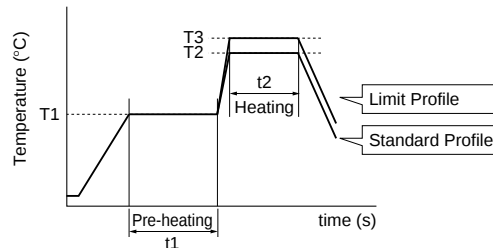
Do not use water-soluble flux.

The flux used for LQW15/18 series should use the rosin-based flux that includes middle activator equivalent to 0.06wt% to 0.1wt% chlorine.

For additional mounting methods, please contact Murata.

#### (2) Soldering profile

- Flow Soldering profile  
(Eutectic solder, Sn-3.0Ag-0.5Cu solder)



| Series                                                             | Pre-heating |            | Standard Profile |            |               | Limit Profile |            |               |
|--------------------------------------------------------------------|-------------|------------|------------------|------------|---------------|---------------|------------|---------------|
|                                                                    |             |            | Heating          |            | Cycle of flow | Heating       |            | Cycle of flow |
|                                                                    | Temp. (T1)  | Time. (t1) | Temp. (T2)       | Time. (t2) |               | Temp. (T3)    | Time. (t2) |               |
| LQM18N<br>LQM21N/21D/21F<br>LQM31F<br>LQW2BH/31H<br>LQH31C/31H/31M | 150°C       | 60s min.   | 250°C            | 4 to 6s    | 2 times       | 265±3°C       | 5s max.    | 2 times       |
| LQH32C/32M<br>LQH43C/43M(N)                                        | 150°C       | 60s min.   | 250°C            | 4 to 6s    | 2 times       | 265±3°C       | 5s max.    | 1 times       |

Continued on the following page. ☐

⚠Caution/Notice

Continued from the preceding page.

●Reflow Soldering profile

①Soldering profile for Lead-free solder (Sn-3Ag-0.5Cu)



| Series                                                                                                                       | Standard Profile |            |                       |                 | Limit Profile |            |                       |                 |
|------------------------------------------------------------------------------------------------------------------------------|------------------|------------|-----------------------|-----------------|---------------|------------|-----------------------|-----------------|
|                                                                                                                              | Heating          |            | Peak temperature (T2) | Cycle of reflow | Heating       |            | Peak temperature (T4) | Cycle of reflow |
|                                                                                                                              | Temp. (T1)       | Time. (t1) |                       |                 | Temp. (T3)    | Time. (t2) |                       |                 |
| LQG15H/18H<br>LQW15A/18A<br>LQP03T/15M/15T/18M<br>LQW2BH/31H<br>LQM18N<br>LQM21N/21D/21F<br>LQM31F, LQH2MC<br>LQH31C/31H/31M | 220°C            | 30 to 60s  | 245±3°C               | 2 times         | 230°C         | 60s max.   | 260°C/10s             | 2 times         |
| LQH32C/32M<br>LQH43C/43M(N)<br>LQH55D, LQH66S<br>LQH3KS                                                                      | 220°C            | 30 to 60s  | 245±3°C               | 2 times         | 230°C         | 60s max.   | 260°C/10s             | 1 times         |

②Soldering profile for Eutectic solder (Limit profile: refer to ①)



| Series                                                                                                                                                                                                  | Pre-heating |            | Standard Profile |            |                       |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|------------------|------------|-----------------------|-----------------|
|                                                                                                                                                                                                         | Temp. (T1)  | Time. (t1) | Heating          |            | Peak temperature (T3) | Cycle of reflow |
|                                                                                                                                                                                                         |             |            | Temp. (T2)       | Time. (t2) |                       |                 |
| LQG15H/18H<br>LQW15A/18A<br>LQP03T/15T/15M/18M<br>LQW2BH/31H<br>LQH31H, LQM18N<br>LQM21N/21D/21F<br>LQM31F, LQH2MC<br>LQH31C, LQH32C<br>LQH31M, LQH32M<br>LQH43C, LQH43M(N)<br>LQH3KS, LQH55D<br>LQH66S | 150°C       | 60s min.   | 183°C            | 60s max.   | 230°C                 | 2 times         |

Continued on the following page. ↗

## ⚠Caution/Notice

☐ Continued from the preceding page.

### (3) Reworking with Soldering Iron

Preheating at 150°C for 1 minute is required. Do not directly touch the ceramic element with the tip of the soldering iron. The reworking soldering conditions are as follows:

Soldering iron power output: 30W max.

Temperature of soldering iron tip: 280°C

Diameter of soldering iron end: 3.0mm max.

Soldering time: within 3 s

### 3. Mounting Instructions

#### (1) Land Pattern Dimensions

Large lands reduce Q of the mounted chip. Also, large protruding land areas (bordered by lines having dimensions 'c' and 'd' shown) cause floating and electrode leaching.



#### (2) Magnetic Coupling

Since some chip coils are constructed like an open magnetic circuit, narrow spacing between coils may cause magnetic coupling.

The LQG, LQM and LQH3KS/66S series have a magnetically shielded structure. The structure makes their coupling coefficient smaller than that of conventional chip coils.



#### (3) PCB Warping

PCB should be designed so that products are not subjected to the mechanical stress caused by warping the board.

Products should be located in the sideways direction (Length:  $a < b$ ) to the mechanical stress.



#### (4) Amount of Solder Paste

Excessive solder causes electrode corrosion, while insufficient solder causes low electrode bonding strength. Adjust the amount of solder paste as shown on the right so that solder is applied.

● Standard thickness of solder paste

LQP/LQG/LQM/LQW\_A: 100 to 150μm

LQH/LQW\_H: 200 to 300μm

(LQH2MC: 100 to 150μm)



Continued on the following page. ☐

## ⚠Caution/Notice

☐ Continued from the preceding page.

### (5) Amount of Adhesive

If too much adhesive is applied, then it may overflow into the land or termination areas and yield poor solderability. In contrast, if insufficient adhesive is applied, or if the adhesive is not sufficiently hardened, then the chip may become detached during flow soldering. Apply the adhesive in accordance with the following conditions:



**LQH\_C/H/M/N  
LQW\_H**



**LQP/LQG/LQM**

| Part Number                      | Typical Application Amount (in:mg) |           |
|----------------------------------|------------------------------------|-----------|
|                                  | MR-8153RA                          | NF-3000   |
| <b>LQM18N</b>                    | 0.05-0.06                          | 0.06-0.07 |
| <b>LQM21N/21D/21F</b>            | 0.15-0.20                          | 0.20-0.25 |
| <b>LQM31F</b>                    | 0.20-0.25                          | 0.25-0.30 |
| <b>LQW2BH</b>                    | 0.116-0.18                         | —         |
| <b>LQH31M/31C/31H<br/>LQW31H</b> | 0.18-0.20                          | 0.20-0.25 |
| <b>LQH32M/32C</b>                | 0.20-0.23                          | 0.27-0.35 |
| <b>LQH43M(N)<br/>LQH43C</b>      | 0.45-0.50                          | 0.60-0.80 |

### 4. Cleaning

The following conditions should be observed when cleaning chip coils:

- (1) Cleaning Temperature: 60°C max. (40°C max. for alcohol cleaning agents)
- (2) Ultrasonic  
Output: 20W/l max.  
Duration: 5 minutes max.  
Frequency: 28 to 40kHz  
Care should be taken not to cause resonance of the PCB and mounted products.
- (3) Cleaning agent  
The following cleaning agents have been tested on

individual components. Evaluation in complete assembly should be done prior to production.

- (a) Alcohol cleaning agents  
Isopropyl alcohol (IPA)
- (b) Aqueous cleaning agents  
Pine Alpha ST-100S  
LQH\_S series: Aqueous agents should not be used because they may cause quality deterioration.
- (4) Ensure that flux residue is completely removed.  
Component should be thoroughly dried after aqueous agents have been removed with deionized water.

For additional cleaning methods, please contact Murata.

## ⚠Caution/Notice

### ■ Notice (Handling)

This item is designed to have sufficient strength, but handle with care to avoid chipping or breaking its ceramic structure.

#### LQW\_A series

- To prevent breaking the wire, avoid touching sharp material, such as tweezers, to the winding portion.
- To prevent breaking the core, avoid applying excessive mechanical shock to products mounted on the board.
- In some mounting machines, when picking up components, support pin pushes up the components from the bottom of base tape. In this case, please remove the support pin. The support pin may damage the components and break wire.

#### LQH\_C/D/H/M/N, LQW\_H series

- To prevent breaking the wire, avoid touching sharp material, such as tweezers, to the winding portion.
- To prevent breaking the core, avoid applying excessive mechanical shock to products mounted on the board.

#### LQP series

- The pattern of the chip coil is covered with protective film. Take care to avoid damaging the chip coil when handling it with pick-up nozzles, sharp instruments, etc.

### ■ Notice (Measuring Method)

#### Measuring Method of Inductance/Q

1. Residual elements and stray elements of test fixture can be described by F-parameter shown in following.



2. The impedance of chip coil  $Z_x$  and measured value  $Z_m$  can be described by input/output current/voltage.

$$Z_m = \frac{V_1}{I_1}, \quad Z_x = \frac{V_2}{I_2}$$

#### LQM series

- There is the possibility that magnetism may change the inductance value. Do not use a magnet or tweezers with magnetism when handling chip coils. (The tip of the tweezers should be molded with resin or pottery.)

#### <Handling>

1. Avoid applying excessive stress to products to prevent damage.
2. Do not touch winding with sharp objects such as tweezers to prevent wire breakage.
3. Do not apply excessive force to products mounted on boards to prevent core breakage.

#### <Transportations>

Do not apply excessive vibration or mechanical shock to products.

#### <Resin Coating>

When coating products with resin, the relatively high resin curing stress may change inductance values.

For exterior coating, select resin carefully so that electrical and mechanical performance of the product is not affected.

