

# Chip Coils

## CHIP COILS



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## ● Part Numbering (The structure of the "Global Part Numbers" that have been adopted since June 2001 and the meaning of each code are described herein.) (If you have any questions about details, please inquire at your usual Murata sales office or distributor.)

### Chip Coils (SMD)

(Global 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    | Winding Type (Ferrite Core)     |
| M    | Monolithic (Ferrite Core)       |
| P    | Film Type                       |
| W    | Winding 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 |
| 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<br>(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 |

#### 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 | 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           |

\*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/LQP (Except LQP03T) |
| 3    | LF Solder | LQW□□H/LQH                 |

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(Global Part Number) 

|    |   |    |   |   |     |   |   |   |   |
|----|---|----|---|---|-----|---|---|---|---|
| LQ | H | 32 | M | N | 331 | K | 2 | 3 | L |
|----|---|----|---|---|-----|---|---|---|---|

|   |   |   |   |   |   |   |   |   |    |
|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|----|

⑩Packaging

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

\*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                |        | 120nH |         |     |        |    |     |
|                            | 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      | Winding (air core)               | 1.0<br>■ ±0.5  | 0402     | 1.5nH                |        | 82nH  |         |     |        |    |     |
|                            | 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      | Winding (ferrite core)           | 3.2<br>■ ±1.6  | 1206     |                      | 54nH   |       | 880nH   |     |        |    |     |
| General frequency range    | LQH31M      | Winding (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  |     |        |    |     |
|                            | LQM18N      | Magnetically shielded multilayer | 1.6<br>■ ±0.8  | 0603     |                      | 47nH   |       | 2200nH  |     |        |    |     |
|                            | LQM21N      |                                  | 2.0<br>■ ±1.25 | 0805     |                      | 0.1μH  |       | 4.7μH   |     |        |    |     |
| Chokes                     | LQH31C      | Winding                          | 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   |     |        |    |     |
|                            | 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    |     |        |    |     |
|                            | LQH55D      | Winding                          | 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

**muRata**

## High Frequency Monolithic Type LQG15H/LQG18H Series

### LQG15H Series

The LQG15H 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.

#### ■ 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 (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQG15HN1N0S02 | 1.0 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN1N1S02 | 1.1 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN1N2S02 | 1.2 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN1N3S02 | 1.3 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN1N5S02 | 1.5 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN1N6S02 | 1.6 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN1N8S02 | 1.8 ±0.3nH      | 100                  | 300                | 0.10 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN2N0S02 | 2.0 ±0.3nH      | 100                  | 300                | 0.12 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN2N2S02 | 2.2 ±0.3nH      | 100                  | 300                | 0.15 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN2N4S02 | 2.4 ±0.3nH      | 100                  | 300                | 0.16 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN2N7S02 | 2.7 ±0.3nH      | 100                  | 300                | 0.17 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN3N0S02 | 3.0 ±0.3nH      | 100                  | 300                | 0.18 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN3N3S02 | 3.3 ±0.3nH      | 100                  | 300                | 0.19 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN3N6S02 | 3.6 ±0.3nH      | 100                  | 300                | 0.19 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN3N9S02 | 3.9 ±0.3nH      | 100                  | 300                | 0.19 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN4N3S02 | 4.3 ±0.3nH      | 100                  | 300                | 0.21 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN4N7S02 | 4.7 ±0.3nH      | 100                  | 300                | 0.23 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN5N1S02 | 5.1 ±0.3nH      | 100                  | 300                | 0.24 max.           | 8        | 100                  | 6000 min.                      | 0402 |
| LQG15HN5N6S02 | 5.6 ±0.3nH      | 100                  | 300                | 0.26 max.           | 8        | 100                  | 5300 min.                      | 0402 |
| LQG15HN6N2S02 | 6.2 ±0.3nH      | 100                  | 300                | 0.27 max.           | 8        | 100                  | 4300 min.                      | 0402 |
| LQG15HN6N8J02 | 6.8 ±5%         | 100                  | 300                | 0.29 max.           | 8        | 100                  | 4200 min.                      | 0402 |

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

Operating Temp. Range : -40°C to 85°C

## ■ Q-Frequency Characteristics



## ■ Inductance-Frequency Characteristics



## LQG18H Series

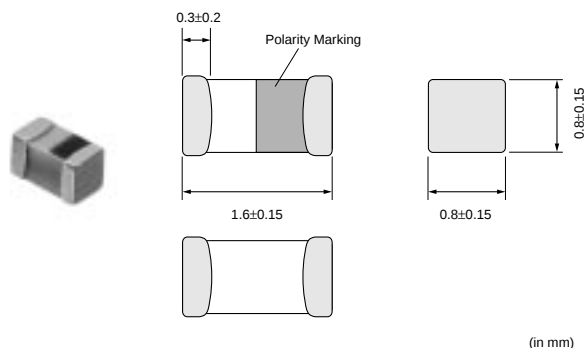
The LQG18H series is designed to realize stable characteristics in high frequency range applying integrated multilayer process.

### ■ Features

1. High-Q, stable inductance in high frequency is available due to the original structure that minimizes stray capacitance. It is suitable for the high frequency circuits of small, handy equipment, especially for card size 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 (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQG18HN1N2S00 | 1.2 ±0.3nH      | 100                  | 300                | 0.10 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN1N5S00 | 1.5 ±0.3nH      | 100                  | 300                | 0.10 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN1N8S00 | 1.8 ±0.3nH      | 100                  | 300                | 0.10 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN2N2S00 | 2.2 ±0.3nH      | 100                  | 300                | 0.10 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN2N7S00 | 2.7 ±0.3nH      | 100                  | 300                | 0.15 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN3N3S00 | 3.3 ±0.3nH      | 100                  | 300                | 0.15 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN3N9S00 | 3.9 ±0.3nH      | 100                  | 300                | 0.15 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN4N7S00 | 4.7 ±0.3nH      | 100                  | 300                | 0.20 max.           | 12       | 100                  | 6000 min.                      | 0603 |
| LQG18HN5N6S00 | 5.6 ±0.3nH      | 100                  | 300                | 0.20 max.           | 12       | 100                  | 5000 min.                      | 0603 |
| LQG18HN6N8J00 | 6.8 ±5%         | 100                  | 300                | 0.25 max.           | 12       | 100                  | 5000 min.                      | 0603 |
| LQG18HN8N2J00 | 8.2 ±5%         | 100                  | 300                | 0.25 max.           | 12       | 100                  | 4000 min.                      | 0603 |
| LQG18HN10NJ00 | 10 ±5%          | 100                  | 300                | 0.30 max.           | 12       | 100                  | 3500 min.                      | 0603 |
| LQG18HN12NJ00 | 12 ±5%          | 100                  | 300                | 0.35 max.           | 12       | 100                  | 3000 min.                      | 0603 |
| LQG18HN15NJ00 | 15 ±5%          | 100                  | 300                | 0.40 max.           | 12       | 100                  | 2800 min.                      | 0603 |
| LQG18HN18NJ00 | 18 ±5%          | 100                  | 300                | 0.45 max.           | 12       | 100                  | 2600 min.                      | 0603 |
| LQG18HN22NJ00 | 22 ±5%          | 100                  | 300                | 0.50 max.           | 12       | 100                  | 2300 min.                      | 0603 |
| LQG18HN27NJ00 | 27 ±5%          | 100                  | 300                | 0.55 max.           | 12       | 100                  | 2000 min.                      | 0603 |
| LQG18HN33NJ00 | 33 ±5%          | 100                  | 300                | 0.60 max.           | 12       | 100                  | 1700 min.                      | 0603 |
| LQG18HN39NJ00 | 39 ±5%          | 100                  | 300                | 0.65 max.           | 12       | 100                  | 1500 min.                      | 0603 |
| LQG18HN47NJ00 | 47 ±5%          | 100                  | 300                | 0.70 max.           | 12       | 100                  | 1200 min.                      | 0603 |
| LQG18HN56NJ00 | 56 ±5%          | 100                  | 300                | 0.75 max.           | 12       | 100                  | 1100 min.                      | 0603 |
| LQG18HN68NJ00 | 68 ±5%          | 100                  | 300                | 0.80 max.           | 12       | 100                  | 1000 min.                      | 0603 |
| LQG18HN82NJ00 | 82 ±5%          | 100                  | 300                | 0.85 max.           | 12       | 100                  | 900 min.                       | 0603 |
| LQG18HNR10J00 | 100 ±5%         | 100                  | 300                | 0.90 max.           | 12       | 100                  | 800 min.                       | 0603 |

Operating Temp. Range : -40°C to +85°C

## ■ Q-Frequency Characteristics



## ■ Inductance-Frequency Characteristics



# Chip Coils

**muRata**

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

2

### LQP03T Series

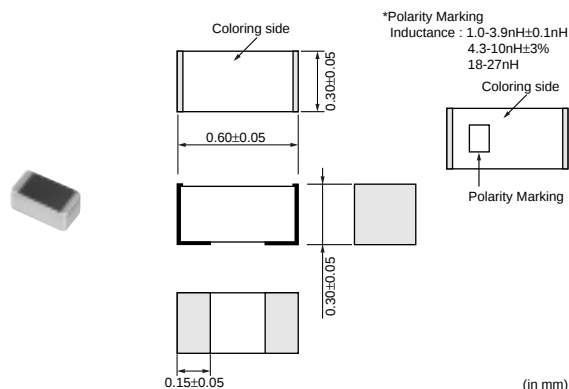
LQP03T series using Murata's original thin film technology contributes further to miniaturizing high performance equipment because the size is small and the Q-value is high.

#### ■ 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  $\pm 0.1$ nH
  - 4.3 to 10nH  $\pm 3\%$
4. E12 step
  - 0.6 to 3.9nH  $\pm 0.2$ nH
  - 4.7 to 15nH  $\pm 5\%$
  - 18 to 27nH  $\pm 3\%$ ,  $\pm 5\%$
5. Lead is not contained in the products.

#### ■ 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 (MHz) | EIA  |
|---------------|------------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQP03TN0N6B00 | 0.6 $\pm 0.1$ nH | 500                  | 420                | 0.08 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN0N6C00 | 0.6 $\pm 0.2$ nH | 500                  | 420                | 0.08 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN0N7B00 | 0.7 $\pm 0.1$ nH | 500                  | 410                | 0.09 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN0N8B00 | 0.8 $\pm 0.1$ nH | 500                  | 410                | 0.09 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN0N8C00 | 0.8 $\pm 0.2$ nH | 500                  | 410                | 0.09 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN0N9B00 | 0.9 $\pm 0.1$ nH | 500                  | 400                | 0.10 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N0B00 | 1.0 $\pm 0.1$ nH | 500                  | 400                | 0.10 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N0C00 | 1.0 $\pm 0.2$ nH | 500                  | 400                | 0.10 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N1B00 | 1.1 $\pm 0.1$ nH | 500                  | 280                | 0.13 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N2B00 | 1.2 $\pm 0.1$ nH | 500                  | 280                | 0.13 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N2C00 | 1.2 $\pm 0.2$ nH | 500                  | 280                | 0.13 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N3B00 | 1.3 $\pm 0.1$ nH | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N5B00 | 1.5 $\pm 0.1$ nH | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N5C00 | 1.5 $\pm 0.2$ nH | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N6B00 | 1.6 $\pm 0.1$ nH | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N8B00 | 1.8 $\pm 0.1$ nH | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN1N8C00 | 1.8 $\pm 0.2$ nH | 500                  | 280                | 0.16 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN2N0B00 | 2.0 $\pm 0.1$ nH | 500                  | 220                | 0.18 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN2N2B00 | 2.2 $\pm 0.1$ nH | 500                  | 220                | 0.18 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN2N2C00 | 2.2 $\pm 0.2$ nH | 500                  | 220                | 0.18 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN2N4B00 | 2.4 $\pm 0.1$ nH | 500                  | 220                | 0.21 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN2N7B00 | 2.7 $\pm 0.1$ nH | 500                  | 220                | 0.21 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN2N7C00 | 2.7 $\pm 0.2$ nH | 500                  | 220                | 0.21 max.           | 11       | 500                  | 6000 min.                      | 0201 |

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| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQP03TN3N0B00 | 3.0 ±0.1nH      | 500                  | 190                | 0.30 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN3N3B00 | 3.3 ±0.1nH      | 500                  | 190                | 0.30 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN3N3C00 | 3.3 ±0.2nH      | 500                  | 190                | 0.30 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN3N6B00 | 3.6 ±0.1nH      | 500                  | 170                | 0.45 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN3N9B00 | 3.9 ±0.1nH      | 500                  | 170                | 0.45 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN3N9C00 | 3.9 ±0.2nH      | 500                  | 170                | 0.45 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN4N3H00 | 4.3 ±3%         | 500                  | 160                | 0.55 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN4N7H00 | 4.7 ±3%         | 500                  | 160                | 0.55 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN4N7J00 | 4.7 ±5%         | 500                  | 160                | 0.55 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN5N1H00 | 5.1 ±3%         | 500                  | 140                | 0.68 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN5N6H00 | 5.6 ±3%         | 500                  | 140                | 0.68 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN5N6J00 | 5.6 ±5%         | 500                  | 140                | 0.68 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN6N2H00 | 6.2 ±3%         | 500                  | 130                | 0.75 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN6N8H00 | 6.8 ±3%         | 500                  | 130                | 0.75 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN6N8J00 | 6.8 ±5%         | 500                  | 130                | 0.75 max.           | 11       | 500                  | 6000 min.                      | 0201 |
| LQP03TN7N5H00 | 7.5 ±3%         | 500                  | 110                | 0.86 max.           | 11       | 500                  | 5500 min.                      | 0201 |
| LQP03TN8N2H00 | 8.2 ±3%         | 500                  | 110                | 0.86 max.           | 11       | 500                  | 5500 min.                      | 0201 |
| LQP03TN8N2J00 | 8.2 ±5%         | 500                  | 110                | 0.86 max.           | 11       | 500                  | 5500 min.                      | 0201 |
| LQP03TN9N1H00 | 9.1 ±3%         | 500                  | 100                | 1.10 max.           | 11       | 500                  | 4500 min.                      | 0201 |
| LQP03TN10NH00 | 10 ±3%          | 500                  | 100                | 1.10 max.           | 11       | 500                  | 4500 min.                      | 0201 |
| LQP03TN10NJ00 | 10 ±5%          | 500                  | 100                | 1.10 max.           | 11       | 500                  | 4500 min.                      | 0201 |
| LQP03TN12NJ00 | 12 ±5%          | 500                  | 90                 | 1.25 max.           | 11       | 500                  | 3700 min.                      | 0201 |
| LQP03TN15NJ00 | 15 ±5%          | 500                  | 90                 | 1.50 max.           | 11       | 500                  | 3300 min.                      | 0201 |
| LQP03TN18NH00 | 18 ±3%          | 500                  | 80                 | 2.0 max.            | 11       | 500                  | 3100 min.                      | 0201 |
| LQP03TN18NJ00 | 18 ±5%          | 500                  | 80                 | 2.0 max.            | 11       | 500                  | 3100 min.                      | 0201 |
| LQP03TN22NH00 | 22 ±3%          | 500                  | 70                 | 2.6 max.            | 11       | 500                  | 2800 min.                      | 0201 |
| LQP03TN22NJ00 | 22 ±5%          | 500                  | 70                 | 2.6 max.            | 11       | 500                  | 2800 min.                      | 0201 |
| LQP03TN27NH00 | 27 ±3%          | 500                  | 70                 | 3.1 max.            | 11       | 500                  | 2500 min.                      | 0201 |
| LQP03TN27NJ00 | 27 ±5%          | 500                  | 70                 | 3.1 max.            | 11       | 500                  | 2500 min.                      | 0201 |