3. Thus, the relation between  $Z_x$  and  $Z_m$  is following;

$$Z_x = \alpha \frac{Z_m - \beta}{1 - Z_m \Gamma}$$

where,  $\alpha = D / A = 1$   
 $\beta = B / D = Z_{sm} - (1 - Y_{om} Z_{sm}) Z_{ss}$   
 $\Gamma = C / A = Y_{om}$

( $Z_{sm}$ : measured impedance of short chip  
 $Z_{ss}$ : residual impedance of short chip\*  
 $Y_{om}$ : measured admittance when opening the fixture)

#### \*Residual impedance of short chip

| Residual Impedance | Series                    |
|--------------------|---------------------------|
| 0nH                | LQG15HS                   |
| 0.430nH            | LQP03T                    |
| 0.556nH            | LQG15HN, LQW15A, LQP15T/M |
| 0.771nH            | LQG18H, LQP18M, LQW18A    |

4.  $L_x$  and  $Q_x$  shall be calculated with the following equation.

$$L_x = \frac{\text{Im}(Z_x)}{2\pi f}, \quad Q_x = \frac{\text{Im}(Z_x)}{\text{Re}(Z_x)}$$

$L_x$ : Inductance of chip coil  
 $Q_x$ : Q of chip coil  
 $f$ : Measuring frequency



Technical drawing of the LQW2BH roller. The drawing shows a side view of the roller with dimensions: hole diameter  $\varnothing 1.5^{+0.1}_0$ , hole pitch  $4.0 \pm 0.1$ , roller width  $2.0 \pm 0.05$ , roller length  $3.5 \pm 0.05$ , roller thickness  $1.75 \pm 0.1$ , roller height  $8.0 \pm 0.3$ , and roller radius  $R1.0$ . The drawing also shows a cross-section of the roller with dimensions: roller thickness  $1.0$ , roller height  $0.2$ , and roller radius  $R1.0$ . The drawing is labeled "LQW2BH" and "1 : 0.3".

## Paper Tape

| Part Number        | Dimensions (in mm) |      |             | Minimum Qty. (pcs.) |             |      |  |  |  |  |
|--------------------|--------------------|------|-------------|---------------------|-------------|------|--|--|--|--|
|                    | a                  | b    | c           | ø180mm reel         | ø330mm reel | Bulk |  |  |  |  |
| LQM21N (0.1-2.2μH) | 1.45               | 2.25 | 1.1<br>max. | 4000                | 10000       | 1000 |  |  |  |  |
| LQM21D (1-10μH)    |                    |      |             |                     |             |      |  |  |  |  |
| LQM21F (1-2.2μH)   |                    |      |             |                     |             |      |  |  |  |  |
| LQG18H             | 1.05               | 1.85 |             |                     |             |      |  |  |  |  |
| LQM18N             |                    |      |             |                     |             |      |  |  |  |  |
| LQW18A_00          | 1.0                | 1.8  |             |                     |             | 500  |  |  |  |  |
| LQW18A_10          | 1.1                | 1.9  |             |                     |             |      |  |  |  |  |

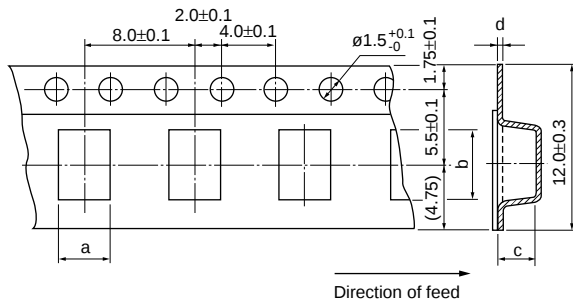
## Plastic Tape

(in mm)

Packaging

Continued from the preceding page.

■ Minimum Quantity and 12mm Width Plastic Taping Dimension



Plastic Tape

| Part Number | Dimensions (in mm) |     |     |     | Minimum Qty. (pcs.) |             |
|-------------|--------------------|-----|-----|-----|---------------------|-------------|
|             | a                  | b   | c   | d   | ø180mm reel         | ø330mm reel |
| LQH3KS      | 3.9                | 3.7 | 1.9 | 0.3 | 1000                | 4000        |
| LQH43M(N)   | 3.6                | 4.9 | 2.7 |     | 500                 | 2500        |
| LQH43C      |                    |     |     |     |                     | -           |
| LQH55D      | 5.4                | 6.1 | 5.0 | 0.4 | 350                 | 1500        |
| LQH66S      | 6.7                | 6.7 | 5.6 |     |                     | -           |

(in mm)

## Design Kits



### ●EKLMQG15A (High-frequency Monolithic Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQG15HN1N0S02 | 20                 | 1.0nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 2   | LQG15HN1N1S02 | 20                 | 1.1nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 3   | LQG15HN1N2S02 | 20                 | 1.2nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 4   | LQG15HN1N3S02 | 20                 | 1.3nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 5   | LQG15HN1N5S02 | 20                 | 1.5nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 6   | LQG15HN1N6S02 | 20                 | 1.6nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 7   | LQG15HN1N8S02 | 20                 | 1.8nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 8   | LQG15HN2N0S02 | 20                 | 2.0nH      | ±0.3nH    | 8         | 0.12                      | 300                   |
| 9   | LQG15HN2N2S02 | 20                 | 2.2nH      | ±0.3nH    | 8         | 0.15                      | 300                   |
| 10  | LQG15HN2N4S02 | 20                 | 2.4nH      | ±0.3nH    | 8         | 0.16                      | 300                   |
| 11  | LQG15HN2N7S02 | 20                 | 2.7nH      | ±0.3nH    | 8         | 0.17                      | 300                   |
| 12  | LQG15HN3N0S02 | 20                 | 3.0nH      | ±0.3nH    | 8         | 0.18                      | 300                   |
| 13  | LQG15HN3N3S02 | 20                 | 3.3nH      | ±0.3nH    | 8         | 0.19                      | 300                   |
| 14  | LQG15HN3N6S02 | 20                 | 3.6nH      | ±0.3nH    | 8         | 0.19                      | 300                   |
| 15  | LQG15HN3N9S02 | 20                 | 3.9nH      | ±0.3nH    | 8         | 0.19                      | 300                   |
| 16  | LQG15HN4N3S02 | 20                 | 4.3nH      | ±0.3nH    | 8         | 0.21                      | 300                   |
| 17  | LQG15HN4N7S02 | 20                 | 4.7nH      | ±0.3nH    | 8         | 0.23                      | 300                   |
| 18  | LQG15HN5N1S02 | 20                 | 5.1nH      | ±0.3nH    | 8         | 0.24                      | 300                   |
| 19  | LQG15HN5N6S02 | 20                 | 5.6nH      | ±0.3nH    | 8         | 0.26                      | 300                   |
| 20  | LQG15HN6N2S02 | 20                 | 6.2nH      | ±0.3nH    | 8         | 0.27                      | 300                   |
| 21  | LQG15HN6N8J02 | 20                 | 6.8nH      | ±5%       | 8         | 0.29                      | 300                   |
| 22  | LQG15HN7N5J02 | 20                 | 7.5nH      | ±5%       | 8         | 0.31                      | 300                   |
| 23  | LQG15HN8N2J02 | 20                 | 8.2nH      | ±5%       | 8         | 0.33                      | 300                   |
| 24  | LQG15HN9N1J02 | 20                 | 9.1nH      | ±5%       | 8         | 0.34                      | 300                   |
| 25  | LQG15HN10NJ02 | 20                 | 10nH       | ±5%       | 8         | 0.35                      | 300                   |
| 26  | LQG15HN12NJ02 | 20                 | 12nH       | ±5%       | 8         | 0.41                      | 300                   |
| 27  | LQG15HN15NJ02 | 20                 | 15nH       | ±5%       | 8         | 0.46                      | 300                   |
| 28  | LQG15HN18NJ02 | 20                 | 18nH       | ±5%       | 8         | 0.51                      | 300                   |
| 29  | LQG15HN22NJ02 | 20                 | 22nH       | ±5%       | 8         | 0.58                      | 300                   |
| 30  | LQG15HN27NJ02 | 20                 | 27nH       | ±5%       | 8         | 0.67                      | 300                   |
| 31  | LQG15HN33NJ02 | 20                 | 33nH       | ±5%       | 8         | 0.67                      | 200                   |
| 32  | LQG15HN39NJ02 | 20                 | 39nH       | ±5%       | 8         | 1.06                      | 200                   |
| 33  | LQG15HN47NJ02 | 20                 | 47nH       | ±5%       | 8         | 1.15                      | 200                   |
| 34  | LQG15HN56NJ02 | 20                 | 56nH       | ±5%       | 8         | 1.20                      | 200                   |
| 35  | LQG15HN68NJ02 | 20                 | 68nH       | ±5%       | 8         | 1.25                      | 180                   |
| 36  | LQG15HN82NJ02 | 20                 | 82nH       | ±5%       | 8         | 1.60                      | 150                   |
| 37  | LQG15HNR10J02 | 20                 | 100nH      | ±5%       | 8         | 1.60                      | 150                   |
| 38  | LQG15HNR12J02 | 20                 | 120nH      | ±5%       | 8         | 1.60                      | 150                   |

Continued on the following page. 

## Design Kits

☐ Continued from the preceding page.

### ●EKL MQ15SB (High-frequency Monolithic Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQG15HS1N0S02 | 20                 | 1.0nH      | ±0.3nH    | 8         | 0.07                      | 300                   |
| 2   | LQG15HS1N1S02 | 20                 | 1.1nH      | ±0.3nH    | 8         | 0.09                      | 300                   |
| 3   | LQG15HS1N2S02 | 20                 | 1.2nH      | ±0.3nH    | 8         | 0.09                      | 300                   |
| 4   | LQG15HS1N3S02 | 20                 | 1.3nH      | ±0.3nH    | 8         | 0.09                      | 300                   |
| 5   | LQG15HS1N5S02 | 20                 | 1.5nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 6   | LQG15HS1N6S02 | 20                 | 1.6nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 7   | LQG15HS1N8S02 | 20                 | 1.8nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 8   | LQG15HS2N0S02 | 20                 | 2.0nH      | ±0.3nH    | 8         | 0.10                      | 300                   |
| 9   | LQG15HS2N2S02 | 20                 | 2.2nH      | ±0.3nH    | 8         | 0.12                      | 300                   |
| 10  | LQG15HS2N4S02 | 20                 | 2.4nH      | ±0.3nH    | 8         | 0.15                      | 300                   |
| 11  | LQG15HS2N7S02 | 20                 | 2.7nH      | ±0.3nH    | 8         | 0.15                      | 300                   |
| 12  | LQG15HS3N0S02 | 20                 | 3.0nH      | ±0.3nH    | 8         | 0.17                      | 300                   |
| 13  | LQG15HS3N3S02 | 20                 | 3.3nH      | ±0.3nH    | 8         | 0.17                      | 300                   |
| 14  | LQG15HS3N6S02 | 20                 | 3.6nH      | ±0.3nH    | 8         | 0.18                      | 300                   |
| 15  | LQG15HS3N9S02 | 20                 | 3.9nH      | ±0.3nH    | 8         | 0.18                      | 300                   |
| 16  | LQG15HS4N3S02 | 20                 | 4.3nH      | ±0.3nH    | 8         | 0.18                      | 300                   |
| 17  | LQG15HS4N7S02 | 20                 | 4.7nH      | ±0.3nH    | 8         | 0.18                      | 300                   |
| 18  | LQG15HS5N1S02 | 20                 | 5.1nH      | ±0.3nH    | 8         | 0.20                      | 300                   |
| 19  | LQG15HS5N6S02 | 20                 | 5.6nH      | ±0.3nH    | 8         | 0.20                      | 300                   |
| 20  | LQG15HS6N2S02 | 20                 | 6.2nH      | ±0.3nH    | 8         | 0.22                      | 300                   |
| 21  | LQG15HS6N8J02 | 20                 | 6.8nH      | ±5%       | 8         | 0.24                      | 300                   |
| 22  | LQG15HS7N5J02 | 20                 | 7.5nH      | ±5%       | 8         | 0.24                      | 300                   |
| 23  | LQG15HS8N2J02 | 20                 | 8.2nH      | ±5%       | 8         | 0.24                      | 300                   |
| 24  | LQG15HS9N1J02 | 20                 | 9.1nH      | ±5%       | 8         | 0.26                      | 300                   |
| 25  | LQG15HS10NJ02 | 20                 | 10nH       | ±5%       | 8         | 0.26                      | 300                   |
| 26  | LQG15HS12NJ02 | 20                 | 12nH       | ±5%       | 8         | 0.28                      | 300                   |
| 27  | LQG15HS15NJ02 | 20                 | 15nH       | ±5%       | 8         | 0.32                      | 300                   |
| 28  | LQG15HS18NJ02 | 20                 | 18nH       | ±5%       | 8         | 0.36                      | 300                   |
| 29  | LQG15HS22NJ02 | 20                 | 22nH       | ±5%       | 8         | 0.42                      | 300                   |
| 30  | LQG15HS27NJ02 | 20                 | 27nH       | ±5%       | 8         | 0.46                      | 300                   |
| 31  | LQG15HS33NJ02 | 20                 | 33nH       | ±5%       | 8         | 0.58                      | 200                   |
| 32  | LQG15HS39NJ02 | 20                 | 39nH       | ±5%       | 8         | 0.65                      | 200                   |
| 33  | LQG15HS47NJ02 | 20                 | 47nH       | ±5%       | 8         | 0.72                      | 200                   |
| 34  | LQG15HS56NJ02 | 20                 | 56nH       | ±5%       | 8         | 0.82                      | 200                   |
| 35  | LQG15HS68NJ02 | 20                 | 68nH       | ±5%       | 8         | 0.92                      | 180                   |
| 36  | LQG15HS82NJ02 | 20                 | 82nH       | ±5%       | 8         | 1.20                      | 150                   |
| 37  | LQG15HSR10J02 | 20                 | 100nH      | ±5%       | 8         | 1.25                      | 150                   |
| 38  | LQG15HSR12J02 | 20                 | 120nH      | ±5%       | 8         | 1.30                      | 150                   |
| 39  | LQG15HSR15J02 | 20                 | 150nH      | ±5%       | 8         | 2.99                      | 140                   |
| 40  | LQG15HSR18J02 | 20                 | 180nH      | ±5%       | 8         | 3.38                      | 130                   |
| 41  | LQG15HSR22J02 | 20                 | 220nH      | ±5%       | 8         | 3.77                      | 120                   |
| 42  | LQG15HSR27J02 | 20                 | 270nH      | ±5%       | 8         | 4.94                      | 110                   |

### ●EKL MQG18A (High-frequency Monolithic Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQG18HN1N2S00 | 20                 | 1.2nH      | ±0.3nH    | 12        | 0.10                      | 300                   |
| 2   | LQG18HN1N5S00 | 20                 | 1.5nH      | ±0.3nH    | 12        | 0.10                      | 300                   |
| 3   | LQG18HN1N8S00 | 20                 | 1.8nH      | ±0.3nH    | 12        | 0.10                      | 300                   |
| 4   | LQG18HN2N2S00 | 20                 | 2.2nH      | ±0.3nH    | 12        | 0.10                      | 300                   |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity (pcs.) | Inductance |           | Q min. | DC Resistance (Ω) max. | Rated Current (mA) |
|-----|---------------|-----------------|------------|-----------|--------|------------------------|--------------------|
|     |               |                 | Nominal    | Tolerance |        |                        |                    |
| 5   | LQG18HN2N7S00 | 20              | 2.7nH      | ±0.3nH    | 12     | 0.15                   | 300                |
| 6   | LQG18HN3N3S00 | 20              | 3.3nH      | ±0.3nH    | 12     | 0.15                   | 300                |
| 7   | LQG18HN3N9S00 | 20              | 3.9nH      | ±0.3nH    | 12     | 0.15                   | 300                |
| 8   | LQG18HN4N7S00 | 20              | 4.7nH      | ±0.3nH    | 12     | 0.20                   | 300                |
| 9   | LQG18HN5N6S00 | 20              | 5.6nH      | ±0.3nH    | 12     | 0.20                   | 300                |
| 10  | LQG18HN6N8J00 | 20              | 6.8nH      | ±5%       | 12     | 0.25                   | 300                |
| 11  | LQG18HN8N2J00 | 20              | 8.2nH      | ±5%       | 12     | 0.25                   | 300                |
| 12  | LQG18HN10NJ00 | 20              | 10nH       | ±5%       | 12     | 0.30                   | 300                |
| 13  | LQG18HN12NJ00 | 20              | 12nH       | ±5%       | 12     | 0.35                   | 300                |
| 14  | LQG18HN15NJ00 | 20              | 15nH       | ±5%       | 12     | 0.40                   | 300                |
| 15  | LQG18HN18NJ00 | 20              | 18nH       | ±5%       | 12     | 0.45                   | 300                |
| 16  | LQG18HN22NJ00 | 20              | 22nH       | ±5%       | 12     | 0.50                   | 300                |
| 17  | LQG18HN27NJ00 | 20              | 27nH       | ±5%       | 12     | 0.55                   | 300                |
| 18  | LQG18HN33NJ00 | 20              | 33nH       | ±5%       | 12     | 0.60                   | 300                |
| 19  | LQG18HN39NJ00 | 20              | 39nH       | ±5%       | 12     | 0.65                   | 300                |
| 20  | LQG18HN47NJ00 | 20              | 47nH       | ±5%       | 12     | 0.70                   | 300                |
| 21  | LQG18HN56NJ00 | 20              | 56nH       | ±5%       | 12     | 0.75                   | 300                |
| 22  | LQG18HN68NJ00 | 20              | 68nH       | ±5%       | 12     | 0.80                   | 300                |
| 23  | LQG18HN82NJ00 | 20              | 82nH       | ±5%       | 12     | 0.85                   | 300                |
| 24  | LQG18HNR10J00 | 20              | 100nH      | ±5%       | 12     | 0.90                   | 300                |

### ●EKLMP03D (High-frequency Film Type)

| No. | Part Number   | Quantity (pcs.) | Inductance |           | Q min. | DC Resistance (Ω) max. | Rated Current (mA) |
|-----|---------------|-----------------|------------|-----------|--------|------------------------|--------------------|
|     |               |                 | Nominal    | Tolerance |        |                        |                    |
| 1   | LQP03TN0N6B00 | 20              | 0.6nH      | ±0.1nH    | 11     | 0.08                   | 420                |
| 2   | LQP03TN0N7B00 | 20              | 0.7nH      | ±0.1nH    | 11     | 0.09                   | 410                |
| 3   | LQP03TN0N8B00 | 20              | 0.8nH      | ±0.1nH    | 11     | 0.09                   | 410                |
| 4   | LQP03TN0N9B00 | 20              | 0.9nH      | ±0.1nH    | 11     | 0.09                   | 410                |
| 5   | LQP03TN1N0B00 | 20              | 1.0nH      | ±0.1nH    | 11     | 0.10                   | 400                |
| 6   | LQP03TN1N1B00 | 20              | 1.1nH      | ±0.1nH    | 11     | 0.13                   | 280                |
| 7   | LQP03TN1N2B00 | 20              | 1.2nH      | ±0.1nH    | 11     | 0.13                   | 280                |
| 8   | LQP03TN1N3B00 | 20              | 1.3nH      | ±0.1nH    | 11     | 0.16                   | 280                |
| 9   | LQP03TN1N5B00 | 20              | 1.5nH      | ±0.1nH    | 11     | 0.16                   | 280                |
| 10  | LQP03TN1N6B00 | 20              | 1.6nH      | ±0.1nH    | 11     | 0.16                   | 280                |
| 11  | LQP03TN1N8B00 | 20              | 1.8nH      | ±0.1nH    | 11     | 0.16                   | 280                |
| 12  | LQP03TN2N0B00 | 20              | 2.0nH      | ±0.1nH    | 11     | 0.18                   | 220                |
| 13  | LQP03TN2N2B00 | 20              | 2.2nH      | ±0.1nH    | 11     | 0.18                   | 220                |
| 14  | LQP03TN2N4B00 | 20              | 2.4nH      | ±0.1nH    | 11     | 0.21                   | 220                |
| 15  | LQP03TN2N7B00 | 20              | 2.7nH      | ±0.1nH    | 11     | 0.21                   | 220                |
| 16  | LQP03TN3N0B00 | 20              | 3.0nH      | ±0.1nH    | 11     | 0.30                   | 190                |
| 17  | LQP03TN3N3B00 | 20              | 3.3nH      | ±0.1nH    | 11     | 0.30                   | 190                |
| 18  | LQP03TN3N6B00 | 20              | 3.6nH      | ±0.1nH    | 11     | 0.45                   | 170                |
| 19  | LQP03TN3N9B00 | 20              | 3.9nH      | ±0.1nH    | 11     | 0.45                   | 170                |
| 20  | LQP03TN4N3H00 | 20              | 4.3nH      | ±3%       | 11     | 0.55                   | 160                |
| 21  | LQP03TN4N7H00 | 20              | 4.7nH      | ±3%       | 11     | 0.55                   | 160                |
| 22  | LQP03TN5N1H00 | 20              | 5.1nH      | ±3%       | 11     | 0.68                   | 140                |
| 23  | LQP03TN5N6H00 | 20              | 5.6nH      | ±3%       | 11     | 0.68                   | 140                |
| 24  | LQP03TN6N2H00 | 20              | 6.2nH      | ±3%       | 11     | 0.75                   | 130                |
| 25  | LQP03TN6N8H00 | 20              | 6.8nH      | ±3%       | 11     | 0.75                   | 130                |
| 26  | LQP03TN7N5H00 | 20              | 7.5nH      | ±3%       | 11     | 0.86                   | 110                |
| 27  | LQP03TN8N2H00 | 20              | 8.2nH      | ±3%       | 11     | 0.86                   | 110                |
| 28  | LQP03TN9N1H00 | 20              | 9.1nH      | ±3%       | 11     | 1.10                   | 100                |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 29  | LQP03TN10NH00 | 20                 | 10nH       | ±3%       | 11        | 1.10                      | 100                   |
| 30  | LQP03TN12NH00 | 20                 | 12nH       | ±3%       | 11        | 1.25                      | 90                    |
| 31  | LQP03TN15NH00 | 20                 | 15nH       | ±3%       | 11        | 1.50                      | 90                    |
| 32  | LQP03TN18NH00 | 20                 | 18nH       | ±3%       | 11        | 2.00                      | 80                    |
| 33  | LQP03TN22NH00 | 20                 | 22nH       | ±3%       | 11        | 2.60                      | 70                    |
| 34  | LQP03TN27NH00 | 20                 | 27nH       | ±3%       | 11        | 3.10                      | 70                    |