Operating Temp. Range : -40°C to +85°C

## Q-Frequency Characteristics



## Inductance-Frequency Characteristics



Continued on the following page. ↗

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## 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  |
| LQP03TN0N6B00 | 0.6                    | 0.6    | 0.6    | 0.6    | 0.6    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N6C00 | 0.6                    | 0.6    | 0.6    | 0.6    | 0.6    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N7B00 | 0.7                    | 0.7    | 0.7    | 0.7    | 0.7    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N8B00 | 0.8                    | 0.8    | 0.8    | 0.8    | 0.8    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N8C00 | 0.8                    | 0.8    | 0.8    | 0.8    | 0.8    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN0N9B00 | 0.9                    | 0.9    | 0.9    | 0.9    | 0.9    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N0B00 | 1.0                    | 1.0    | 1.0    | 1.0    | 1.0    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N0C00 | 1.0                    | 1.0    | 1.0    | 1.0    | 1.0    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N1B00 | 1.1                    | 1.1    | 1.1    | 1.1    | 1.1    | 50 min.  | 54 min. | 70 min. | 73 min. | 77 min. |
| LQP03TN1N2B00 | 1.2                    | 1.2    | 1.2    | 1.2    | 1.2    | 50       | 54      | 70      | 73      | 77      |
| LQP03TN1N2C00 | 1.2                    | 1.2    | 1.2    | 1.2    | 1.2    | 50       | 54      | 70      | 73      | 77      |
| LQP03TN1N3B00 | 1.3                    | 1.3    | 1.3    | 1.3    | 1.3    | 48       | 52      | 67      | 72      | 74      |
| LQP03TN1N5B00 | 1.5                    | 1.5    | 1.5    | 1.5    | 1.5    | 45       | 48      | 63      | 66      | 69      |
| LQP03TN1N5C00 | 1.5                    | 1.5    | 1.5    | 1.5    | 1.5    | 45       | 48      | 63      | 66      | 69      |
| LQP03TN1N6B00 | 1.6                    | 1.6    | 1.6    | 1.6    | 1.6    | 43       | 47      | 57      | 64      | 67      |
| LQP03TN1N8B00 | 1.8                    | 1.8    | 1.8    | 1.8    | 1.8    | 36       | 38      | 50      | 53      | 55      |
| LQP03TN1N8C00 | 1.8                    | 1.8    | 1.8    | 1.8    | 1.8    | 36       | 38      | 50      | 53      | 55      |
| LQP03TN2N0B00 | 2.0                    | 2.0    | 2.0    | 2.0    | 2.0    | 38       | 40      | 52      | 54      | 57      |
| LQP03TN2N2B00 | 2.2                    | 2.2    | 2.2    | 2.2    | 2.2    | 28       | 35      | 49      | 52      | 54      |
| LQP03TN2N2C00 | 2.2                    | 2.2    | 2.2    | 2.2    | 2.2    | 28       | 35      | 49      | 52      | 54      |
| LQP03TN2N4B00 | 2.4                    | 2.4    | 2.4    | 2.4    | 2.4    | 36       | 38      | 50      | 53      | 56      |
| LQP03TN2N7B00 | 2.7                    | 2.7    | 2.7    | 2.7    | 2.7    | 28       | 30      | 40      | 42      | 44      |
| LQP03TN2N7C00 | 2.7                    | 2.7    | 2.7    | 2.7    | 2.7    | 28       | 30      | 40      | 42      | 44      |
| LQP03TN3N0B00 | 3.0                    | 3.0    | 3.0    | 3.0    | 3.0    | 28       | 29      | 39      | 41      | 43      |
| LQP03TN3N3B00 | 3.3                    | 3.3    | 3.3    | 3.3    | 3.4    | 29       | 31      | 42      | 43      | 45      |
| LQP03TN3N3C00 | 3.3                    | 3.3    | 3.3    | 3.3    | 3.4    | 29       | 31      | 42      | 43      | 45      |
| LQP03TN3N6B00 | 3.6                    | 3.6    | 3.6    | 3.7    | 3.7    | 31       | 33      | 43      | 45      | 47      |
| LQP03TN3N9B00 | 3.9                    | 3.9    | 3.9    | 4.0    | 4.1    | 29       | 31      | 41      | 43      | 45      |
| LQP03TN3N9C00 | 3.9                    | 3.9    | 3.9    | 4.0    | 4.1    | 29       | 31      | 41      | 43      | 45      |
| LQP03TN4N3H00 | 4.3                    | 4.3    | 4.3    | 4.4    | 4.5    | 28       | 30      | 40      | 42      | 44      |
| LQP03TN4N7H00 | 4.7                    | 4.7    | 4.8    | 4.9    | 5.1    | 28       | 30      | 40      | 42      | 43      |
| LQP03TN4N7J00 | 4.7                    | 4.7    | 4.8    | 4.9    | 5.1    | 28       | 30      | 40      | 42      | 43      |
| LQP03TN5N1H00 | 5.1                    | 5.1    | 5.2    | 5.3    | 5.5    | 26       | 28      | 37      | 39      | 40      |
| LQP03TN5N6H00 | 5.6                    | 5.6    | 5.8    | 5.9    | 6.1    | 22       | 24      | 32      | 33      | 33      |
| LQP03TN5N6J00 | 5.6                    | 5.6    | 5.8    | 5.9    | 6.1    | 22       | 24      | 32      | 33      | 33      |
| LQP03TN6N2H00 | 6.2                    | 6.2    | 6.5    | 6.6    | 6.9    | 20       | 21      | 27      | 28      | 28      |
| LQP03TN6N8H00 | 6.8                    | 6.8    | 7.1    | 7.4    | 7.7    | 21       | 22      | 29      | 30      | 30      |
| LQP03TN6N8J00 | 6.2                    | 6.2    | 6.5    | 6.6    | 6.9    | 20       | 21      | 27      | 28      | 28      |
| LQP03TN7N5H00 | 7.5                    | 7.5    | 7.9    | 8.2    | 8.7    | 21       | 22      | 28      | 30      | 29      |
| LQP03TN8N2H00 | 8.2                    | 8.2    | 8.6    | 9.1    | 9.6    | 18       | 19      | 25      | 25      | 24      |
| LQP03TN8N2J00 | 8.2                    | 8.2    | 8.6    | 9.1    | 9.6    | 18       | 19      | 25      | 25      | 24      |
| LQP03TN9N1H00 | 9.1                    | 9.1    | 9.9    | 10     | 11     | 20       | 21      | 26      | 26      | 25      |
| LQP03TN10NH00 | 10                     | 10     | 11     | 12     | 13     | 21       | 22      | 28      | 28      | 27      |
| LQP03TN10NJ00 | 10                     | 10     | 11     | 12     | 13     | 21       | 22      | 28      | 28      | 27      |
| LQP03TN12NJ00 | 12                     | 12     | 13     | 14     | 16     | 21       | 22      | 27      | 27      | 25      |
| LQP03TN15NJ00 | 15                     | 15     | 18     | 19     | 23     | 21       | 21      | 25      | 24      | 22      |
| LQP03TN18NH00 | 18                     | 18     | 24     | -      | -      | 18       | 19      | 20      | -       | -       |
| LQP03TN18NJ00 | 18                     | 18     | 24     | -      | -      | 18       | 19      | 20      | -       | -       |
| LQP03TN22NH00 | 22                     | 23     | 32     | -      | -      | 16       | 17      | 16      | -       | -       |
| LQP03TN22NJ00 | 22                     | 23     | 32     | -      | -      | 16       | 17      | 16      | -       | -       |
| LQP03TN27NH00 | 28                     | 29     | 47     | -      | -      | 15       | 15      | 13      | -       | -       |
| LQP03TN27NJ00 | 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 (1005size, Height 0.4mm)
4. Low DC resistance
5. Lead is not contained in the products.

### ■ 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



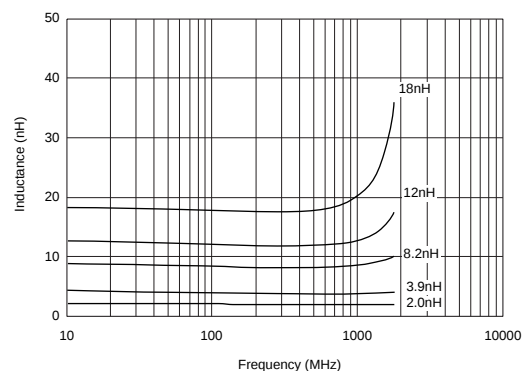
| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|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

Operating Temp. Range : -40°C to +85°C

## ■ 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 1005size inductor which is low profile and lightest weight in the world enables miniaturizing of mobile telecommunication equipment.  
LQP15M series weights 0.6mg/pcs. while multilayer type inductor 0.9mg/pcs.
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 telecommunication equipment.



(in mm)

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

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

Operating Temp. Range : -40°C to +85°C

## Q-Frequency Characteristics



## Inductance-Frequency Characteristics



## 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 telecommunication equipment.
5. LQP18M\_02: Does not contain lead.



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

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

## ■ Q-Frequency Characteristics



## ■ Inductance-Frequency Characteristics



# Chip Coils

**muRata**

## High Frequency Winding Type LQW15A/LQW18A Series

### LQW15A Series

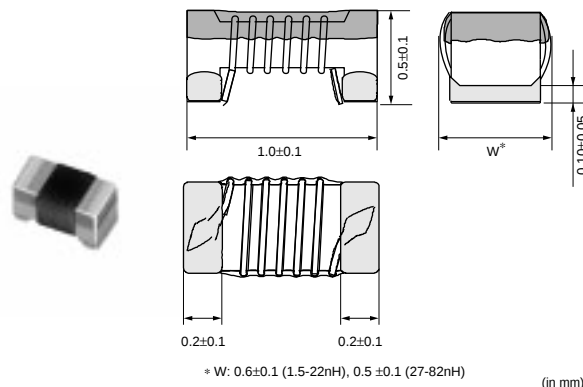
The LQW15A series consists of air core chip coil using a miniature alumina core.  
The tight inductance tolerance ( $\pm 0.2\text{nH}$ ,  $\pm 3\%$ ) is available due to Murata's original winding technology.  
The LQW15A series has high Q value in high frequency range and high self resonant frequency.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

#### ■ Features

1. Horizontal winding structure enables tight inductance tolerance ( $\pm 0.2\text{nH}$ ,  $\pm 3\%$ )
2. The subminiature dimensions (1.0x0.5mm) allow high density mounting.
3. The high self resonant frequency realizes high Q value and stable inductance at high frequency.
4. Low DC resistance design is ideal for low loss, high output and low power consumption.
5. 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 (GHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQW15AN1N5C00 | 1.5 $\pm$ 0.2nH | 100                  | 1000               | 0.03 max.           | 10       | 250                  | 18.0 min.                      | 0402 |
| LQW15AN1N5D00 | 1.5 $\pm$ 0.5nH | 100                  | 1000               | 0.03 max.           | 10       | 250                  | 18.0 min.                      | 0402 |
| LQW15AN2N7C00 | 2.7 $\pm$ 0.2nH | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0 min.                      | 0402 |
| LQW15AN2N7D00 | 2.7 $\pm$ 0.5nH | 100                  | 850                | 0.05 max.           | 20       | 250                  | 15.0 min.                      | 0402 |
| LQW15AN3N9C00 | 3.9 $\pm$ 0.2nH | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0 min.                      | 0402 |
| LQW15AN3N9D00 | 3.9 $\pm$ 0.5nH | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0 min.                      | 0402 |
| LQW15AN4N3C00 | 4.3 $\pm$ 0.2nH | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0 min.                      | 0402 |
| LQW15AN4N3D00 | 4.3 $\pm$ 0.5nH | 100                  | 750                | 0.07 max.           | 25       | 250                  | 10.0 min.                      | 0402 |
| LQW15AN4N7C00 | 4.7 $\pm$ 0.2nH | 100                  | 750                | 0.07 max.           | 25       | 250                  | 8.0 min.                       | 0402 |
| LQW15AN4N7D00 | 4.7 $\pm$ 0.5nH | 100                  | 750                | 0.07 max.           | 25       | 250                  | 8.0 min.                       | 0402 |
| LQW15AN5N1C00 | 5.1 $\pm$ 0.2nH | 100                  | 600                | 0.12 max.           | 25       | 250                  | 8.0 min.                       | 0402 |
| LQW15AN5N1D00 | 5.1 $\pm$ 0.5nH | 100                  | 600                | 0.12 max.           | 25       | 250                  | 8.0 min.                       | 0402 |
| LQW15AN6N2C00 | 6.2 $\pm$ 0.2nH | 100                  | 700                | 0.09 max.           | 25       | 250                  | 8.0 min.                       | 0402 |
| LQW15AN6N2D00 | 6.2 $\pm$ 0.5nH | 100                  | 700                | 0.09 max.           | 25       | 250                  | 8.0 min.                       | 0402 |
| LQW15AN6N8H00 | 6.8 $\pm$ 3%    | 100                  | 700                | 0.09 max.           | 25       | 250                  | 6.0 min.                       | 0402 |
| LQW15AN6N8J00 | 6.8 $\pm$ 5%    | 100                  | 700                | 0.09 max.           | 25       | 250                  | 6.0 min.                       | 0402 |
| LQW15AN7N5H00 | 7.5 $\pm$ 3%    | 100                  | 570                | 0.13 max.           | 25       | 250                  | 6.0 min.                       | 0402 |
| LQW15AN7N5J00 | 7.5 $\pm$ 5%    | 100                  | 570                | 0.13 max.           | 25       | 250                  | 6.0 min.                       | 0402 |
| LQW15AN8N2H00 | 8.2 $\pm$ 3%    | 100                  | 540                | 0.14 max.           | 25       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN8N2J00 | 8.2 $\pm$ 5%    | 100                  | 540                | 0.14 max.           | 25       | 250                  | 5.5 min.                       | 0402 |