### ●EKLMP15A (High-frequency Film Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQP15MN1N0B02 | 20                 | 1.0nH      | 0.1nH     | 13        | 0.1                       | 400                   |
| 2   | LQP15MN1N1B02 | 20                 | 1.1nH      | 0.1nH     | 13        | 0.1                       | 390                   |
| 3   | LQP15MN1N2B02 | 20                 | 1.2nH      | 0.1nH     | 13        | 0.1                       | 390                   |
| 4   | LQP15MN1N3B02 | 20                 | 1.3nH      | 0.1nH     | 13        | 0.2                       | 280                   |
| 5   | LQP15MN1N5B02 | 20                 | 1.5nH      | 0.1nH     | 13        | 0.2                       | 280                   |
| 6   | LQP15MN1N6B02 | 20                 | 1.6nH      | 0.1nH     | 13        | 0.3                       | 220                   |
| 7   | LQP15MN1N8B02 | 20                 | 1.8nH      | 0.1nH     | 13        | 0.2                       | 280                   |
| 8   | LQP15MN2N0B02 | 20                 | 2.0nH      | 0.1nH     | 13        | 0.3                       | 220                   |
| 9   | LQP15MN2N2B02 | 20                 | 2.2nH      | 0.1nH     | 13        | 0.3                       | 220                   |
| 10  | LQP15MN2N4B02 | 20                 | 2.4nH      | 0.1nH     | 13        | 0.3                       | 220                   |
| 11  | LQP15MN2N7B02 | 20                 | 2.7nH      | 0.1nH     | 13        | 0.3                       | 220                   |
| 12  | LQP15MN3N0B02 | 20                 | 3.0nH      | 0.1nH     | 13        | 0.4                       | 190                   |
| 13  | LQP15MN3N3B02 | 20                 | 3.3nH      | 0.1nH     | 13        | 0.4                       | 190                   |
| 14  | LQP15MN3N6B02 | 20                 | 3.6nH      | 0.1nH     | 13        | 0.5                       | 170                   |
| 15  | LQP15MN3N9B02 | 20                 | 3.9nH      | 0.1nH     | 13        | 0.5                       | 170                   |
| 16  | LQP15MN4N3B02 | 20                 | 4.3nH      | 0.1nH     | 13        | 0.6                       | 160                   |
| 17  | LQP15MN4N7B02 | 20                 | 4.7nH      | 0.1nH     | 13        | 0.6                       | 160                   |
| 18  | LQP15MN5N1B02 | 20                 | 5.1nH      | ±0.1nH    | 13        | 0.7                       | 140                   |
| 19  | LQP15MN5N6B02 | 20                 | 5.6nH      | ±0.1nH    | 13        | 0.7                       | 140                   |
| 20  | LQP15MN6N2B02 | 20                 | 6.2nH      | ±0.1nH    | 13        | 0.9                       | 130                   |
| 21  | LQP15MN6N8B02 | 20                 | 6.8nH      | ±0.1nH    | 13        | 0.9                       | 130                   |
| 22  | LQP15MN7N5B02 | 20                 | 7.5nH      | ±0.1nH    | 13        | 1.1                       | 110                   |
| 23  | LQP15MN8N2B02 | 20                 | 8.2nH      | ±0.1nH    | 13        | 1.1                       | 110                   |
| 24  | LQP15MN9N1B02 | 20                 | 9.1nH      | ±0.1nH    | 13        | 1.3                       | 100                   |
| 25  | LQP15MN10NG02 | 20                 | 10nH       | ±2%       | 13        | 1.3                       | 100                   |
| 26  | LQP15MN12NG02 | 20                 | 12nH       | ±2%       | 13        | 1.6                       | 90                    |
| 27  | LQP15MN15NG02 | 20                 | 15nH       | ±2%       | 13        | 1.8                       | 90                    |
| 28  | LQP15MN18NG02 | 20                 | 18nH       | ±2%       | 13        | 2.0                       | 80                    |
| 29  | LQP15MN22NG02 | 20                 | 22nH       | ±2%       | 13        | 2.6                       | 70                    |
| 30  | LQP15MN27NG02 | 20                 | 27nH       | ±2%       | 13        | 3.1                       | 70                    |
| 31  | LQP15MN33NG02 | 20                 | 33nH       | ±2%       | 13        | 3.8                       | 60                    |

### ●EKLMP15F (High-frequency Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQW15AN1N5B00 | 20                 | 1.5nH      | ±0.1nH    | 10        | 0.03                      | 1000                  |
| 2   | LQW15AN2N7B00 | 20                 | 2.7nH      | ±0.1nH    | 20        | 0.05                      | 850                   |
| 3   | LQW15AN3N9B00 | 20                 | 3.9nH      | ±0.1nH    | 25        | 0.07                      | 750                   |
| 4   | LQW15AN4N3B00 | 20                 | 4.3nH      | ±0.1nH    | 25        | 0.07                      | 750                   |
| 5   | LQW15AN4N7B00 | 20                 | 4.7nH      | ±0.1nH    | 25        | 0.07                      | 750                   |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 6   | LQW15AN5N1B00 | 20                 | 5.1nH      | ±0.1nH    | 25        | 0.12                      | 600                   |
| 7   | LQW15AN6N2B00 | 20                 | 6.2nH      | ±0.1nH    | 25        | 0.09                      | 700                   |
| 8   | LQW15AN6N8G00 | 20                 | 6.8nH      | ±2%       | 25        | 0.09                      | 700                   |
| 9   | LQW15AN7N5G00 | 20                 | 7.5nH      | ±2%       | 25        | 0.13                      | 570                   |
| 10  | LQW15AN8N2G00 | 20                 | 8.2nH      | ±2%       | 25        | 0.14                      | 540                   |
| 11  | LQW15AN8N7G00 | 20                 | 8.7nH      | ±2%       | 25        | 0.14                      | 540                   |
| 12  | LQW15AN9N1G00 | 20                 | 9.1nH      | ±2%       | 25        | 0.14                      | 540                   |
| 13  | LQW15AN10NG00 | 20                 | 10nH       | ±2%       | 25        | 0.17                      | 500                   |
| 14  | LQW15AN11NG00 | 20                 | 11nH       | ±2%       | 30        | 0.14                      | 500                   |
| 15  | LQW15AN12NG00 | 20                 | 12nH       | ±2%       | 30        | 0.14                      | 500                   |
| 16  | LQW15AN13NG00 | 20                 | 13nH       | ±2%       | 25        | 0.21                      | 430                   |
| 17  | LQW15AN15NG00 | 20                 | 15nH       | ±2%       | 30        | 0.16                      | 460                   |
| 18  | LQW15AN16NG00 | 20                 | 16nH       | ±2%       | 25        | 0.24                      | 370                   |
| 19  | LQW15AN18NG00 | 20                 | 18nH       | ±2%       | 25        | 0.27                      | 370                   |
| 20  | LQW15AN19NG00 | 20                 | 19nH       | ±2%       | 25        | 0.27                      | 370                   |
| 21  | LQW15AN22NG00 | 20                 | 22nH       | ±2%       | 25        | 0.30                      | 310                   |
| 22  | LQW15AN24NG00 | 20                 | 24nH       | ±2%       | 25        | 0.52                      | 280                   |
| 23  | LQW15AN27NG00 | 20                 | 27nH       | ±2%       | 25        | 0.52                      | 280                   |
| 24  | LQW15AN30NG00 | 20                 | 30nH       | ±2%       | 25        | 0.58                      | 270                   |
| 25  | LQW15AN33NG00 | 20                 | 33nH       | ±2%       | 25        | 0.63                      | 260                   |
| 26  | LQW15AN36NG00 | 20                 | 36nH       | ±2%       | 25        | 0.63                      | 260                   |
| 27  | LQW15AN39NG00 | 20                 | 39nH       | ±2%       | 25        | 0.70                      | 250                   |
| 28  | LQW15AN47NG00 | 20                 | 47nH       | ±2%       | 25        | 1.08                      | 210                   |
| 29  | LQW15AN56NG00 | 20                 | 56nH       | ±2%       | 25        | 1.17                      | 200                   |
| 30  | LQW15AN68NG00 | 20                 | 68nH       | ±2%       | 20        | 1.96                      | 140                   |
| 31  | LQW15AN82NG00 | 20                 | 82nH       | ±2%       | 20        | 2.24                      | 130                   |
| 32  | LQW15ANR10J00 | 20                 | 100nH      | ±5%       | 20        | 2.52                      | 120                   |
| 33  | LQW15ANR12J00 | 20                 | 120nH      | ±5%       | 20        | 2.66                      | 110                   |
| 34  | LQW15AN1N3C10 | 20                 | 1.3nH      | ±0.2nH    | 20        | 0.017                     | 1200                  |
| 35  | LQW15AN2N2C10 | 20                 | 2.2nH      | ±0.2nH    | 25        | 0.027                     | 1000                  |
| 36  | LQW15AN2N4D10 | 20                 | 2.4nH      | ±0.5nH    | 25        | 0.027                     | 1000                  |
| 37  | LQW15AN3N3D10 | 20                 | 3.3nH      | ±0.5nH    | 30        | 0.040                     | 900                   |
| 38  | LQW15AN3N6C10 | 20                 | 3.6nH      | ±0.2nH    | 30        | 0.040                     | 900                   |
| 39  | LQW15AN3N9D10 | 20                 | 3.9nH      | ±0.5nH    | 30        | 0.040                     | 900                   |
| 40  | LQW15AN4N7D10 | 20                 | 4.7nH      | ±0.5nH    | 30        | 0.051                     | 800                   |
| 41  | LQW15AN5N1C10 | 20                 | 5.1nH      | ±0.2nH    | 30        | 0.051                     | 800                   |
| 42  | LQW15AN5N6C10 | 20                 | 5.6nH      | ±0.2nH    | 30        | 0.051                     | 800                   |

### ●EKLMQ18GA (High-frequency Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQW18AN3N6C00 | 20                 | 3.6nH      | ±0.2nH    | 25        | 0.059                     | 850                   |
| 2   | LQW18AN3N9C00 | 20                 | 3.9nH      | ±0.2nH    | 35        | 0.059                     | 850                   |
| 3   | LQW18AN4N3C00 | 20                 | 4.3nH      | ±0.2nH    | 35        | 0.059                     | 850                   |
| 4   | LQW18AN5N6C00 | 20                 | 5.6nH      | ±0.2nH    | 35        | 0.082                     | 750                   |
| 5   | LQW18AN6N2C00 | 20                 | 6.2nH      | ±0.2nH    | 35        | 0.082                     | 750                   |
| 6   | LQW18AN6N8C00 | 20                 | 6.8nH      | ±0.2nH    | 35        | 0.082                     | 750                   |
| 7   | LQW18AN10NG00 | 20                 | 10nH       | ±2%       | 35        | 0.11                      | 650                   |
| 8   | LQW18AN11NG00 | 20                 | 11nH       | ±2%       | 35        | 0.11                      | 650                   |
| 9   | LQW18AN12NG00 | 20                 | 12nH       | ±2%       | 35        | 0.13                      | 600                   |
| 10  | LQW18AN13NG00 | 20                 | 13nH       | ±2%       | 35        | 0.13                      | 600                   |
| 11  | LQW18AN15NG00 | 20                 | 15nH       | ±2%       | 40        | 0.13                      | 600                   |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |                    | Q<br>min. | DC Resistance<br>( $\Omega$ ) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|--------------------|-----------|------------------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance          |           |                                    |                       |
| 12  | LQW18AN16NG00 | 20                 | 16nH       | $\pm 2\%$          | 40        | 0.16                               | 550                   |
| 13  | LQW18AN18NG00 | 20                 | 18nH       | $\pm 2\%$          | 40        | 0.16                               | 550                   |
| 14  | LQW18AN20NG00 | 20                 | 20nH       | $\pm 2\%$          | 40        | 0.16                               | 550                   |
| 15  | LQW18AN22NG00 | 20                 | 22nH       | $\pm 2\%$          | 40        | 0.17                               | 500                   |
| 16  | LQW18AN24NG00 | 20                 | 24nH       | $\pm 2\%$          | 40        | 0.21                               | 500                   |
| 17  | LQW18AN27NG00 | 20                 | 27nH       | $\pm 2\%$          | 40        | 0.21                               | 440                   |
| 18  | LQW18AN30NG00 | 20                 | 30nH       | $\pm 2\%$          | 40        | 0.23                               | 420                   |
| 19  | LQW18AN33NG00 | 20                 | 33nH       | $\pm 2\%$          | 40        | 0.23                               | 420                   |
| 20  | LQW18AN36NG00 | 20                 | 36nH       | $\pm 2\%$          | 40        | 0.26                               | 400                   |
| 21  | LQW18AN39NG00 | 20                 | 39nH       | $\pm 2\%$          | 40        | 0.26                               | 400                   |
| 22  | LQW18AN43NG00 | 20                 | 43nH       | $\pm 2\%$          | 40        | 0.29                               | 380                   |
| 23  | LQW18AN47NG00 | 20                 | 47nH       | $\pm 2\%$          | 38        | 0.29                               | 380                   |
| 24  | LQW18AN51NG00 | 20                 | 51nH       | $\pm 2\%$          | 38        | 0.33                               | 370                   |
| 25  | LQW18AN56NG00 | 20                 | 56nH       | $\pm 2\%$          | 38        | 0.35                               | 360                   |
| 26  | LQW18AN62NG00 | 20                 | 62nH       | $\pm 2\%$          | 38        | 0.51                               | 280                   |
| 27  | LQW18AN68NG00 | 20                 | 68nH       | $\pm 2\%$          | 38        | 0.38                               | 340                   |
| 28  | LQW18AN72NG00 | 20                 | 72nH       | $\pm 2\%$          | 34        | 0.56                               | 270                   |
| 29  | LQW18AN75NG00 | 20                 | 75nH       | $\pm 2\%$          | 34        | 0.56                               | 270                   |
| 30  | LQW18AN82NG00 | 20                 | 82nH       | $\pm 2\%$          | 34        | 0.60                               | 250                   |
| 31  | LQW18AN91NG00 | 20                 | 91nH       | $\pm 2\%$          | 34        | 0.64                               | 230                   |
| 32  | LQW18ANR10G00 | 20                 | 100nH      | $\pm 2\%$          | 34        | 0.68                               | 220                   |
| 33  | LQW18ANR11G00 | 20                 | 110nH      | $\pm 2\%$          | 32        | 1.2                                | 200                   |
| 34  | LQW18ANR12G00 | 20                 | 120nH      | $\pm 2\%$          | 32        | 1.3                                | 180                   |
| 35  | LQW18ANR13G00 | 20                 | 130nH      | $\pm 2\%$          | 32        | 1.4                                | 170                   |
| 36  | LQW18ANR15G00 | 20                 | 150nH      | $\pm 2\%$          | 32        | 1.5                                | 160                   |
| 37  | LQW18ANR16G00 | 20                 | 160nH      | $\pm 2\%$          | 32        | 2.1                                | 150                   |
| 38  | LQW18ANR18G00 | 20                 | 180nH      | $\pm 2\%$          | 25        | 2.2                                | 140                   |
| 39  | LQW18ANR20G00 | 20                 | 200nH      | $\pm 2\%$          | 25        | 2.4                                | 120                   |
| 40  | LQW18ANR22G00 | 20                 | 220nH      | $\pm 2\%$          | 25        | 2.5                                | 120                   |
| 41  | LQW18ANR27G00 | 20                 | 270nH      | $\pm 2\%$          | 30        | 3.4                                | 110                   |
| 42  | LQW18ANR33G00 | 20                 | 330nH      | $\pm 2\%$          | 30        | 5.5                                | 85                    |
| 43  | LQW18ANR39G00 | 20                 | 390nH      | $\pm 2\%$          | 30        | 6.2                                | 80                    |
| 44  | LQW18ANR47G00 | 20                 | 470nH      | $\pm 2\%$          | 30        | 7.0                                | 75                    |
| 45  | LQW18AN3N9C10 | 20                 | 3.9nH      | $\pm 0.2\text{nH}$ | 38        | 0.032                              | 1000                  |
| 46  | LQW18AN6N8C10 | 20                 | 6.8nH      | $\pm 0.2\text{nH}$ | 38        | 0.045                              | 900                   |
| 47  | LQW18AN10NG10 | 20                 | 10nH       | $\pm 2\%$          | 38        | 0.058                              | 800                   |
| 48  | LQW18AN12NG10 | 20                 | 12nH       | $\pm 2\%$          | 38        | 0.071                              | 750                   |
| 49  | LQW18AN18NG10 | 20                 | 18nH       | $\pm 2\%$          | 42        | 0.085                              | 700                   |
| 50  | LQW18AN22NG10 | 20                 | 22nH       | $\pm 2\%$          | 42        | 0.099                              | 640                   |
| 51  | LQW18AN27NG10 | 20                 | 27nH       | $\pm 2\%$          | 42        | 0.116                              | 590                   |

### ●EKLMQ18JA (High-frequency Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |                    | Q<br>min. | DC Resistance<br>( $\Omega$ ) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|--------------------|-----------|------------------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance          |           |                                    |                       |
| 1   | LQW18AN2N2D10 | 20                 | 2.2nH      | $\pm 0.5\text{nH}$ | 25        | 0.018                              | 1400                  |
| 2   | LQW18AN3N6D00 | 20                 | 3.6nH      | $\pm 0.5\text{nH}$ | 25        | 0.059                              | 850                   |
| 3   | LQW18AN3N9D10 | 20                 | 3.9nH      | $\pm 0.5\text{nH}$ | 38        | 0.032                              | 1000                  |
| 4   | LQW18AN4N3D00 | 20                 | 4.3nH      | $\pm 0.5\text{nH}$ | 35        | 0.059                              | 850                   |
| 5   | LQW18AN4N7D00 | 20                 | 4.7nH      | $\pm 0.5\text{nH}$ | 35        | 0.059                              | 850                   |
| 6   | LQW18AN5N6D10 | 20                 | 5.6nH      | $\pm 0.5\text{nH}$ | 38        | 0.045                              | 900                   |
| 7   | LQW18AN6N2D00 | 20                 | 6.2nH      | $\pm 0.5\text{nH}$ | 35        | 0.082                              | 750                   |
| 8   | LQW18AN6N8D10 | 20                 | 6.8nH      | $\pm 0.5\text{nH}$ | 38        | 0.045                              | 900                   |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |              | Q<br>min. | DC Resistance<br>( $\Omega$ ) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|--------------|-----------|------------------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance    |           |                                    |                       |
| 9   | LQW18AN7N5D00 | 20                 | 7.5nH      | $\pm 0.5$ nH | 35        | 0.082                              | 750                   |
| 10  | LQW18AN8N2D10 | 20                 | 8.2nH      | $\pm 0.5$ nH | 38        | 0.058                              | 800                   |
| 11  | LQW18AN8N7D00 | 20                 | 8.7nH      | $\pm 0.5$ nH | 35        | 0.11                               | 650                   |
| 12  | LQW18AN9N1D00 | 20                 | 9.1nH      | $\pm 0.5$ nH | 35        | 0.11                               | 650                   |
| 13  | LQW18AN9N5D00 | 20                 | 9.5nH      | $\pm 0.5$ nH | 35        | 0.11                               | 650                   |
| 14  | LQW18AN10NJ10 | 20                 | 10nH       | $\pm 5\%$    | 38        | 0.058                              | 800                   |
| 15  | LQW18AN11NJ00 | 20                 | 11nH       | $\pm 5\%$    | 35        | 0.11                               | 650                   |
| 16  | LQW18AN12NJ10 | 20                 | 12nH       | $\pm 5\%$    | 38        | 0.071                              | 750                   |
| 17  | LQW18AN13NJ00 | 20                 | 13nH       | $\pm 5\%$    | 35        | 0.13                               | 600                   |
| 18  | LQW18AN15NJ10 | 20                 | 15nH       | $\pm 5\%$    | 42        | 0.085                              | 700                   |
| 19  | LQW18AN16NJ00 | 20                 | 16nH       | $\pm 5\%$    | 40        | 0.16                               | 550                   |
| 20  | LQW18AN18NJ10 | 20                 | 18nH       | $\pm 5\%$    | 42        | 0.085                              | 700                   |
| 21  | LQW18AN20NJ00 | 20                 | 20nH       | $\pm 5\%$    | 40        | 0.16                               | 550                   |
| 22  | LQW18AN22NJ10 | 20                 | 22nH       | $\pm 5\%$    | 42        | 0.099                              | 640                   |
| 23  | LQW18AN24NJ00 | 20                 | 24nH       | $\pm 5\%$    | 40        | 0.21                               | 500                   |
| 24  | LQW18AN27NJ10 | 20                 | 27nH       | $\pm 5\%$    | 42        | 0.116                              | 590                   |
| 25  | LQW18AN30NJ00 | 20                 | 30nH       | $\pm 5\%$    | 40        | 0.23                               | 420                   |
| 26  | LQW18AN33NJ10 | 20                 | 33nH       | $\pm 5\%$    | 42        | 0.132                              | 550                   |
| 27  | LQW18AN36NJ00 | 20                 | 36nH       | $\pm 5\%$    | 40        | 0.26                               | 400                   |
| 28  | LQW18AN39NJ00 | 20                 | 39nH       | $\pm 5\%$    | 40        | 0.26                               | 400                   |
| 29  | LQW18AN43NJ00 | 20                 | 43nH       | $\pm 5\%$    | 40        | 0.29                               | 380                   |
| 30  | LQW18AN47NJ00 | 20                 | 47nH       | $\pm 5\%$    | 38        | 0.29                               | 380                   |
| 31  | LQW18AN51NJ00 | 20                 | 51nH       | $\pm 5\%$    | 38        | 0.33                               | 370                   |
| 32  | LQW18AN56NJ00 | 20                 | 56nH       | $\pm 5\%$    | 38        | 0.35                               | 360                   |
| 33  | LQW18AN62NJ00 | 20                 | 62nH       | $\pm 5\%$    | 38        | 0.51                               | 280                   |
| 34  | LQW18AN68NJ00 | 20                 | 68nH       | $\pm 5\%$    | 38        | 0.38                               | 340                   |
| 35  | LQW18AN72NJ00 | 20                 | 72nH       | $\pm 5\%$    | 34        | 0.56                               | 270                   |
| 36  | LQW18AN75NJ00 | 20                 | 75nH       | $\pm 5\%$    | 34        | 0.56                               | 270                   |
| 37  | LQW18AN82NJ00 | 20                 | 82nH       | $\pm 5\%$    | 34        | 0.60                               | 250                   |
| 38  | LQW18AN91NJ00 | 20                 | 91nH       | $\pm 5\%$    | 34        | 0.64                               | 230                   |
| 39  | LQW18ANR10J00 | 20                 | 100nH      | $\pm 5\%$    | 34        | 0.68                               | 220                   |
| 40  | LQW18ANR11J00 | 20                 | 110nH      | $\pm 5\%$    | 32        | 1.2                                | 200                   |
| 41  | LQW18ANR12J00 | 20                 | 120nH      | $\pm 5\%$    | 32        | 1.3                                | 180                   |
| 42  | LQW18ANR13J00 | 20                 | 130nH      | $\pm 5\%$    | 32        | 1.4                                | 170                   |
| 43  | LQW18ANR15J00 | 20                 | 150nH      | $\pm 5\%$    | 32        | 1.5                                | 160                   |
| 44  | LQW18ANR16J00 | 20                 | 160nH      | $\pm 5\%$    | 32        | 2.1                                | 150                   |
| 45  | LQW18ANR18J00 | 20                 | 180nH      | $\pm 5\%$    | 25        | 2.2                                | 140                   |
| 46  | LQW18ANR20J00 | 20                 | 200nH      | $\pm 5\%$    | 25        | 2.4                                | 120                   |
| 47  | LQW18ANR22J00 | 20                 | 220nH      | $\pm 5\%$    | 25        | 2.5                                | 120                   |
| 48  | LQW18ANR27J00 | 20                 | 270nH      | $\pm 5\%$    | 30        | 3.4                                | 110                   |
| 49  | LQW18ANR33J00 | 20                 | 330nH      | $\pm 5\%$    | 30        | 5.5                                | 85                    |
| 50  | LQW18ANR39J00 | 20                 | 390nH      | $\pm 5\%$    | 30        | 6.2                                | 80                    |
| 51  | LQW18ANR47J00 | 20                 | 470nH      | $\pm 5\%$    | 30        | 7.0                                | 75                    |