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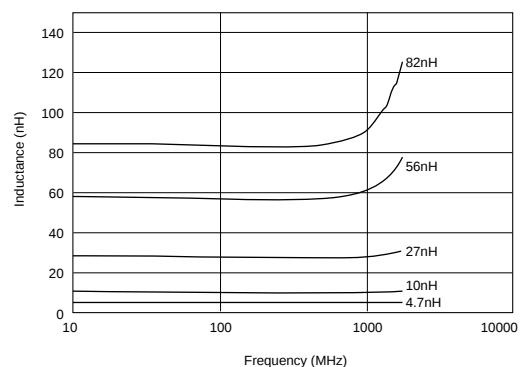
| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (GHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQW15AN9N1H00 | 9.1 ±3%         | 100                  | 540                | 0.14 max.           | 25       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN9N1J00 | 9.1 ±5%         | 100                  | 540                | 0.14 max.           | 25       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN10NH00 | 10 ±3%          | 100                  | 500                | 0.17 max.           | 25       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN10NJ00 | 10 ±5%          | 100                  | 500                | 0.17 max.           | 25       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN12NH00 | 12 ±3%          | 100                  | 500                | 0.14 max.           | 30       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN12NJ00 | 12 ±5%          | 100                  | 500                | 0.14 max.           | 30       | 250                  | 5.5 min.                       | 0402 |
| LQW15AN15NH00 | 15 ±3%          | 100                  | 460                | 0.16 max.           | 30       | 250                  | 5.0 min.                       | 0402 |
| LQW15AN15NJ00 | 15 ±5%          | 100                  | 460                | 0.16 max.           | 30       | 250                  | 5.0 min.                       | 0402 |
| LQW15AN18NH00 | 18 ±3%          | 100                  | 370                | 0.27 max.           | 25       | 250                  | 4.5 min.                       | 0402 |
| LQW15AN18NJ00 | 18 ±5%          | 100                  | 370                | 0.27 max.           | 25       | 250                  | 4.5 min.                       | 0402 |
| LQW15AN22NH00 | 22 ±3%          | 100                  | 310                | 0.30 max.           | 25       | 250                  | 4.0 min.                       | 0402 |
| LQW15AN22NJ00 | 22 ±5%          | 100                  | 310                | 0.30 max.           | 25       | 250                  | 4.0 min.                       | 0402 |
| LQW15AN27NH00 | 27 ±3%          | 100                  | 280                | 0.52 max.           | 25       | 250                  | 3.5 min.                       | 0402 |
| LQW15AN27NJ00 | 27 ±5%          | 100                  | 280                | 0.52 max.           | 25       | 250                  | 3.5 min.                       | 0402 |
| LQW15AN33NH00 | 33 ±3%          | 100                  | 260                | 0.63 max.           | 25       | 250                  | 3.2 min.                       | 0402 |
| LQW15AN33NJ00 | 33 ±5%          | 100                  | 260                | 0.63 max.           | 25       | 250                  | 3.2 min.                       | 0402 |
| LQW15AN39NH00 | 39 ±3%          | 100                  | 250                | 0.70 max.           | 25       | 250                  | 3.0 min.                       | 0402 |
| LQW15AN39NJ00 | 39 ±5%          | 100                  | 250                | 0.70 max.           | 25       | 250                  | 3.0 min.                       | 0402 |
| LQW15AN47NH00 | 47 ±3%          | 100                  | 210                | 1.08 max.           | 25       | 200                  | 2.9 min.                       | 0402 |
| LQW15AN47NJ00 | 47 ±5%          | 100                  | 210                | 1.08 max.           | 25       | 200                  | 2.9 min.                       | 0402 |
| LQW15AN56NH00 | 56 ±3%          | 100                  | 200                | 1.17 max.           | 25       | 200                  | 2.8 min.                       | 0402 |
| LQW15AN56NJ00 | 56 ±5%          | 100                  | 200                | 1.17 max.           | 25       | 200                  | 2.8 min.                       | 0402 |
| LQW15AN68NJ00 | 68 ±5%          | 100                  | 140                | 1.96 max.           | 20       | 200                  | 2.5 min.                       | 0402 |
| LQW15AN82NJ00 | 82 ±5%          | 100                  | 130                | 2.24 max.           | 20       | 150                  | 2.3 min.                       | 0402 |

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

## ■ Q-Frequency Characteristics



## ■ Inductance-Frequency Characteristics



## ■ Features LQW18A\_00 (Standard type)

1. Broad range of inductance (2.2nH to 470nH) with E24 step line up.
2. Horizontal winding 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.



in mm

## ■ 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

## ■ Features LQW18A\_10 (High Q/Low DC Resistance type)

Lower DC Resistance approximately by 50% than current type. Higher Q by 10%, higher rated current by 20%.

## ■ Applications

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

## LQW18A\_00 Series

| Part Number   | Inductance (nH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQW18AN2N2D00 | 2.2 ±0.5nH      | 100                  | 700                | 0.049 max.          | 16       | 250                  | 6000 min.                      | 0603 |
| LQW18AN3N6C00 | 3.6 ±0.2nH      | 100                  | 850                | 0.059 max.          | 25       | 250                  | 6000 min.                      | 0603 |
| LQW18AN3N6D00 | 3.6 ±0.5nH      | 100                  | 850                | 0.059 max.          | 25       | 250                  | 6000 min.                      | 0603 |
| LQW18AN3N9C00 | 3.9 ±0.2nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN3N9D00 | 3.9 ±0.5nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN4N3C00 | 4.3 ±0.2nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN4N3D00 | 4.3 ±0.5nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN4N7D00 | 4.7 ±0.5nH      | 100                  | 850                | 0.059 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN5N6C00 | 5.6 ±0.2nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN5N6D00 | 5.6 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN6N2C00 | 6.2 ±0.2nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN6N2D00 | 6.2 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN6N8C00 | 6.8 ±0.2nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN6N8D00 | 6.8 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN7N5D00 | 7.5 ±0.5nH      | 100                  | 750                | 0.082 max.          | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN8N2D00 | 8.2 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN8N7D00 | 8.7 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN9N1D00 | 9.1 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN9N5D00 | 9.5 ±0.5nH      | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000 min.                      | 0603 |
| LQW18AN10NG00 | 10 ±2%          | 100                  | 650                | 0.11 max.           | 35       | 250                  | 6000 min.                      | 0603 |

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| 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<br>(MHz) | EIA  |
|---------------|--------------------|-------------------------|--------------------------|------------------------|-------------|-------------------------|--------------------------------------|------|
| LQW18AN10NJ00 | 10 ±5%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN11NG00 | 11 ±2%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN11NJ00 | 11 ±5%             | 100                     | 650                      | 0.11 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN12NG00 | 12 ±2%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN12NJ00 | 12 ±5%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN13NG00 | 13 ±2%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN13NJ00 | 13 ±5%             | 100                     | 600                      | 0.13 max.              | 35          | 250                     | 6000 min.                            | 0603 |
| LQW18AN15NG00 | 15 ±2%             | 100                     | 600                      | 0.13 max.              | 40          | 250                     | 6000 min.                            | 0603 |
| LQW18AN15NJ00 | 15 ±5%             | 100                     | 600                      | 0.13 max.              | 40          | 250                     | 6000 min.                            | 0603 |
| LQW18AN16NG00 | 16 ±2%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500 min.                            | 0603 |
| LQW18AN16NJ00 | 16 ±5%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500 min.                            | 0603 |
| LQW18AN18NG00 | 18 ±2%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500 min.                            | 0603 |
| LQW18AN18NJ00 | 18 ±5%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 5500 min.                            | 0603 |
| LQW18AN20NG00 | 20 ±2%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 4900 min.                            | 0603 |
| LQW18AN20NJ00 | 20 ±5%             | 100                     | 550                      | 0.16 max.              | 40          | 250                     | 4900 min.                            | 0603 |
| LQW18AN22NG00 | 22 ±2%             | 100                     | 500                      | 0.17 max.              | 40          | 250                     | 4600 min.                            | 0603 |
| LQW18AN22NJ00 | 22 ±5%             | 100                     | 500                      | 0.17 max.              | 40          | 250                     | 4600 min.                            | 0603 |
| LQW18AN24NG00 | 24 ±2%             | 100                     | 500                      | 0.21 max.              | 40          | 250                     | 3800 min.                            | 0603 |
| LQW18AN24NJ00 | 24 ±5%             | 100                     | 500                      | 0.21 max.              | 40          | 250                     | 3800 min.                            | 0603 |
| LQW18AN27NG00 | 27 ±2%             | 100                     | 440                      | 0.21 max.              | 40          | 250                     | 3700 min.                            | 0603 |
| LQW18AN27NJ00 | 27 ±5%             | 100                     | 440                      | 0.21 max.              | 40          | 250                     | 3700 min.                            | 0603 |
| LQW18AN30NG00 | 30 ±2%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3300 min.                            | 0603 |
| LQW18AN30NJ00 | 30 ±5%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3300 min.                            | 0603 |
| LQW18AN33NG00 | 33 ±2%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3200 min.                            | 0603 |
| LQW18AN33NJ00 | 33 ±5%             | 100                     | 420                      | 0.23 max.              | 40          | 250                     | 3200 min.                            | 0603 |
| LQW18AN36NG00 | 36 ±2%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2900 min.                            | 0603 |
| LQW18AN36NJ00 | 36 ±5%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2900 min.                            | 0603 |
| LQW18AN39NG00 | 39 ±2%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2800 min.                            | 0603 |
| LQW18AN39NJ00 | 39 ±5%             | 100                     | 400                      | 0.26 max.              | 40          | 250                     | 2800 min.                            | 0603 |
| LQW18AN43NG00 | 43 ±2%             | 100                     | 380                      | 0.29 max.              | 40          | 200                     | 2700 min.                            | 0603 |
| LQW18AN43NJ00 | 43 ±5%             | 100                     | 380                      | 0.29 max.              | 40          | 200                     | 2700 min.                            | 0603 |
| LQW18AN47NG00 | 47 ±2%             | 100                     | 380                      | 0.29 max.              | 38          | 200                     | 2600 min.                            | 0603 |
| LQW18AN47NJ00 | 47 ±5%             | 100                     | 380                      | 0.29 max.              | 38          | 200                     | 2600 min.                            | 0603 |
| LQW18AN51NG00 | 51 ±2%             | 100                     | 370                      | 0.33 max.              | 38          | 200                     | 2500 min.                            | 0603 |
| LQW18AN51NJ00 | 51 ±5%             | 100                     | 370                      | 0.33 max.              | 38          | 200                     | 2500 min.                            | 0603 |
| LQW18AN56NG00 | 56 ±2%             | 100                     | 360                      | 0.35 max.              | 38          | 200                     | 2400 min.                            | 0603 |
| LQW18AN56NJ00 | 56 ±5%             | 100                     | 360                      | 0.35 max.              | 38          | 200                     | 2400 min.                            | 0603 |
| LQW18AN62NG00 | 62 ±2%             | 100                     | 280                      | 0.51 max.              | 38          | 200                     | 2300 min.                            | 0603 |
| LQW18AN62NJ00 | 62 ±5%             | 100                     | 280                      | 0.51 max.              | 38          | 200                     | 2300 min.                            | 0603 |
| LQW18AN68NG00 | 68 ±2%             | 100                     | 340                      | 0.38 max.              | 38          | 200                     | 2200 min.                            | 0603 |
| LQW18AN68NJ00 | 68 ±5%             | 100                     | 340                      | 0.38 max.              | 38          | 200                     | 2200 min.                            | 0603 |
| LQW18AN72NG00 | 72 ±2%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2100 min.                            | 0603 |
| LQW18AN72NJ00 | 72 ±5%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2100 min.                            | 0603 |
| LQW18AN75NG00 | 75 ±2%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2050 min.                            | 0603 |
| LQW18AN75NJ00 | 75 ±5%             | 100                     | 270                      | 0.56 max.              | 34          | 150                     | 2050 min.                            | 0603 |
| LQW18AN82NG00 | 82 ±2%             | 100                     | 250                      | 0.60 max.              | 34          | 150                     | 2000 min.                            | 0603 |
| LQW18AN82NJ00 | 82 ±5%             | 100                     | 250                      | 0.60 max.              | 34          | 150                     | 2000 min.                            | 0603 |
| LQW18AN91NG00 | 91 ±2%             | 100                     | 230                      | 0.64 max.              | 34          | 150                     | 1900 min.                            | 0603 |
| LQW18AN91NJ00 | 91 ±5%             | 100                     | 230                      | 0.64 max.              | 34          | 150                     | 1900 min.                            | 0603 |
| LQW18ANR10G00 | 100 ±2%            | 100                     | 220                      | 0.68 max.              | 34          | 150                     | 1800 min.                            | 0603 |
| LQW18ANR10J00 | 100 ±5%            | 100                     | 220                      | 0.68 max.              | 34          | 150                     | 1800 min.                            | 0603 |
| LQW18ANR11G00 | 110 ±2%            | 100                     | 200                      | 1.2 max.               | 32          | 150                     | 1350 min.                            | 0603 |
| LQW18ANR11J00 | 110 ±5%            | 100                     | 200                      | 1.2 max.               | 32          | 150                     | 1350 min.                            | 0603 |
| LQW18ANR12G00 | 120 ±2%            | 100                     | 180                      | 1.3 max.               | 32          | 150                     | 1600 min.                            | 0603 |
| LQW18ANR12J00 | 120 ±5%            | 100                     | 180                      | 1.3 max.               | 32          | 150                     | 1600 min.                            | 0603 |
| LQW18ANR13G00 | 130 ±2%            | 100                     | 170                      | 1.4 max.               | 32          | 150                     | 1450 min.                            | 0603 |
| LQW18ANR13J00 | 130 ±5%            | 100                     | 170                      | 1.4 max.               | 32          | 150                     | 1450 min.                            | 0603 |

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

Operating Temp. Range : -25°C to 85°C

## Q-Frequency Characteristics



## Inductance-Frequency Characteristics



## LQW18A\_10 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 (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQW18AN2N2D10 | 2.2 ±0.5nH      | 100                  | 1400               | 0.018 max.          | 25       | 250                  | 18000 min.                     | 0603 |
| LQW18AN3N9C10 | 3.9 ±0.2nH      | 100                  | 1000               | 0.032 max.          | 38       | 250                  | 11000 min.                     | 0603 |
| LQW18AN3N9D10 | 3.9 ±0.5nH      | 100                  | 1000               | 0.032 max.          | 38       | 250                  | 11000 min.                     | 0603 |
| LQW18AN5N6D10 | 5.6 ±0.5nH      | 100                  | 900                | 0.045 max.          | 38       | 250                  | 10000 min.                     | 0603 |
| LQW18AN6N8C10 | 6.8 ±0.2nH      | 100                  | 900                | 0.045 max.          | 38       | 250                  | 7000 min.                      | 0603 |
| LQW18AN6N8D10 | 6.8 ±0.5nH      | 100                  | 900                | 0.045 max.          | 38       | 250                  | 7000 min.                      | 0603 |
| LQW18AN8N2D10 | 8.2 ±0.5nH      | 100                  | 800                | 0.058 max.          | 38       | 250                  | 7000 min.                      | 0603 |
| LQW18AN10NG10 | 10 ±2%          | 100                  | 800                | 0.058 max.          | 38       | 250                  | 5000 min.                      | 0603 |
| LQW18AN10NJ10 | 10 ±5%          | 100                  | 800                | 0.058 max.          | 38       | 250                  | 5000 min.                      | 0603 |
| LQW18AN12NG10 | 12 ±2%          | 100                  | 750                | 0.071 max.          | 38       | 250                  | 5000 min.                      | 0603 |
| LQW18AN12NJ10 | 12 ±5%          | 100                  | 750                | 0.071 max.          | 38       | 250                  | 5000 min.                      | 0603 |
| LQW18AN15NJ10 | 15 ±5%          | 100                  | 700                | 0.085 max.          | 42       | 250                  | 4500 min.                      | 0603 |
| LQW18AN18NG10 | 18 ±2%          | 100                  | 700                | 0.085 max.          | 42       | 250                  | 3500 min.                      | 0603 |
| LQW18AN18NJ10 | 18 ±5%          | 100                  | 700                | 0.085 max.          | 42       | 250                  | 3500 min.                      | 0603 |
| LQW18AN22NG10 | 22 ±2%          | 100                  | 640                | 0.099 max.          | 42       | 250                  | 3200 min.                      | 0603 |
| LQW18AN22NJ10 | 22 ±5%          | 100                  | 640                | 0.099 max.          | 42       | 250                  | 3200 min.                      | 0603 |
| LQW18AN27NG10 | 27 ±2%          | 100                  | 590                | 0.116 max.          | 42       | 250                  | 2800 min.                      | 0603 |
| LQW18AN27NJ10 | 27 ±5%          | 100                  | 590                | 0.116 max.          | 42       | 250                  | 2800 min.                      | 0603 |
| LQW18AN33NJ10 | 33 ±5%          | 100                  | 550                | 0.132 max.          | 42       | 250                  | 2500 min.                      | 0603 |

Operating Temp. Range : -25°C to 85°C

### ■ Q-Frequency Characteristics



### ■ Inductance-Frequency Characteristics



# Chip Coils

**muRata**

## High Frequency Winding Type LQW2BH/LQW31H Series

LQW2BH series consists of air-core chip coil using a sub-miniature alumina core as a bobbin.

### ■ Features

1. Inductance range from 2.7 to 470nH
2. Their high self-resonant frequency characteristic yields a high Q value and highly stable inductance at high frequencies.
3. Low DC resistance design enables handling of higher rated current.
4. The series has excellent solder heat resistance.  
Both flow and reflow soldering methods can be employed.
5. LQW2BHN\_D/\_J/\_K  
Inductance tolerance  $\pm 0.5\text{nH}$  (8.2nH max.),  $\pm 5\%$  (10 to 220nH),  $\pm 10\%$  (270nH to 470nH) is realized.  
The sub miniature dimensions (2.0x1.5mm) allow high density mounting.  
LQW2BHN\_G (Tight inductance tolerance)  
Tight inductance tolerance of  $\pm 2\%$  is available.  
LQW2BHN\_13 (High Q/Low DC Resistance Type)  
LQW2BHN\_13 using thick wire (0.12mm in diameter) has higher Q value than existing LQW2BH series.  
Low DC resistance design enables handling of higher current. Inductance range from 2.7 to 27nH.
6. Does not contain lead.



### ■ Applications

High frequency circuit in telecommunication equipment,  
such as DECT, PHS, PCS, PCN, GSM and CDMA  
Impedance Matching -- Power-AMP Module (PA)  
SAW filter  
Resonance circuits -- VCO

### LQW2BH\_03 Series

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

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| 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<br>(MHz) | EIA  |
|---------------|--------------------|-------------------------|--------------------------|------------------------|-------------|-------------------------|--------------------------------------|------|
| LQW2BHN47NJ03 | 47 ±5%             | 100                     | 450                      | 0.23 max.              | 40          | 200                     | 1600 min.                            | 0805 |
| LQW2BHN56NG03 | 56 ±2%             | 100                     | 430                      | 0.26 max.              | 40          | 200                     | 1500 min.                            | 0805 |
| LQW2BHN56NJ03 | 56 ±5%             | 100                     | 430                      | 0.26 max.              | 40          | 200                     | 1500 min.                            | 0805 |
| LQW2BHN68NG03 | 68 ±2%             | 100                     | 460                      | 0.23 max.              | 40          | 200                     | 1200 min.                            | 0805 |
| LQW2BHN68NJ03 | 68 ±5%             | 100                     | 460                      | 0.23 max.              | 40          | 200                     | 1200 min.                            | 0805 |
| LQW2BHN82NG03 | 82 ±2%             | 100                     | 320                      | 0.42 max.              | 40          | 150                     | 1100 min.                            | 0805 |
| LQW2BHN82NJ03 | 82 ±5%             | 100                     | 320                      | 0.42 max.              | 40          | 150                     | 1100 min.                            | 0805 |
| LQW2BHN10G03  | 100 ±2%            | 100                     | 270                      | 0.55 max.              | 35          | 150                     | 900 min.                             | 0805 |
| LQW2BHN10J03  | 100 ±5%            | 100                     | 350                      | 0.38 max.              | 40          | 150                     | 900 min.                             | 0805 |
| LQW2BHN12G03  | 120 ±2%            | 100                     | 320                      | 0.40 max.              | 40          | 150                     | 750 min.                             | 0805 |
| LQW2BHN12J03  | 120 ±5%            | 100                     | 320                      | 0.40 max.              | 40          | 150                     | 750 min.                             | 0805 |
| LQW2BHN15G03  | 150 ±2%            | 100                     | 260                      | 0.68 max.              | 30          | 150                     | 350 min.                             | 0805 |
| LQW2BHN15J03  | 150 ±5%            | 100                     | 390                      | 0.47 max.              | 30          | 150                     | 350 min.                             | 0805 |
| LQW2BHN18G03  | 180 ±2%            | 100                     | 250                      | 0.71 max.              | 35          | 100                     | 700 min.                             | 0805 |
| LQW2BHN18J03  | 180 ±5%            | 100                     | 250                      | 0.71 max.              | 35          | 100                     | 700 min.                             | 0805 |
| LQW2BHN22G03  | 220 ±2%            | 100                     | 240                      | 0.70 max.              | 35          | 100                     | 500 min.                             | 0805 |
| LQW2BHN22J03  | 220 ±5%            | 100                     | 240                      | 0.70 max.              | 35          | 100                     | 500 min.                             | 0805 |
| LQW2BHN27J03  | 270 ±5%            | 10                      | 190                      | 2.00 max.              | 15          | 25.2                    | 550 min.                             | 0805 |
| LQW2BHN27K03  | 270 ±10%           | 10                      | 190                      | 2.00 max.              | 15          | 25.2                    | 550 min.                             | 0805 |
| LQW2BHN33J03  | 330 ±5%            | 10                      | 180                      | 2.20 max.              | 15          | 25.2                    | 500 min.                             | 0805 |
| LQW2BHN33K03  | 330 ±10%           | 10                      | 180                      | 2.20 max.              | 15          | 25.2                    | 500 min.                             | 0805 |
| LQW2BHN39J03  | 390 ±5%            | 10                      | 170                      | 2.50 max.              | 15          | 25.2                    | 400 min.                             | 0805 |
| LQW2BHN39K03  | 390 ±10%           | 10                      | 170                      | 2.50 max.              | 15          | 25.2                    | 400 min.                             | 0805 |
| LQW2BHN47J03  | 470 ±5%            | 10                      | 160                      | 2.80 max.              | 15          | 25.2                    | 350 min.                             | 0805 |
| LQW2BHN47K03  | 470 ±10%           | 10                      | 160                      | 2.80 max.              | 15          | 25.2                    | 350 min.                             | 0805 |

Operating Temp. Range : -25°C to 85°C

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

| 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<br>(MHz) | EIA  |
|---------------|--------------------|-------------------------|--------------------------|------------------------|-------------|-------------------------|--------------------------------------|------|
| LQW2BHN2N7D13 | 2.7 ±0.5nH         | 100                     | 1900                     | 0.02 max.              | 20          | 250                     | 6000 min.                            | 0805 |
| LQW2BHN3N1D13 | 3.1 ±0.5nH         | 100                     | 1800                     | 0.02 max.              | 20          | 250                     | 6000 min.                            | 0805 |
| LQW2BHN3N3D13 | 3.3 ±0.5nH         | 100                     | 1700                     | 0.02 max.              | 20          | 250                     | 6000 min.                            | 0805 |
| LQW2BHN5N6D13 | 5.6 ±0.5nH         | 100                     | 1500                     | 0.02 max.              | 35          | 250                     | 6000 min.                            | 0805 |
| LQW2BHN6N8D13 | 6.8 ±0.5nH         | 100                     | 1400                     | 0.02 max.              | 35          | 250                     | 5400 min.                            | 0805 |
| LQW2BHN8N6D13 | 8.6 ±0.5nH         | 100                     | 1300                     | 0.03 max.              | 35          | 250                     | 3900 min.                            | 0805 |
| LQW2BHN10NJ13 | 10 ±5%             | 100                     | 1320                     | 0.03 max.              | 35          | 250                     | 3300 min.                            | 0805 |
| LQW2BHN12NK13 | 12 ±10%            | 100                     | 1100                     | 0.04 max.              | 40          | 250                     | 3200 min.                            | 0805 |
| LQW2BHN15NK13 | 15 ±10%            | 100                     | 1000                     | 0.04 max.              | 40          | 250                     | 3100 min.                            | 0805 |
| LQW2BHN18NK13 | 18.8 ±10%          | 100                     | 1000                     | 0.05 max.              | 40          | 250                     | 2600 min.                            | 0805 |
| LQW2BHN21NK13 | 21 ±10%            | 100                     | 950                      | 0.05 max.              | 40          | 250                     | 2200 min.                            | 0805 |
| LQW2BHN27NK13 | 27 ±10%            | 100                     | 900                      | 0.06 max.              | 40          | 250                     | 1800 min.                            | 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 telecommunication 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%)
4. LQW31H\_03: Does not contain lead.



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

Operating Temp. Range : -25°C to 85°C

### ■ Q-Frequency Characteristics



# Chip Coils

**muRata**

## High Frequency Winding Type LQH31H Series

LQH31H series is winding 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.
4. LQH31H\_03: Does not contain lead.



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

Operating Temp. Range : -25°C to 85°C

### ■ Q-Frequency Characteristics



# Chip Coils

**muRata**

## for General Use Monolithic Type LQM18N/LQM21N Series

### LQM18N Series

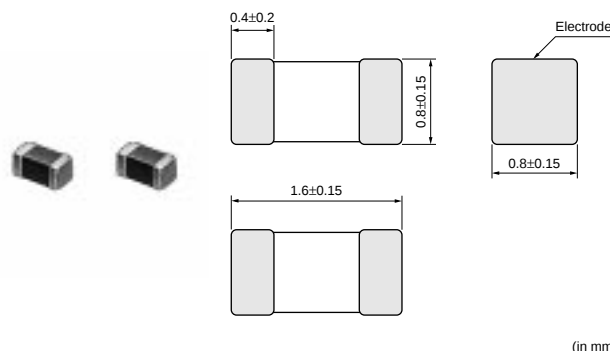
The LQM18N series of magnetically shielded chip coils was developed by using original multilayer process technology and magnetic materials. Compact size is suitable for high density mounting. Shielded construction is not affected by interference from peripheral components.

#### ■ Features

1. Magnetically shielded structure provides excellent characteristics in cross talk 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.