### ●EKLMQW2BB (High-frequency Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |              | Q<br>min. | DC Resistance<br>( $\Omega$ ) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|--------------|-----------|------------------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance    |           |                                    |                       |
| 1   | LQW2BHN2N7D13 | 20                 | 2.7nH      | $\pm 0.5$ nH | 20        | 0.02                               | 1900                  |
| 2   | LQW2BHN3N1D13 | 20                 | 3.1nH      | $\pm 0.5$ nH | 20        | 0.02                               | 1800                  |
| 3   | LQW2BHN3N3D13 | 20                 | 3.3nH      | $\pm 0.5$ nH | 20        | 0.02                               | 1700                  |
| 4   | LQW2BHN5N6D13 | 20                 | 5.6nH      | $\pm 0.5$ nH | 35        | 0.02                               | 1500                  |
| 5   | LQW2BHN6N8D13 | 20                 | 6.8nH      | $\pm 0.5$ nH | 35        | 0.02                               | 1400                  |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 6   | LQW2BHN8N6D13 | 20                 | 8.6nH      | ±0.5nH    | 35        | 0.03                      | 1300                  |
| 7   | LQW2BHN10NJ13 | 20                 | 10nH       | ±5%       | 35        | 0.03                      | 1320                  |
| 8   | LQW2BHN12NK13 | 20                 | 12nH       | ±10%      | 40        | 0.04                      | 1100                  |
| 9   | LQW2BHN15NK13 | 20                 | 15nH       | ±10%      | 40        | 0.04                      | 1000                  |
| 10  | LQW2BHN18NK13 | 20                 | 18.8nH     | ±10%      | 40        | 0.05                      | 1000                  |
| 11  | LQW2BHN21NK13 | 20                 | 21nH       | ±10%      | 40        | 0.05                      | 950                   |
| 12  | LQW2BHN27NK13 | 20                 | 27nH       | ±10%      | 40        | 0.06                      | 900                   |
| 13  | LQW2BHN33NJ03 | 20                 | 33nH       | ±5%       | 40        | 0.15                      | 570                   |
| 14  | LQW2BHN39NJ03 | 20                 | 39nH       | ±5%       | 40        | 0.09                      | 730                   |
| 15  | LQW2BHN47NJ03 | 20                 | 47nH       | ±5%       | 40        | 0.23                      | 450                   |
| 16  | LQW2BHN56NJ03 | 20                 | 56nH       | ±5%       | 40        | 0.26                      | 430                   |
| 17  | LQW2BHN68NJ03 | 20                 | 68nH       | ±5%       | 40        | 0.23                      | 460                   |
| 18  | LQW2BHN82NJ03 | 20                 | 82nH       | ±5%       | 40        | 0.42                      | 320                   |
| 19  | LQW2BHNR10J03 | 20                 | 100nH      | ±5%       | 40        | 0.38                      | 350                   |
| 20  | LQW2BHNR12J03 | 20                 | 120nH      | ±5%       | 40        | 0.40                      | 320                   |
| 21  | LQW2BHNR15J03 | 20                 | 150nH      | ±5%       | 30        | 0.47                      | 390                   |
| 22  | LQW2BHNR18J03 | 20                 | 180nH      | ±5%       | 35        | 0.71                      | 250                   |
| 23  | LQW2BHNR22J03 | 20                 | 220nH      | ±5%       | 35        | 0.70                      | 240                   |
| 24  | LQW2BHNR27K03 | 20                 | 270nH      | ±10%      | 15        | 2.00                      | 190                   |
| 25  | LQW2BHNR33K03 | 20                 | 330nH      | ±10%      | 15        | 2.20                      | 180                   |
| 26  | LQW2BHNR39K03 | 20                 | 390nH      | ±10%      | 15        | 2.50                      | 170                   |
| 27  | LQW2BHNR47K03 | 20                 | 470nH      | ±10%      | 15        | 2.80                      | 160                   |

### ●EKLQM18A (for General Use Monolithic Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 1   | LQM18NN47NM00 | 20                 | 47nH       | ±20%      | 10        | 0.30                      | 50                    |
| 2   | LQM18NN68NM00 | 20                 | 68nH       | ±20%      | 10        | 0.30                      | 50                    |
| 3   | LQM18NN82NM00 | 20                 | 82nH       | ±20%      | 10        | 0.30                      | 50                    |
| 4   | LQM18NNR10K00 | 20                 | 100nH      | ±10%      | 15        | 0.50                      | 50                    |
| 5   | LQM18NNR12K00 | 20                 | 120nH      | ±10%      | 15        | 0.50                      | 50                    |
| 6   | LQM18NNR15K00 | 20                 | 150nH      | ±10%      | 15        | 0.60                      | 50                    |
| 7   | LQM18NNR18K00 | 20                 | 180nH      | ±10%      | 15        | 0.60                      | 50                    |
| 8   | LQM18NNR22K00 | 20                 | 220nH      | ±10%      | 15        | 0.80                      | 50                    |
| 9   | LQM18NNR27K00 | 20                 | 270nH      | ±10%      | 15        | 0.80                      | 50                    |
| 10  | LQM18NNR33K00 | 20                 | 330nH      | ±10%      | 15        | 0.85                      | 35                    |
| 11  | LQM18NNR39K00 | 20                 | 390nH      | ±10%      | 15        | 1.00                      | 35                    |
| 12  | LQM18NNR47K00 | 20                 | 470nH      | ±10%      | 15        | 1.35                      | 35                    |
| 13  | LQM18NNR56K00 | 20                 | 560nH      | ±10%      | 15        | 1.55                      | 35                    |
| 14  | LQM18NNR68K00 | 20                 | 680nH      | ±10%      | 15        | 1.70                      | 35                    |
| 15  | LQM18NNR82K00 | 20                 | 820nH      | ±10%      | 15        | 2.10                      | 35                    |
| 16  | LQM18NN1R0K00 | 20                 | 1000nH     | ±10%      | 35        | 0.60                      | 25                    |
| 17  | LQM18NN1R2K00 | 20                 | 1200nH     | ±10%      | 35        | 0.80                      | 25                    |
| 18  | LQM18NN1R5K00 | 20                 | 1500nH     | ±10%      | 35        | 0.80                      | 25                    |
| 19  | LQM18NN1R8K00 | 20                 | 1800nH     | ±10%      | 35        | 0.95                      | 25                    |
| 20  | LQM18NN2R2K00 | 20                 | 2200nH     | ±10%      | 35        | 1.15                      | 15                    |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