#### ■ Applications

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



(in mm)

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

Operating Temp. Range : -40°C to +85°C

## ■ Q-Frequency Characteristics



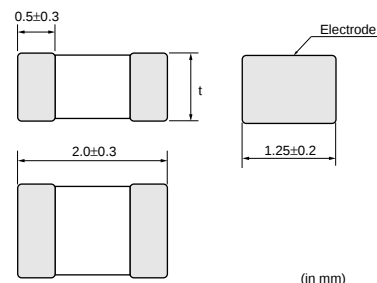
## ■ Inductance-Current Characteristics



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

Operating Temp. Range : -40°C to 85°C

## ■ Q-Frequency Characteristics



## ■ Inductance-Current Characteristics



# Chip Coils

**muRata**

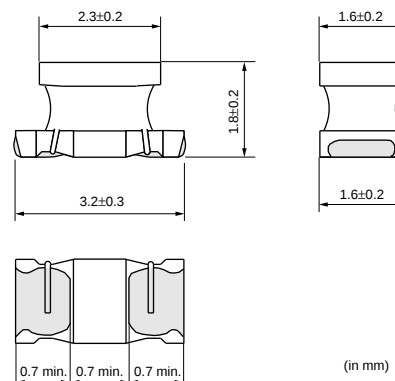
## for General Use Winding Type LQH31M/LQH32M/LQH43M (N) Series

### LQH31M Series

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

#### ■ Features

1. Wide inductance range from 0.15 to 100 microH
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
6. LQH31M\_03: Does not contain lead.



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

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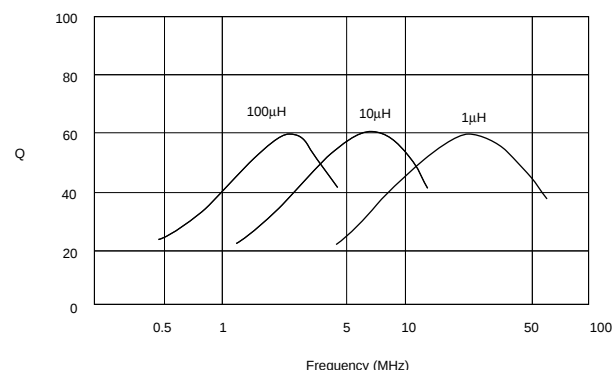
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| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency (MHz) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|----------|----------------------|--------------------------------|------|
| LQH31MN180J03 | 18 ±5%          | 1                    | 85                 | 3.4 ±30%            | 35       | 5                    | 15 min.                        | 1206 |
| LQH31MN180K03 | 18 ±10%         | 1                    | 85                 | 3.4 ±30%            | 35       | 5                    | 15 min.                        | 1206 |
| LQH31MN220J03 | 22 ±5%          | 1                    | 85                 | 3.1 ±30%            | 40       | 2.5                  | 14 min.                        | 1206 |
| LQH31MN220K03 | 22 ±10%         | 1                    | 85                 | 3.1 ±30%            | 40       | 2.5                  | 14 min.                        | 1206 |
| LQH31MN270J03 | 27 ±5%          | 1                    | 85                 | 3.4 ±30%            | 40       | 2.5                  | 13 min.                        | 1206 |
| LQH31MN270K03 | 27 ±10%         | 1                    | 85                 | 3.4 ±30%            | 40       | 2.5                  | 13 min.                        | 1206 |
| LQH31MN330J03 | 33 ±5%          | 1                    | 80                 | 3.8 ±30%            | 40       | 2.5                  | 12 min.                        | 1206 |
| LQH31MN330K03 | 33 ±10%         | 1                    | 80                 | 3.8 ±30%            | 40       | 2.5                  | 12 min.                        | 1206 |
| LQH31MN390J03 | 39 ±5%          | 1                    | 55                 | 7.2 ±30%            | 40       | 2.5                  | 11 min.                        | 1206 |
| LQH31MN390K03 | 39 ±10%         | 1                    | 55                 | 7.2 ±30%            | 40       | 2.5                  | 11 min.                        | 1206 |
| LQH31MN470J03 | 47 ±5%          | 1                    | 55                 | 8 ±30%              | 40       | 2.5                  | 10 min.                        | 1206 |
| LQH31MN470K03 | 47 ±10%         | 1                    | 55                 | 8.0 ±30%            | 40       | 2.5                  | 10 min.                        | 1206 |
| LQH31MN560J03 | 56 ±5%          | 1                    | 50                 | 8.9 ±30%            | 40       | 2.5                  | 9 min.                         | 1206 |
| LQH31MN560K03 | 56 ±10%         | 1                    | 50                 | 8.9 ±30%            | 40       | 2.5                  | 9 min.                         | 1206 |
| LQH31MN680J03 | 68 ±5%          | 1                    | 50                 | 9.9 ±30%            | 40       | 2.5                  | 8.5 min.                       | 1206 |
| LQH31MN680K03 | 68 ±10%         | 1                    | 50                 | 9.9 ±30%            | 40       | 2.5                  | 8.5 min.                       | 1206 |
| LQH31MN820J03 | 82 ±5%          | 1                    | 45                 | 11 ±30%             | 40       | 2.5                  | 7.5 min.                       | 1206 |
| LQH31MN820K03 | 82 ±10%         | 1                    | 45                 | 11 ±30%             | 40       | 2.5                  | 7.5 min.                       | 1206 |
| LQH31MN101J03 | 100 ±5%         | 1                    | 45                 | 12 ±30%             | 40       | 2.5                  | 7 min.                         | 1206 |
| LQH31MN101K03 | 100 ±10%        | 1                    | 45                 | 12 ±30%             | 40       | 2.5                  | 7 min.                         | 1206 |

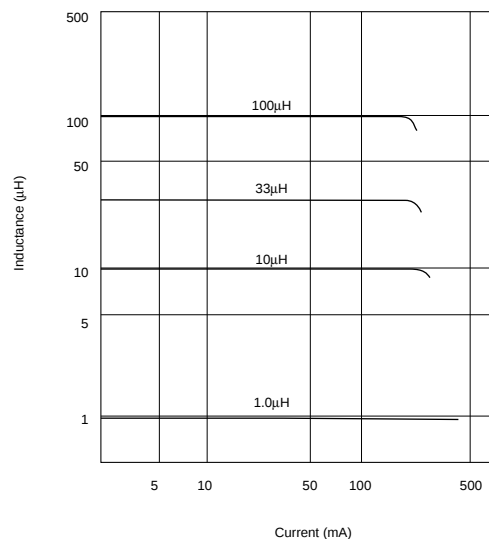
Operating Temp. Range : -25°C to 85°C

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
3. LQH32M\_23: Does not contain lead.



(in mm)

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

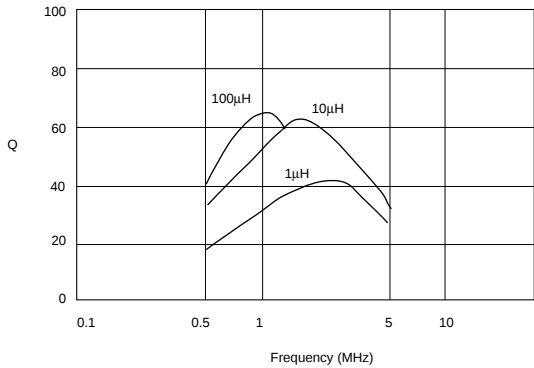
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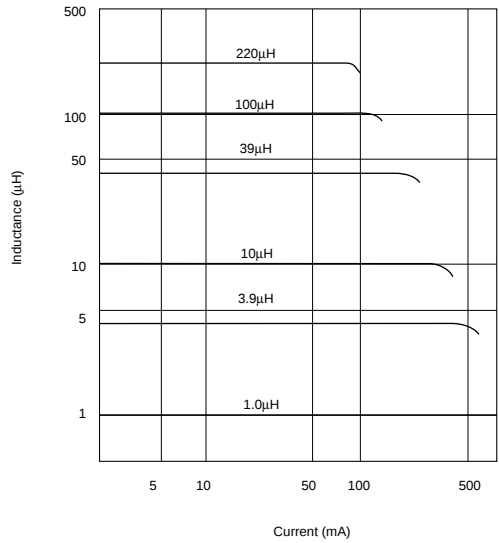
| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Q (min.) | Test Frequency | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|----------|----------------|--------------------------------|------|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

Operating Temp. Range : -25°C to 85°C

■ Q-Frequency Characteristics



■ Inductance-Current Characteristics



## LQH43M/N Series

LQH43M/N series consists of winding 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
4. LQH43M/N\_03: Does not contain lead.



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

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

Operating Temp. Range : -25°C to 85°C

## ■ Q-Frequency Characteristics



## ■ Inductance-Current Characteristics



# Chip Coils

**muRata**

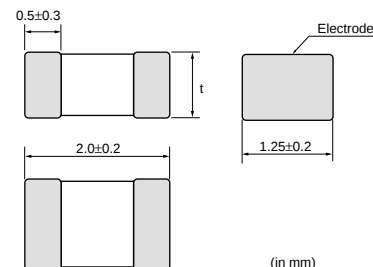
## for Choke Monolithic Type LQM21D/LQM21F/LQM31F Series

### 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 (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|--------------------------------|------|
| LQM21DN1R0N00 | 1.0 ±30%        | 1                    | 60                 | 0.10 max.           | 75 min.                        | 0805 |
| LQM21DN2R2N00 | 2.2 ±30%        | 1                    | 40                 | 0.17 max.           | 50 min.                        | 0805 |
| LQM21DN4R7N00 | 4.7 ±30%        | 1                    | 30                 | 0.30 max.           | 35 min.                        | 0805 |
| LQM21DN100N00 | 10 ±30%         | 1                    | 15                 | 0.50 max.           | 24 min.                        | 0805 |
| LQM21DN220N00 | 22 ±30%         | 1                    | 13                 | 0.65 max.           | 16 min.                        | 0805 |
| LQM21DN470N00 | 47 ±30%         | 1                    | 7                  | 1.20 max.           | 7.5 min.                       | 0805 |

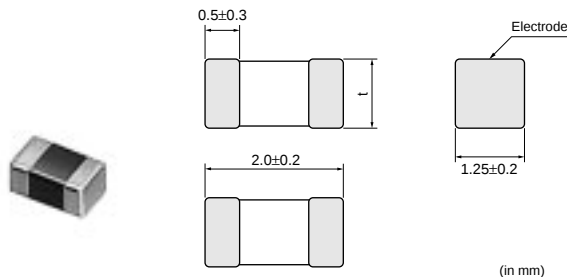
Operating Temp. Range : -40°C to 85°C

#### ■ Impedance-Frequency Characteristics



## LQM21F 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 2.2μH | 0.85±0.2 |
|                | Inductance : 4.7 to 47μH  | 1.25±0.2 |

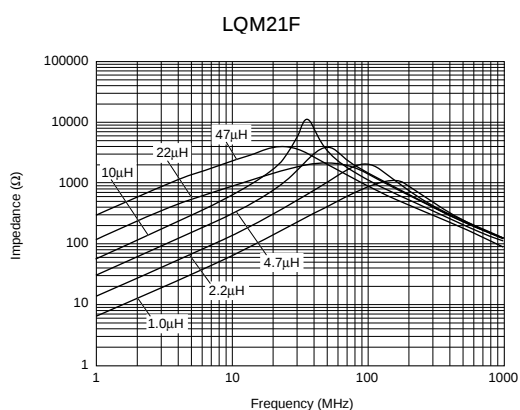
### ■ Features

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 cross talk 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.

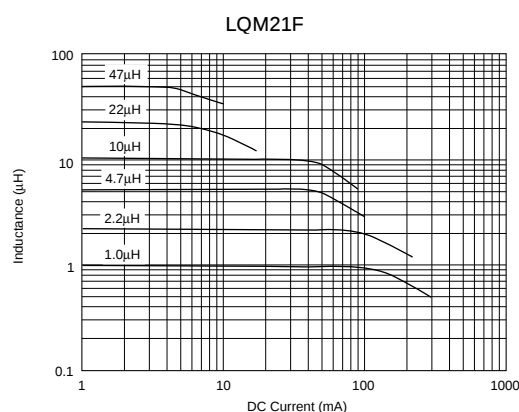
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|--------------------------------|------|
| LQM21FN1R0N00 |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

Operating Temp. Range : -40°C to 85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current 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 cross talk 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 telecommunication equipment such as PDA, Note-PC, digital camera, MD and DVD-RAM



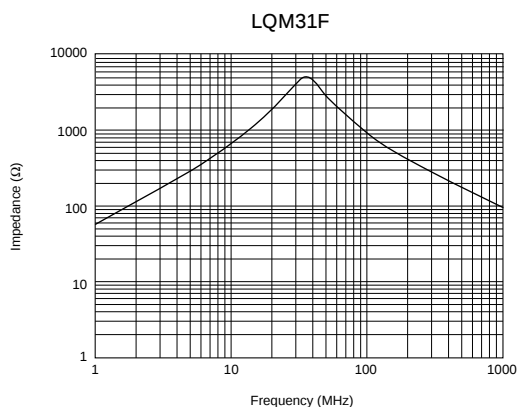
(in mm)

8

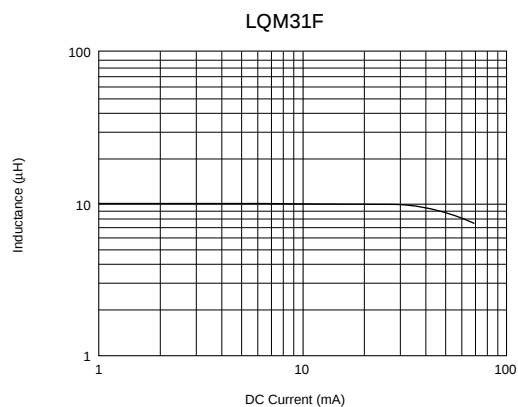
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|--------------------------------|------|
| LQM31FN100M00 |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

Operating Temp. Range : -40°C to 85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics



# Chip Coils

**muRata**

## for Choke Winding 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.

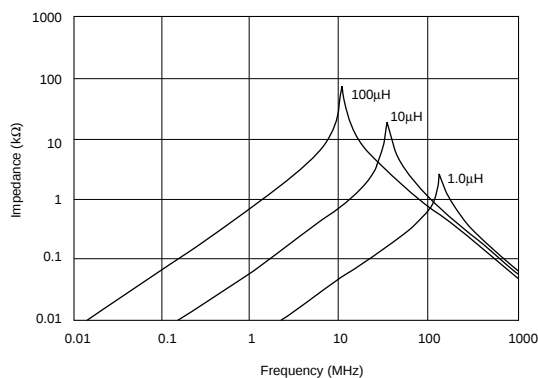
LQH31C\_03: Does not contain lead.



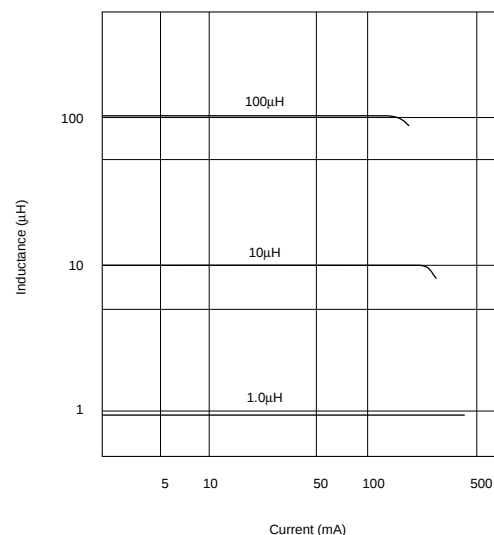
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|--------------------------------|------|
| LQH31CNR12M03 |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

Operating Temp. Range : -25°C to 85°C

#### ■ Impedance-Frequency Characteristics



#### ■ Inductance-Current Characteristics

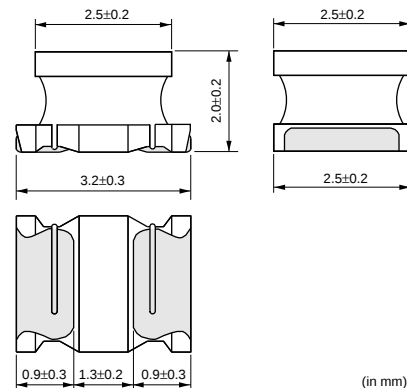


LQH32C series consists of miniature chip coils with low DC resistance, high current capacity, and high impedance characteristics. These features are made possible by the development of Murata's innovative automatic winding techniques.

### ■ 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.
4. LQH32C\_23/\_33: Does not contain lead.

LQH32C\_23/\_33



### LQH32C\_23 Series

| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|--------------------------------|------|
| LQH32CN1R0M23 | 1.0 ±20%        | 1MHz           | 800                | 0.06 ±30%           | 96 min.                        | 1210 |
| LQH32CN2R2M23 | 2.2 ±20%        | 1MHz           | 600                | 0.13 ±30%           | 64 min.                        | 1210 |
| LQH32CN4R7M23 | 4.7 ±20%        | 1MHz           | 450                | 0.2 ±30%            | 43 min.                        | 1210 |
| LQH32CN100K23 | 10 ±10%         | 1MHz           | 300                | 0.44 ±30%           | 26 min.                        | 1210 |
| LQH32CN220K23 | 22 ±10%         | 1MHz           | 250                | 0.71 ±30%           | 19 min.                        | 1210 |
| LQH32CN470K23 | 47 ±10%         | 1MHz           | 170                | 1.3 ±30%            | 15 min.                        | 1210 |
| LQH32CN101K23 | 100 ±10%        | 1MHz           | 100                | 3.5 ±30%            | 10 min.                        | 1210 |
| LQH32CN221K23 | 220 ±10%        | 1MHz           | 70                 | 8.4 ±30%            | 6.8 min.                       | 1210 |
| LQH32CN331K23 | 330 ±10%        | 1MHz           | 60                 | 10 ±30%             | 5.6 min.                       | 1210 |
| LQH32CN391K23 | 390 ±10%        | 1MHz           | 60                 | 17 ±30%             | 5 min.                         | 1210 |
| LQH32CN471K23 | 470 ±10%        | 1kHz           | 60                 | 19 ±30%             | 5 min.                         | 1210 |
| LQH32CN561K23 | 560 ±10%        | 1kHz           | 60                 | 22 ±30%             | 5 min.                         | 1210 |

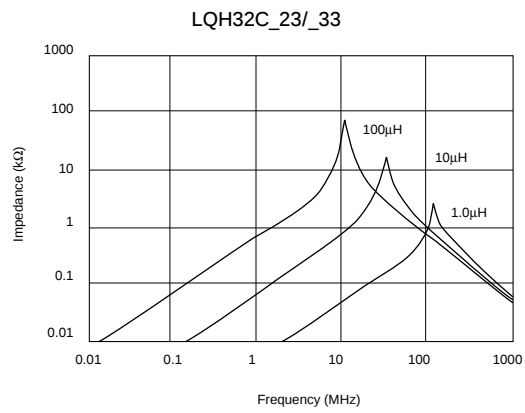
Operating Temp. Range : -25°C to 85°C

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

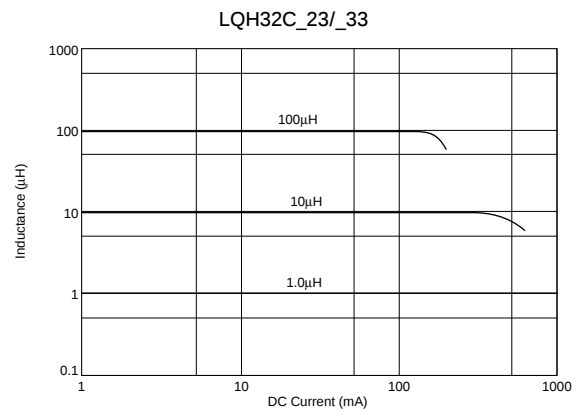
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|--------------------------------|------|
| LQH32CNR15M33 |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

### ■ Features (LQH32C\_53)

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.
4. LQH32C\_53: Does not contain lead.



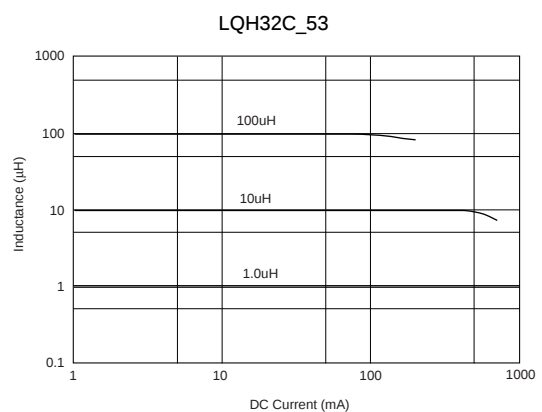
| Part Number   | Inductance (μH) | Test Frequency (MHz) | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------------|--------------------|---------------------|--------------------------------|------|
| LQH32CN1R0M53 |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

Operating Temp. Range : -25°C to 85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics

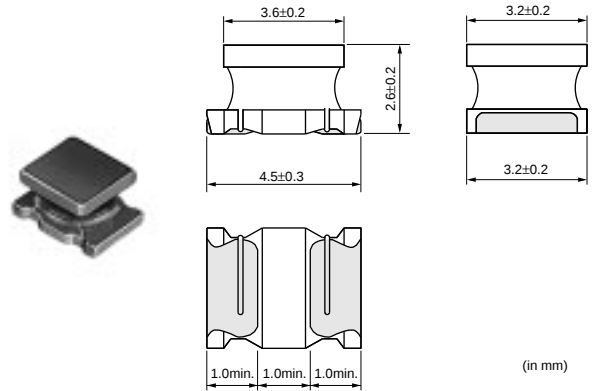


## LQH43C Series

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.
5. LQH43C\_03: Does not contain lead.



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

Operating Temp. Range : -25°C to 85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics



# Chip Coils

**muRata**

## 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 microH.
4. Magnetically shielded structure prevents interference occurring between peripheral components.
5. LQH3KS\_23: Does not contain lead.



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

Operating Temp. Range : -25°C to 85°C

#### ■ Impedance-Frequency Characteristics



#### ■ Inductance-Current Characteristics



## LQH3KS\_53 Series (Low Profile Type)

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

### ■ Features

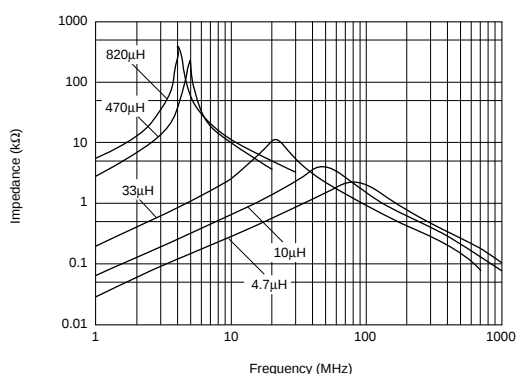
1. Low profile (1.8mm max.) and small size (3.3x3.3mm)
2. The series has large inductance of 3.3 to 820 micro H.
3. Low DC resistance
4. Does not contain lead.



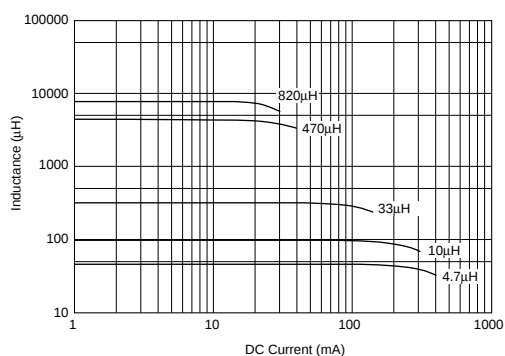
| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|--------------------------------|------|
| LQH3KSN3R3N53 | 3.3 ±30%  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

Operating Temp. Range : -25°C to 85°C

### ■ Impedance-Frequency Characteristics



### ■ Inductance-Current Characteristics



# Chip Coils

**muRata**

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

### LQH55D Series

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

#### ■ Features

1. Low direct current resistance, large current capacity and large inductance
2. For DC/DC converters and DC power supply circuits
3. LQH55D\_03: Does not contain lead



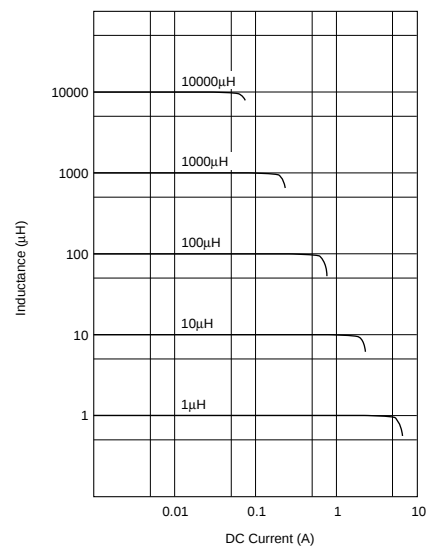
| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|--------------------------------|------|
| LQH55DNR12M03 | 0.12 ±20% 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

Operating Temp. Range : -25°C to 80°C

## ■ Impedance-Frequency Characteristics



## ■ Inductance-Current Characteristics

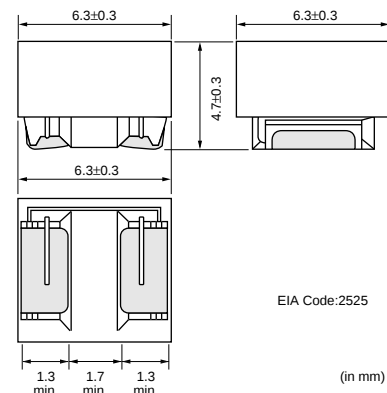


## LQH66S Series

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

### ■ Features

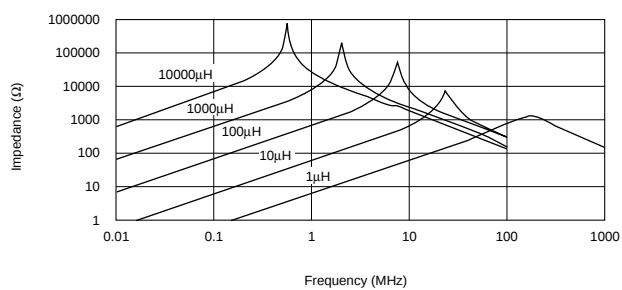
1. Low direct current resistance, large current capacity and large inductance
2. High density mounting
3. For DC/DC converters and DC power supply circuits
4. LQH66S\_03: Does not contain lead.



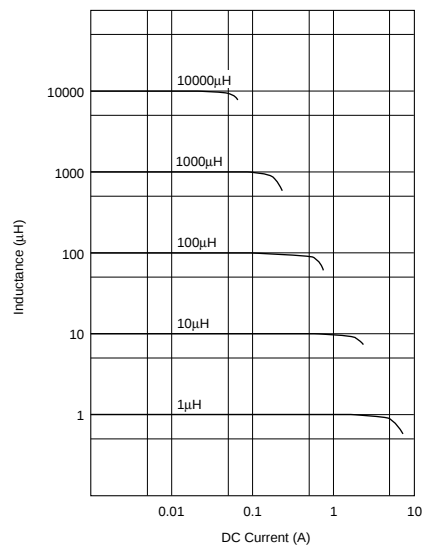
| Part Number   | Inductance (μH) | Test Frequency | Rated Current (mA) | DC Resistance (ohm) | Self Resonance Frequency (MHz) | EIA  |
|---------------|-----------------|----------------|--------------------|---------------------|--------------------------------|------|
| LQH66SNR27M03 | 0.27 ±20% 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

Operating Temp. Range : -25°C to 80°C

## ■ Impedance-Frequency Characteristics



## ■ Inductance-Current Characteristics

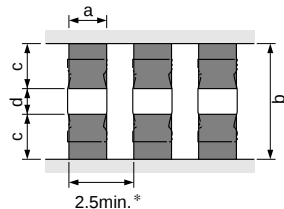
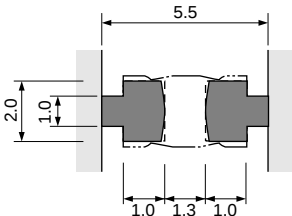
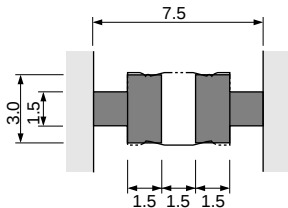
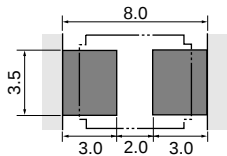