### ●EKLMM21NA (for General Use Monolithic Type)

| No. | Part Number   | Quantity (pcs.) | Inductance |           | Q min. | DC Resistance (Ω) max. | Rated Current (mA) |
|-----|---------------|-----------------|------------|-----------|--------|------------------------|--------------------|
|     |               |                 | Nominal    | Tolerance |        |                        |                    |
| 1   | LQM21NNR10K10 | 20              | 0.1μH      | ±10%      | 20     | 0.26                   | 250                |
| 2   | LQM21NNR12K10 | 20              | 0.12μH     | ±10%      | 20     | 0.29                   | 250                |
| 3   | LQM21NNR15K10 | 20              | 0.15μH     | ±10%      | 20     | 0.32                   | 250                |
| 4   | LQM21NNR18K10 | 20              | 0.18μH     | ±10%      | 20     | 0.35                   | 250                |
| 5   | LQM21NNR22K10 | 20              | 0.22μH     | ±10%      | 20     | 0.38                   | 250                |
| 6   | LQM21NNR27K10 | 20              | 0.27μH     | ±10%      | 20     | 0.42                   | 250                |
| 7   | LQM21NNR33K10 | 20              | 0.33μH     | ±10%      | 20     | 0.48                   | 250                |
| 8   | LQM21NNR39K10 | 20              | 0.39μH     | ±10%      | 25     | 0.53                   | 200                |
| 9   | LQM21NNR47K10 | 20              | 0.47μH     | ±10%      | 25     | 0.57                   | 200                |
| 10  | LQM21NNR56K10 | 20              | 0.56μH     | ±10%      | 25     | 0.63                   | 150                |
| 11  | LQM21NNR68K10 | 20              | 0.68μH     | ±10%      | 25     | 0.72                   | 150                |
| 12  | LQM21NNR82K10 | 20              | 0.82μH     | ±10%      | 25     | 0.81                   | 150                |
| 13  | LQM21NN1R0K10 | 20              | 1.0μH      | ±10%      | 45     | 0.40                   | 50                 |
| 14  | LQM21NN1R2K10 | 20              | 1.2μH      | ±10%      | 45     | 0.47                   | 50                 |
| 15  | LQM21NN1R5K10 | 20              | 1.5μH      | ±10%      | 45     | 0.50                   | 50                 |
| 16  | LQM21NN1R8K10 | 20              | 1.8μH      | ±10%      | 45     | 0.57                   | 50                 |
| 17  | LQM21NN2R2K10 | 20              | 2.2μH      | ±10%      | 45     | 0.63                   | 30                 |
| 18  | LQM21NN2R7K10 | 20              | 2.7μH      | ±10%      | 45     | 0.69                   | 30                 |
| 19  | LQM21NN3R3K10 | 20              | 3.3μH      | ±10%      | 45     | 0.80                   | 30                 |
| 20  | LQM21NN3R9K10 | 20              | 3.9μH      | ±10%      | 45     | 0.89                   | 30                 |
| 21  | LQM21NN4R7K10 | 20              | 4.7μH      | ±10%      | 45     | 1.00                   | 30                 |

### ●EKLMM21FA (for Choke Monolithic Type)

| No. | Part Number   | Quantity (pcs.) | Inductance |           | DC Resistance (Ω) | Rated Current (mA) |
|-----|---------------|-----------------|------------|-----------|-------------------|--------------------|
|     |               |                 | Nominal    | Tolerance |                   |                    |
| 1   | LQM21FN1R0N00 | 20              | 1.0μH      | ±30%      | 0.20±30%          | 220                |
| 2   | LQM21FN2R2N00 | 20              | 2.2μH      | ±30%      | 0.28±30%          | 150                |
| 3   | LQM21FN4R7N00 | 20              | 4.7μH      | ±30%      | 0.30±30%          | 80                 |
| 4   | LQM21FN100N00 | 20              | 10μH       | ±30%      | 0.50±30%          | 60                 |
| 5   | LQM21FN220N00 | 20              | 22μH       | ±30%      | 0.35±30%          | 13                 |
| 6   | LQM21FN470N00 | 20              | 47μH       | ±30%      | 0.60±30%          | 7                  |
| 7   | LQM31FN100M00 | 20              | 10μH       | ±20%      | 0.5 max.          | 70                 |

### ●EKLMMH32MB (for General Use Winding Type)

| No. | Part Number   | Quantity (pcs.) | Inductance |           | DC Resistance (Ω) max. | Rated Current (mA) |
|-----|---------------|-----------------|------------|-----------|------------------------|--------------------|
|     |               |                 | Nominal    | Tolerance |                        |                    |
| 1   | LQH32MN1R0M23 | 20              | 1.0μH      | ±20%      | 0.50                   | 445                |
| 2   | LQH32MN1R2M23 | 20              | 1.2μH      | ±20%      | 0.60                   | 425                |
| 3   | LQH32MN1R5K23 | 20              | 1.5μH      | ±10%      | 0.60                   | 400                |
| 4   | LQH32MN1R8K23 | 20              | 1.8μH      | ±10%      | 0.70                   | 390                |
| 5   | LQH32MN2R2K23 | 20              | 2.2μH      | ±10%      | 0.80                   | 370                |
| 6   | LQH32MN2R7K23 | 20              | 2.7μH      | ±10%      | 0.90                   | 320                |
| 7   | LQH32MN3R3K23 | 20              | 3.3μH      | ±10%      | 1.00                   | 300                |
| 8   | LQH32MN3R9K23 | 20              | 3.9μH      | ±10%      | 1.10                   | 290                |
| 9   | LQH32MN4R7K23 | 20              | 4.7μH      | ±10%      | 1.20                   | 270                |
| 10  | LQH32MN5R6K23 | 20              | 5.6μH      | ±10%      | 1.30                   | 250                |
| 11  | LQH32MN6R8K23 | 20              | 6.8μH      | ±10%      | 1.50                   | 240                |
| 12  | LQH32MN8R2K23 | 20              | 8.2μH      | ±10%      | 1.60                   | 225                |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                           |                       |
| 13  | LQH32MN100K23 | 20                 | 10μH       | ±10%      | 1.8                       | 190                   |
| 14  | LQH32MN120K23 | 20                 | 12μH       | ±10%      | 2.0                       | 180                   |
| 15  | LQH32MN150K23 | 20                 | 15μH       | ±10%      | 2.2                       | 170                   |
| 16  | LQH32MN180K23 | 20                 | 18μH       | ±10%      | 2.5                       | 165                   |
| 17  | LQH32MN220K23 | 20                 | 22μH       | ±10%      | 2.8                       | 150                   |
| 18  | LQH32MN270K23 | 20                 | 27μH       | ±10%      | 3.1                       | 125                   |
| 19  | LQH32MN330K23 | 20                 | 33μH       | ±10%      | 3.5                       | 115                   |
| 20  | LQH32MN390K23 | 20                 | 39μH       | ±10%      | 3.9                       | 110                   |
| 21  | LQH32MN470K23 | 20                 | 47μH       | ±10%      | 4.3                       | 100                   |
| 22  | LQH32MN560K23 | 20                 | 56μH       | ±10%      | 4.9                       | 85                    |
| 23  | LQH32MN680K23 | 20                 | 68μH       | ±10%      | 5.5                       | 80                    |
| 24  | LQH32MN820K23 | 20                 | 82μH       | ±10%      | 6.2                       | 70                    |
| 25  | LQH32MN101K23 | 20                 | 100μH      | ±10%      | 7.0                       | 80                    |
| 26  | LQH32MN121K23 | 20                 | 120μH      | ±10%      | 8.0                       | 75                    |
| 27  | LQH32MN151K23 | 20                 | 150μH      | ±10%      | 9.3                       | 70                    |
| 28  | LQH32MN181K23 | 20                 | 180μH      | ±10%      | 10.2                      | 65                    |
| 29  | LQH32MN221K23 | 20                 | 220μH      | ±10%      | 11.8                      | 65                    |
| 30  | LQH32MN271K23 | 20                 | 270μH      | ±10%      | 12.5                      | 65                    |
| 31  | LQH32MN331K23 | 20                 | 330μH      | ±10%      | 13.0                      | 65                    |
| 32  | LQH32MN391K23 | 20                 | 390μH      | ±10%      | 22.0                      | 50                    |
| 33  | LQH32MN471K23 | 20                 | 470μH      | ±10%      | 25.0                      | 45                    |
| 34  | LQH32MN561K23 | 20                 | 560μH      | ±10%      | 28.0                      | 40                    |

### ●EKL43MB (for General Use Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                           |                       |
| 1   | LQH43MN1R0M03 | 10                 | 1.0μH      | ±20%      | 0.20                      | 500                   |
| 2   | LQH43MN1R2M03 | 10                 | 1.2μH      | ±20%      | 0.20                      | 500                   |
| 3   | LQH43MN1R5M03 | 10                 | 1.5μH      | ±20%      | 0.30                      | 500                   |
| 4   | LQH43MN1R8M03 | 10                 | 1.8μH      | ±20%      | 0.30                      | 500                   |
| 5   | LQH43MN2R2M03 | 10                 | 2.2μH      | ±20%      | 0.30                      | 500                   |
| 6   | LQH43MN2R7M03 | 10                 | 2.7μH      | ±20%      | 0.32                      | 500                   |
| 7   | LQH43MN3R3M03 | 10                 | 3.3μH      | ±20%      | 0.35                      | 500                   |
| 8   | LQH43MN3R9M03 | 10                 | 3.9μH      | ±20%      | 0.38                      | 500                   |
| 9   | LQH43MN4R7K03 | 10                 | 4.7μH      | ±10%      | 0.40                      | 500                   |
| 10  | LQH43MN5R6K03 | 10                 | 5.6μH      | ±10%      | 0.47                      | 500                   |
| 11  | LQH43MN6R8K03 | 10                 | 6.8μH      | ±10%      | 0.50                      | 450                   |
| 12  | LQH43MN8R2K03 | 10                 | 8.2μH      | ±10%      | 0.56                      | 450                   |
| 13  | LQH43MN100K03 | 10                 | 10μH       | ±10%      | 0.56                      | 400                   |
| 14  | LQH43MN120K03 | 10                 | 12μH       | ±10%      | 0.62                      | 380                   |
| 15  | LQH43MN150K03 | 10                 | 15μH       | ±10%      | 0.73                      | 360                   |
| 16  | LQH43MN180K03 | 10                 | 18μH       | ±10%      | 0.82                      | 340                   |
| 17  | LQH43MN220K03 | 10                 | 22μH       | ±10%      | 0.94                      | 320                   |
| 18  | LQH43MN270K03 | 10                 | 27μH       | ±10%      | 1.10                      | 300                   |
| 19  | LQH43MN330K03 | 10                 | 33μH       | ±10%      | 1.20                      | 270                   |
| 20  | LQH43MN390K03 | 10                 | 39μH       | ±10%      | 1.40                      | 240                   |
| 21  | LQH43MN470K03 | 10                 | 47μH       | ±10%      | 1.50                      | 220                   |
| 22  | LQH43MN560K03 | 10                 | 56μH       | ±10%      | 1.7                       | 200                   |
| 23  | LQH43MN680K03 | 10                 | 68μH       | ±10%      | 1.9                       | 180                   |
| 24  | LQH43MN820K03 | 10                 | 82μH       | ±10%      | 2.2                       | 170                   |
| 25  | LQH43MN101K03 | 10                 | 100μH      | ±10%      | 2.5                       | 160                   |
| 26  | LQH43MN121K03 | 10                 | 120μH      | ±10%      | 3.0                       | 150                   |