## Notice (Soldering and Mounting)

### 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 |                                  | <table><tr><th>Part Number</th><th>a</th><th>b</th><th>c</th></tr><tr><td>LQG15H</td><td>0.5-0.6</td><td>1.4-1.5</td><td>0.4</td></tr><tr><td>LQG18H</td><td>0.6-0.8</td><td>1.8-2.2</td><td>0.6-0.8</td></tr><tr><td rowspan="2">LQM18N</td><td>Flow</td><td>0.7</td><td>2.2-2.6</td><td rowspan="2">0.7</td></tr><tr><td>Reflow</td><td>1.8-2.0</td></tr><tr><td>LQM21N/21D/21F</td><td>1.0</td><td>3.0-4.0</td><td>1.2</td></tr><tr><td>LQM31F</td><td>1.2</td><td>4.2-5.2</td><td>2.0</td></tr><tr><td>LQP03T</td><td>0.2-0.3</td><td>0.8-0.9</td><td>0.2-0.3</td></tr><tr><td>LQP15M/15T</td><td>0.5-0.6</td><td>1.4-1.5</td><td>0.4</td></tr><tr><td>LQP18M</td><td>0.7-0.9</td><td>1.8-2.2</td><td>0.6-0.8</td></tr></table> |         |         | 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 |
| 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 |         |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQW15A<br>LQW18A<br>LQW2BH<br>LQW31H<br>LQH31M/31C/31H                                   |  <p>* 2.0 min. (LQW15A/18A)</p> | <table><tr><th>Part Number</th><th>a</th><th>b</th><th>c</th><th>d</th></tr><tr><td>LQH31M/31C/31H<br/>LQW31H</td><td>1.5</td><td>4.5</td><td>1.75</td><td>1.0</td></tr><tr><td>LQW2BH</td><td>1.2</td><td>3.0</td><td>1.1</td><td>0.8</td></tr><tr><td>LQW18A</td><td>0.7-1.0</td><td>1.8-2.0</td><td>0.6-0.7</td><td>0.6-0.8</td></tr><tr><td>LQW15A</td><td>0.65</td><td>1.2</td><td>0.35</td><td>0.50</td></tr></table> <p>If mounted at 2.5 (2.0) mm intervals as indicated in the diagram, attention should be paid to potential magnetic coupling effects when using the coil as a resonator.</p>                                                                                                                            |         |         |             | Part Number | a | b | c      | d       | LQH31M/31C/31H<br>LQW31H | 1.5 | 4.5    | 1.75    | 1.0     | LQW2BH  | 1.2    | 3.0  | 1.1 | 0.8     | LQW18A | 0.7-1.0 | 1.8-2.0 | 0.6-0.7        | 0.6-0.8 | LQW15A  | 0.65 | 1.2    | 0.35 | 0.50    |     |        |         |         |         |            |         |         |     |        |         |         |         |
| Part Number                                                                              | a                                                                                                                 | b                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | c       | d       |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQH31M/31C/31H<br>LQW31H                                                                 | 1.5                                                                                                               | 4.5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.75    | 1.0     |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQW2BH                                                                                   | 1.2                                                                                                               | 3.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.1     | 0.8     |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQW18A                                                                                   | 0.7-1.0                                                                                                           | 1.8-2.0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.6-0.7 | 0.6-0.8 |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQW15A                                                                                   | 0.65                                                                                                              | 1.2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0.35    | 0.50    |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQH32M<br>LQH32C<br>LQH3KS                                                               |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |         |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQH43M<br>LQH43N<br>LQH43C                                                               |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |         |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |
| LQH55D<br>LQH66S                                                                         |                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |         |             |             |   |   |        |         |                          |     |        |         |         |         |        |      |     |         |        |         |         |                |         |         |      |        |      |         |     |        |         |         |         |            |         |         |     |        |         |         |         |

Continued on the following page. ↗

## Notice (Soldering and Mounting)

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, LQH3KS/55D/66S series, please use reflow soldering.

#### (2) Soldering Temperature and Time

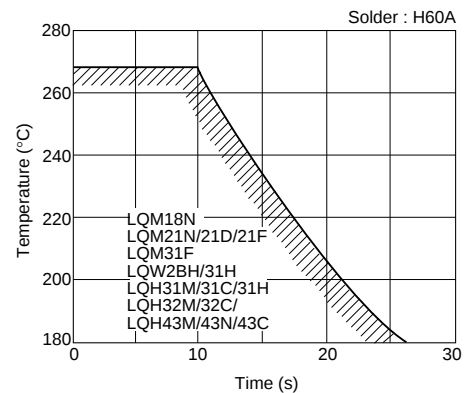
Solder within the temperature and time combinations indicated by the slanted lines in the following graphs. If soldering is repeated, please note that the allowed time is the accumulated time.

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

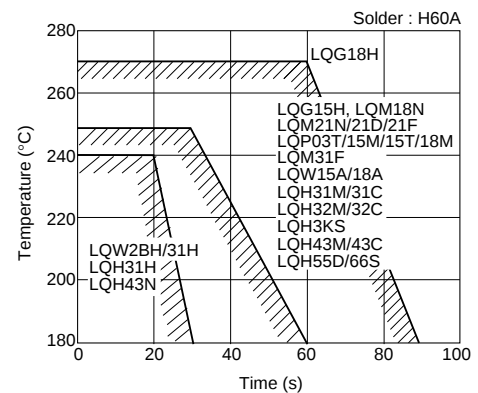
Use solder paste equivalent to H60A for LQP03T/15M/15T/18M and LQG15H/18H.

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

Allowable Flow Soldering Temperature and Time

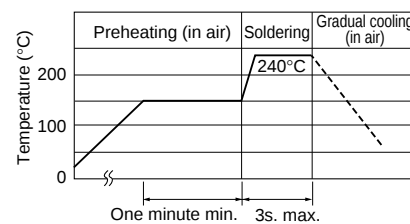


Allowable Reflow Soldering Temperature and Time

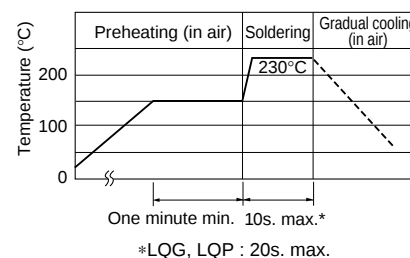


#### (3) Standard Soldering Conditions

##### Flow Soldering



##### Reflow Soldering



Continued on the following page. ➤

## Notice (Soldering and Mounting)

☐ Continued from the preceding page.

### (4) Reworking with Soldering Iron

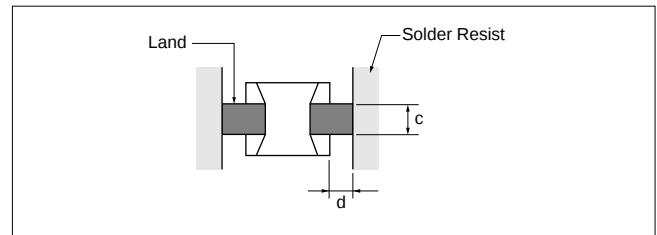
Preheating at 150°C for 1 minute is required. Do not directly touch the ceramic element with the tip of the soldering iron. The reworking soldering conditions are as follows:

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

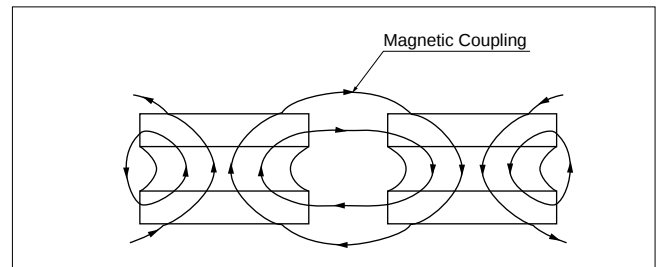
Large lands reduce Q of the mounted chip. Also, large protruding land areas (bordered by lines having dimensions 'c' and 'd' shown below) cause floating and electrode leaching.



#### (2) Magnetic Coupling

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

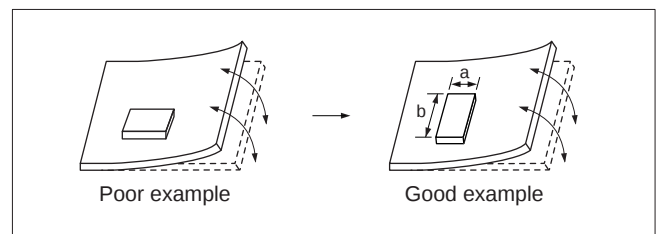
The LQG and LQM LQH3KS/66S series have a magnetically shielded structure. The structure makes their coupling coefficient smaller than that of conventional chip coils.



#### (3) PCB Warping

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

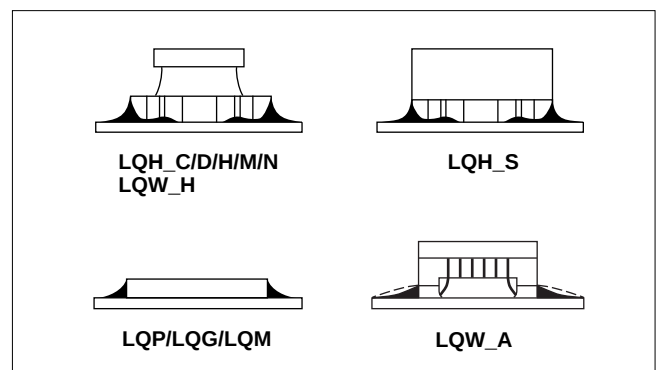
Products should be located in the sideways direction (Length:  $a < b$ ) to the mechanical stress.



#### (4) Amount of Solder Paste

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

● Standard thickness of solder paste  
LQP/LQG/LQM/LQW\_A : 100 to 150μm  
LQH/LQW\_H : 200 to 300μm



Continued on the following page. ☐

## Notice (Soldering and Mounting)

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   |
| LQM18N                   | 0.05-0.06                          | 0.06-0.07 |
| LQM21N/21D/21F           | 0.15-0.20                          | 0.20-0.25 |
| LQM31F                   | 0.20-0.25                          | 0.25-0.30 |
| LQW2BH                   | 0.116-0.18                         | —         |
| LQH31M/31C/31H<br>LQW31H | 0.18-0.20                          | 0.20-0.25 |
| LQH32M/32C               | 0.20-0.23                          | 0.27-0.35 |
| LQH43M(N)<br>LQH43C      | 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

- Surface active agent ( Clean Thru 750H )

- High grade alcohol ( Pine Alpha ST-100S )

- Hydrocarbon ( Techno Cleaner 375 )

- Alkaline Saponifier ( Aqua Cleaner 210SEI-cleaner should be diluted to 15% using deionized water. )

LQH\_S series : Aqueous agents should not be used because they may cause quality deterioration.

LQH series : Surface active agent and high grade alcohol can be used.

(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.

## Notice

### ■ Notice (Storage and Operating Conditions)

#### < 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.

Solderability should be checked 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 atmospheres 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.

### ■ 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.

#### 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.

## Packaging

### ■ Minimum Quantity and 8mm Width Taping Dimension



Paper Tape

| Part Number | Dimensions (in mm) |      |          | Minimum QTY. (pcs.) |             |      |
|-------------|--------------------|------|----------|---------------------|-------------|------|
|             | a                  | b    | c        | ø180mm reel         | ø330mm reel | Bulk |
| LQG15H      | 0.62               | 1.12 | 1.0 max. | 10000               | 50000       | 1000 |
| LQP03T      | 0.38               | 0.68 |          |                     | -           | 500  |
| LQP15T      | 0.62               | 1.12 |          |                     | 50000       |      |
| LQP15M      | 0.70               | 1.20 |          |                     | 10000       |      |
| LQP18M      | 1.19               | 2.0  |          |                     | -           |      |
| LQW15A      | 0.64/0.66<br>0.69  | 1.18 | 0.8 max. | 10000               | -           |      |



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 max. | 4000                | 10000       | 1000 |  |  |  |
| LQM21D (1-10μH)    |                    |      |          |                     |             |      |  |  |  |
| LQM21F (1-2.2μH)   |                    |      |          |                     |             |      |  |  |  |
| LQG18H             | 1.05               | 1.85 |          |                     |             | 500  |  |  |  |
| LQM18N             |                    |      |          |                     |             |      |  |  |  |
| LQW18A             | 1.00               | 1.80 |          |                     |             |      |  |  |  |
| LQW18A 10          | 1.1                | 1.90 |          |                     |             |      |  |  |  |

Plastic Tape

| Part Number            | Dimensions (in mm) |      |     | Minimum QTY. (pcs.) |             |      |
|------------------------|--------------------|------|-----|---------------------|-------------|------|
|                        | a                  | b    | c   | ø180mm reel         | ø330mm reel | Bulk |
| LQM21N (2.7-4.7μH)     | 1.45               | 2.25 | 1.3 | 3000                | 10000       | 1000 |
| LQM21D (22-47μH)       |                    |      |     |                     |             |      |
| LQM21F (4.7-47μH)      |                    |      |     |                     |             |      |
| LQM31F                 | 1.9                | 3.5  | 1.3 | 2000                | 7500        | -    |
| LQH31M/31C/31H, LQW31H | 1.9                | 3.6  | 2.0 |                     |             |      |
| LQW2BH                 | 1.75               | 2.3  |     |                     |             |      |
| LQH32M, LQH32C_33/_23  | 2.9                | 3.6  | 2.1 |                     |             |      |
| LOH32C_53              |                    |      | 1.7 |                     |             |      |

(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



### ●EKL MQG15A (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.

### ●EKLMQG18A (High-frequency Monolithic Type)

| No. | Part Number   | Quantity (pcs.) | Inductance |           | Q min. | DC Resistance (Ω) max. | Rated Current (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                |
| 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                |