Continued on the following page. ↗

## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                           |                       |
| 27  | LQH43MN151K03 | 10                 | 150μH      | ±10%      | 3.7                       | 130                   |
| 28  | LQH43MN181K03 | 10                 | 180μH      | ±10%      | 4.5                       | 120                   |
| 29  | LQH43MN221K03 | 10                 | 220μH      | ±10%      | 5.4                       | 110                   |
| 30  | LQH43MN271K03 | 10                 | 270μH      | ±10%      | 6.8                       | 100                   |
| 31  | LQH43MN331K03 | 10                 | 330μH      | ±10%      | 8.2                       | 95                    |
| 32  | LQH43MN391K03 | 10                 | 390μH      | ±10%      | 9.7                       | 90                    |
| 33  | LQH43MN471K03 | 10                 | 470μH      | ±10%      | 11.8                      | 80                    |
| 34  | LQH43MN561K03 | 10                 | 560μH      | ±10%      | 14.5                      | 70                    |
| 35  | LQH43MN681K03 | 10                 | 680μH      | ±10%      | 17.0                      | 65                    |
| 36  | LQH43MN821K03 | 10                 | 820μH      | ±10%      | 20.5                      | 60                    |
| 37  | LQH43MN102K03 | 10                 | 1000μH     | ±10%      | 25.0                      | 50                    |
| 38  | LQH43MN122K03 | 10                 | 1200μH     | ±10%      | 30.0                      | 45                    |
| 39  | LQH43MN152K03 | 10                 | 1500μH     | ±10%      | 37.0                      | 40                    |
| 40  | LQH43NN182K03 | 10                 | 1800μH     | ±10%      | 45.0                      | 35                    |
| 41  | LQH43NN222K03 | 10                 | 2200μH     | ±10%      | 50.0                      | 30                    |

### ●EKL32CB (for Choke Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|----------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                      |                       |
| 1   | LQH32CNR15M33 | 20                 | 0.15μH     | ±20%      | 0.028±30%            | 1450                  |
| 2   | LQH32CNR27M33 | 20                 | 0.27μH     | ±20%      | 0.034±30%            | 1250                  |
| 3   | LQH32CNR47M33 | 20                 | 0.47μH     | ±20%      | 0.042±30%            | 1100                  |
| 4   | LQH32CN1R0M33 | 20                 | 1.0μH      | ±20%      | 0.06±30%             | 1000                  |
| 5   | LQH32CN2R2M33 | 20                 | 2.2μH      | ±20%      | 0.097±30%            | 790                   |
| 6   | LQH32CN4R7M33 | 20                 | 4.7μH      | ±20%      | 0.15±30%             | 650                   |
| 7   | LQH32CN100K33 | 20                 | 10μH       | ±10%      | 0.3±30%              | 450                   |
| 8   | LQH32CN1R0M23 | 20                 | 1.0μH      | ±20%      | 0.09±30%             | 800                   |
| 9   | LQH32CN2R2M23 | 20                 | 2.2μH      | ±20%      | 0.13±30%             | 600                   |
| 10  | LQH32CN4R7M23 | 20                 | 4.7μH      | ±20%      | 0.2±30%              | 450                   |
| 11  | LQH32CN100K23 | 20                 | 10μH       | ±10%      | 0.44±30%             | 300                   |
| 12  | LQH32CN220K23 | 20                 | 22μH       | ±10%      | 0.71±30%             | 250                   |
| 13  | LQH32CN470K23 | 20                 | 47μH       | ±10%      | 1.3±30%              | 170                   |
| 14  | LQH32CN101K23 | 20                 | 100μH      | ±10%      | 3.5±30%              | 100                   |
| 15  | LQH32CN221K23 | 20                 | 220μH      | ±10%      | 8.4±30%              | 70                    |
| 16  | LQH32CN331K23 | 20                 | 330μH      | ±10%      | 10±30%               | 60                    |
| 17  | LQH32CN391K23 | 20                 | 390μH      | ±10%      | 17±30%               | 60                    |
| 18  | LQH32CN471K23 | 20                 | 470μH      | ±10%      | 19±30%               | 60                    |
| 19  | LQH32CN561K23 | 20                 | 560μH      | ±10%      | 22±30%               | 60                    |
| 20  | LQH32CN1R0M53 | 20                 | 1.0μH      | ±20%      | 0.06±30%             | 1000                  |
| 21  | LQH32CN2R2M53 | 20                 | 2.2μH      | ±20%      | 0.097±30%            | 790                   |
| 22  | LQH32CN4R7M53 | 20                 | 4.7μH      | ±20%      | 0.15±30%             | 650                   |
| 23  | LQH32CN100K53 | 20                 | 10μH       | ±10%      | 0.3±30%              | 450                   |
| 24  | LQH32CN150K53 | 20                 | 15μH       | ±10%      | 0.58±30%             | 300                   |
| 25  | LQH32CN220K53 | 20                 | 22μH       | ±10%      | 0.71±30%             | 250                   |
| 26  | LQH32CN330K53 | 20                 | 33μH       | ±10%      | 1.1±30%              | 200                   |
| 27  | LQH32CN470K53 | 20                 | 47μH       | ±10%      | 1.3±30%              | 170                   |
| 28  | LQH32CN680K53 | 20                 | 68μH       | ±10%      | 2.2±30%              | 130                   |
| 29  | LQH32CN101K53 | 20                 | 100μH      | ±10%      | 3.5±30%              | 100                   |

Continued on the following page. ➤

## Design Kits

☐ Continued from the preceding page.

### ●EKLMH43CB (for Choke Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|----------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                      |                       |
| 1   | LQH43CN1R0M03 | 10                 | 1.0μH      | ±20%      | 0.08 max             | 1080                  |
| 2   | LQH43CN1R5M03 | 10                 | 1.5μH      | ±20%      | 0.09 max             | 1000                  |
| 3   | LQH43CN2R2M03 | 10                 | 2.2μH      | ±20%      | 0.11 max             | 900                   |
| 4   | LQH43CN3R3M03 | 10                 | 3.3μH      | ±20%      | 0.13 max             | 800                   |
| 5   | LQH43CN4R7M03 | 10                 | 4.7μH      | ±20%      | 0.15 max             | 750                   |
| 6   | LQH43CN6R8M03 | 10                 | 6.8μH      | ±20%      | 0.20 max             | 720                   |
| 7   | LQH43CN100K03 | 10                 | 10μH       | ±10%      | 0.24 max             | 650                   |
| 8   | LQH43CN150K03 | 10                 | 15μH       | ±10%      | 0.32 max             | 570                   |
| 9   | LQH43CN220K03 | 10                 | 22μH       | ±10%      | 0.60 max             | 420                   |
| 10  | LQH43CN330K03 | 10                 | 33μH       | ±10%      | 1.00 max             | 310                   |
| 11  | LQH43CN470K03 | 10                 | 47μH       | ±10%      | 1.10 max             | 280                   |
| 12  | LQH43CN680K03 | 10                 | 68μH       | ±10%      | 1.70 max             | 220                   |
| 13  | LQH43CN101K03 | 10                 | 100μH      | ±10%      | 2.20 max             | 190                   |
| 14  | LQH43CN151K03 | 10                 | 150μH      | ±10%      | 3.50 max             | 130                   |
| 15  | LQH43CN221K03 | 10                 | 220μH      | ±10%      | 4.00 max             | 110                   |
| 16  | LQH43CN331K03 | 10                 | 330μH      | ±10%      | 6.80 max             | 100                   |
| 17  | LQH43CN471K03 | 10                 | 470μH      | ±10%      | 8.50 max             | 90                    |
| 18  | LQH3KSN561N23 | 10                 | 560μH      | ±30%      | 7.8±30%              | 50                    |
| 19  | LQH3KSN681N23 | 10                 | 680μH      | ±30%      | 9.1±30%              | 40                    |
| 20  | LQH3KSN102N23 | 10                 | 1000μH     | ±30%      | 11±30%               | 30                    |
| 21  | LQH3KSN152N23 | 10                 | 1500μH     | ±30%      | 23±30%               | 25                    |
| 22  | LQH3KSN222N23 | 10                 | 2200μH     | ±30%      | 28±30%               | 20                    |

# Information

## 1. Land Area and Q-F Characteristics



## 2. Coupling coefficient versus Coil-to-coil Spacing





# Murata Chip S-Parameter & Impedance Library

## Download Service

The program enables you to calculate, view and print graphs of impedance and S parameter of chip capacitors or chip inductors.

S parameter data in Touchstone format can also be copied.

Main Window



- Easy operation due to using Windows interface.
- Fast calculation of data and graph for S parameter and impedance of chip capacitors or chip inductors.
- S parameter is saved in your personal computer and utilized for circuit simulation.

This software uses the Global Part Numbers that have been adopted since June 2001. The Previous Part Numbers can be used by selecting "view" menu. Please check carefully when referring to the contents.

This simulator can be downloaded from Murata web site.

<http://www.murata.com/designlib/mcsil.html>

⚠Note:

1. Export Control  
    <For customers outside Japan>  
    Murata products should not be used or sold for use in the development, production, stockpiling or utilization of any conventional weapons or mass-destructive weapons (nuclear weapons, chemical or biological weapons, or missiles), or any other weapons.  
    <For customers in Japan>  
    For products which are controlled items subject to the "Foreign Exchange and Foreign Trade Law" of Japan, the export license specified by the law is required for export.
2. Please contact our sales representatives or product engineers before using the products in this catalog for the applications listed below, which require especially high reliability for the prevention of defects which might directly damage to a third party's life, body or property, or when one of our products is intended for use in applications other than those specified in this catalog.
  - ① Aircraft equipment
  - ② Aerospace equipment
  - ③ Undersea equipment
  - ④ Power plant equipment
  - ⑤ Medical equipment
  - ⑥ Transportation equipment (vehicles, trains, ships, etc.)
  - ⑦ Traffic signal equipment
  - ⑧ Disaster prevention / crime prevention equipment
  - ⑨ Data-processing equipment
  - ⑩ Application of similar complexity and/or reliability requirements to the applications listed in the above
3. Product specifications in this catalog are as of January 2005. They are subject to change or our products in it may be discontinued without advance notice. Please check with our sales representatives or product engineers before ordering. If there are any questions, please contact our sales representatives or product engineers.
4. Please read rating and ⚠CAUTION (for storage, operating, rating, soldering, mounting and handling) in this catalog to prevent smoking and/or burning, etc.
5. This catalog has only typical specifications because there is no space for detailed specifications. Therefore, please approve our product specifications or transact the approval sheet for product specifications before ordering.
6. Please note that unless otherwise specified, we shall assume no responsibility whatsoever for any conflict or dispute that may occur in connection with the effect of our and/or a third party's intellectual property rights and other related rights in consideration of your use of our products and/or information described or contained in our catalogs. In this connection, no representation shall be made to the effect that any third parties are authorized to use the rights mentioned above under licenses without our consent.
7. No ozone depleting substances (ODS) under the Montreal Protocol are used in our manufacturing process.