### ●EKLMQP03B (High-frequency Film Type)

| No. | Part Number   | Quantity (pcs.) | Inductance |           | Q min. | DC Resistance (Ω) max. | Rated Current (mA) |
|-----|---------------|-----------------|------------|-----------|--------|------------------------|--------------------|
|     |               |                 | Nominal    | Tolerance |        |                        |                    |
| 1   | LQP03TN0N6C00 | 20              | 0.6nH      | ±0.2nH    | 11     | 0.08                   | 420                |
| 2   | LQP03TN0N8C00 | 20              | 0.8nH      | ±0.2nH    | 11     | 0.09                   | 410                |
| 3   | LQP03TN1N0C00 | 20              | 1.0nH      | ±0.2nH    | 11     | 0.10                   | 400                |
| 4   | LQP03TN1N2C00 | 20              | 1.2nH      | ±0.2nH    | 11     | 0.13                   | 280                |
| 5   | LQP03TN1N5C00 | 20              | 1.5nH      | ±0.2nH    | 11     | 0.16                   | 280                |
| 6   | LQP03TN1N8C00 | 20              | 1.8nH      | ±0.2nH    | 11     | 0.16                   | 280                |
| 7   | LQP03TN2N2C00 | 20              | 2.2nH      | ±0.2nH    | 11     | 0.18                   | 220                |
| 8   | LQP03TN2N7C00 | 20              | 2.7nH      | ±0.2nH    | 11     | 0.21                   | 220                |
| 9   | LQP03TN3N3C00 | 20              | 3.3nH      | ±0.2nH    | 11     | 0.30                   | 190                |
| 10  | LQP03TN3N9C00 | 20              | 3.9nH      | ±0.2nH    | 11     | 0.45                   | 170                |
| 11  | LQP03TN4N7J00 | 20              | 4.7nH      | ±5%       | 11     | 0.55                   | 160                |
| 12  | LQP03TN5N6J00 | 20              | 5.6nH      | ±5%       | 11     | 0.68                   | 140                |
| 13  | LQP03TN6N8J00 | 20              | 6.8nH      | ±5%       | 11     | 0.75                   | 130                |
| 14  | LQP03TN8N2J00 | 20              | 8.2nH      | ±5%       | 11     | 0.86                   | 110                |
| 15  | LQP03TN10NJ00 | 20              | 10nH       | ±5%       | 11     | 1.10                   | 100                |
| 16  | LQP03TN12NJ00 | 20              | 12nH       | ±5%       | 11     | 1.25                   | 90                 |
| 17  | LQP03TN15NJ00 | 20              | 15nH       | ±5%       | 11     | 1.50                   | 90                 |
| 18  | LQP03TN18HJ00 | 20              | 18nH       | ±3%       | 11     | 2.00                   | 80                 |
| 19  | LQP03TN22HJ00 | 20              | 22nH       | ±3%       | 11     | 2.60                   | 70                 |
| 20  | LQP03TN27HJ00 | 20              | 27nH       | ±3%       | 11     | 3.10                   | 70                 |

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## Design Kits

Continued from the preceding page.

### ●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                    |

### ●EKLMP15B (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   | LQW15AN1N5C00 | 20                 | 1.5nH      | ±0.2nH    | 10        | 0.03                      | 1000                  |
| 2   | LQW15AN2N7C00 | 20                 | 2.7nH      | ±0.2nH    | 20        | 0.05                      | 850                   |
| 3   | LQW15AN4N3C00 | 20                 | 4.3nH      | ±0.2nH    | 25        | 0.07                      | 750                   |
| 4   | LQW15AN4N7C00 | 20                 | 4.7nH      | ±0.2nH    | 25        | 0.07                      | 750                   |
| 5   | LQW15AN5N1C00 | 20                 | 5.1nH      | ±0.2nH    | 25        | 0.12                      | 600                   |
| 6   | LQW15AN6N2C00 | 20                 | 6.2nH      | ±0.2nH    | 25        | 0.09                      | 700                   |
| 7   | LQW15AN6N8H00 | 20                 | 6.8nH      | ±3%       | 25        | 0.09                      | 700                   |
| 8   | LQW15AN7N5H00 | 20                 | 7.5nH      | ±3%       | 25        | 0.13                      | 570                   |
| 9   | LQW15AN9N1H00 | 20                 | 9.1nH      | ±3%       | 25        | 0.14                      | 540                   |
| 10  | LQW15AN10NH00 | 20                 | 10nH       | ±3%       | 25        | 0.17                      | 500                   |
| 11  | LQW15AN12NH00 | 20                 | 12nH       | ±3%       | 30        | 0.14                      | 500                   |
| 12  | LQW15AN15NH00 | 20                 | 15nH       | ±3%       | 30        | 0.16                      | 460                   |
| 13  | LQW15AN18NH00 | 20                 | 18nH       | ±3%       | 25        | 0.27                      | 370                   |
| 14  | LQW15AN22NH00 | 20                 | 22nH       | ±3%       | 25        | 0.30                      | 310                   |
| 15  | LQW15AN27NH00 | 20                 | 27nH       | ±3%       | 25        | 0.52                      | 280                   |

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## Design Kits

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| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 16  | LQW15AN33NH00 | 20                 | 33nH       | ±3%       | 25        | 0.63                      | 260                   |
| 17  | LQW15AN39NH00 | 20                 | 39nH       | ±3%       | 25        | 0.70                      | 250                   |
| 18  | LQW15AN47NH00 | 20                 | 47nH       | ±3%       | 25        | 1.08                      | 210                   |
| 19  | LQW15AN56NH00 | 20                 | 56nH       | ±3%       | 25        | 1.17                      | 200                   |
| 20  | LQW15AN68NJ00 | 20                 | 68nH       | ±5%       | 20        | 1.96                      | 140                   |
| 21  | LQW15AN82NJ00 | 20                 | 82nH       | ±5%       | 20        | 2.24                      | 130                   |

### ●EKL MQ18GA (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                   |
| 12  | LQW18AN16NG00 | 20                 | 16nH       | ±2%       | 40        | 0.16                      | 550                   |
| 13  | LQW18AN18NG00 | 20                 | 18nH       | ±2%       | 40        | 0.16                      | 550                   |
| 14  | LQW18AN20NG00 | 20                 | 20nH       | ±2%       | 40        | 0.16                      | 550                   |
| 15  | LQW18AN22NG00 | 20                 | 22nH       | ±2%       | 40        | 0.17                      | 500                   |
| 16  | LQW18AN24NG00 | 20                 | 24nH       | ±2%       | 40        | 0.21                      | 500                   |
| 17  | LQW18AN27NG00 | 20                 | 27nH       | ±2%       | 40        | 0.21                      | 440                   |
| 18  | LQW18AN30NG00 | 20                 | 30nH       | ±2%       | 40        | 0.23                      | 420                   |
| 19  | LQW18AN33NG00 | 20                 | 33nH       | ±2%       | 40        | 0.23                      | 420                   |
| 20  | LQW18AN36NG00 | 20                 | 36nH       | ±2%       | 40        | 0.26                      | 400                   |
| 21  | LQW18AN39NG00 | 20                 | 39nH       | ±2%       | 40        | 0.26                      | 400                   |
| 22  | LQW18AN43NG00 | 20                 | 43nH       | ±2%       | 40        | 0.29                      | 380                   |
| 23  | LQW18AN47NG00 | 20                 | 47nH       | ±2%       | 38        | 0.29                      | 380                   |
| 24  | LQW18AN51NG00 | 20                 | 51nH       | ±2%       | 38        | 0.33                      | 370                   |
| 25  | LQW18AN56NG00 | 20                 | 56nH       | ±2%       | 38        | 0.35                      | 360                   |
| 26  | LQW18AN62NG00 | 20                 | 62nH       | ±2%       | 38        | 0.51                      | 280                   |
| 27  | LQW18AN68NG00 | 20                 | 68nH       | ±2%       | 38        | 0.38                      | 340                   |
| 28  | LQW18AN72NG00 | 20                 | 72nH       | ±2%       | 34        | 0.56                      | 270                   |
| 29  | LQW18AN75NG00 | 20                 | 75nH       | ±2%       | 34        | 0.56                      | 270                   |
| 30  | LQW18AN82NG00 | 20                 | 82nH       | ±2%       | 34        | 0.60                      | 250                   |
| 31  | LQW18AN91NG00 | 20                 | 91nH       | ±2%       | 34        | 0.64                      | 230                   |
| 32  | LQW18ANR10G00 | 20                 | 100nH      | ±2%       | 34        | 0.68                      | 220                   |
| 33  | LQW18ANR11G00 | 20                 | 110nH      | ±2%       | 32        | 1.2                       | 200                   |
| 34  | LQW18ANR12G00 | 20                 | 120nH      | ±2%       | 32        | 1.3                       | 180                   |
| 35  | LQW18ANR13G00 | 20                 | 130nH      | ±2%       | 32        | 1.4                       | 170                   |
| 36  | LQW18ANR15G00 | 20                 | 150nH      | ±2%       | 32        | 1.5                       | 160                   |
| 37  | LQW18ANR16G00 | 20                 | 160nH      | ±2%       | 32        | 2.1                       | 150                   |
| 38  | LQW18ANR18G00 | 20                 | 180nH      | ±2%       | 25        | 2.2                       | 140                   |
| 39  | LQW18ANR20G00 | 20                 | 200nH      | ±2%       | 25        | 2.4                       | 120                   |
| 40  | LQW18ANR22G00 | 20                 | 220nH      | ±2%       | 25        | 2.5                       | 120                   |
| 41  | LQW18ANR27G00 | 20                 | 270nH      | ±2%       | 30        | 3.4                       | 110                   |
| 42  | LQW18ANR33G00 | 20                 | 330nH      | ±2%       | 30        | 5.5                       | 85                    |

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## Design Kits

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| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 43  | LQW18ANR39G00 | 20                 | 390nH      | ±2%       | 30        | 6.2                       | 80                    |
| 44  | LQW18ANR47G00 | 20                 | 470nH      | ±2%       | 30        | 7.0                       | 75                    |
| 45  | LQW18AN3N9C10 | 20                 | 3.9nH      | ±0.2nH    | 38        | 0.032                     | 1000                  |
| 46  | LQW18AN6N8C10 | 20                 | 6.8nH      | ±0.2nH    | 38        | 0.045                     | 900                   |
| 47  | LQW18AN10NG10 | 20                 | 10nH       | ±2%       | 38        | 0.058                     | 800                   |
| 48  | LQW18AN12NG10 | 20                 | 12nH       | ±2%       | 38        | 0.071                     | 750                   |
| 49  | LQW18AN18NG10 | 20                 | 18nH       | ±2%       | 42        | 0.085                     | 700                   |
| 50  | LQW18AN22NG10 | 20                 | 22nH       | ±2%       | 42        | 0.099                     | 640                   |
| 51  | LQW18AN27NG10 | 20                 | 27nH       | ±2%       | 42        | 0.116                     | 590                   |

### ●EKLmq18JA (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   | LQW18AN2N2D10 | 20                 | 2.2nH      | ±0.5nH    | 25        | 0.018                     | 1400                  |
| 2   | LQW18AN3N6D00 | 20                 | 3.6nH      | ±0.5nH    | 25        | 0.059                     | 850                   |
| 3   | LQW18AN3N9D10 | 20                 | 3.9nH      | ±0.5nH    | 38        | 0.032                     | 1000                  |
| 4   | LQW18AN4N3D00 | 20                 | 4.3nH      | ±0.5nH    | 35        | 0.059                     | 850                   |
| 5   | LQW18AN4N7D00 | 20                 | 4.7nH      | ±0.5nH    | 35        | 0.059                     | 850                   |
| 6   | LQW18AN5N6D10 | 20                 | 5.6nH      | ±0.5nH    | 38        | 0.045                     | 900                   |
| 7   | LQW18AN6N2D00 | 20                 | 6.2nH      | ±0.5nH    | 35        | 0.082                     | 750                   |
| 8   | LQW18AN6N8D10 | 20                 | 6.8nH      | ±0.5nH    | 38        | 0.045                     | 900                   |
| 9   | LQW18AN7N5D00 | 20                 | 7.5nH      | ±0.5nH    | 35        | 0.082                     | 750                   |
| 10  | LQW18AN8N2D10 | 20                 | 8.2nH      | ±0.5nH    | 38        | 0.058                     | 800                   |
| 11  | LQW18AN8N7D00 | 20                 | 8.7nH      | ±0.5nH    | 35        | 0.11                      | 650                   |
| 12  | LQW18AN9N1D00 | 20                 | 9.1nH      | ±0.5nH    | 35        | 0.11                      | 650                   |
| 13  | LQW18AN9N5D00 | 20                 | 9.5nH      | ±0.5nH    | 35        | 0.11                      | 650                   |
| 14  | LQW18AN10NJ10 | 20                 | 10nH       | ±5%       | 38        | 0.058                     | 800                   |
| 15  | LQW18AN11NJ00 | 20                 | 11nH       | ±5%       | 35        | 0.11                      | 650                   |
| 16  | LQW18AN12NJ10 | 20                 | 12nH       | ±5%       | 38        | 0.071                     | 750                   |
| 17  | LQW18AN13NJ00 | 20                 | 13nH       | ±5%       | 35        | 0.13                      | 600                   |
| 18  | LQW18AN15NJ10 | 20                 | 15nH       | ±5%       | 42        | 0.085                     | 700                   |
| 19  | LQW18AN16NJ00 | 20                 | 16nH       | ±5%       | 40        | 0.16                      | 550                   |
| 20  | LQW18AN18NJ10 | 20                 | 18nH       | ±5%       | 42        | 0.085                     | 700                   |
| 21  | LQW18AN20NJ00 | 20                 | 20nH       | ±5%       | 40        | 0.16                      | 550                   |
| 22  | LQW18AN22NJ10 | 20                 | 22nH       | ±5%       | 42        | 0.099                     | 640                   |
| 23  | LQW18AN24NJ00 | 20                 | 24nH       | ±5%       | 40        | 0.21                      | 500                   |
| 24  | LQW18AN27NJ10 | 20                 | 27nH       | ±5%       | 42        | 0.116                     | 590                   |
| 25  | LQW18AN30NJ00 | 20                 | 30nH       | ±5%       | 40        | 0.23                      | 420                   |
| 26  | LQW18AN33NJ10 | 20                 | 33nH       | ±5%       | 42        | 0.132                     | 550                   |
| 27  | LQW18AN36NJ00 | 20                 | 36nH       | ±5%       | 40        | 0.26                      | 400                   |
| 28  | LQW18AN39NJ00 | 20                 | 39nH       | ±5%       | 40        | 0.26                      | 400                   |
| 29  | LQW18AN43NJ00 | 20                 | 43nH       | ±5%       | 40        | 0.29                      | 380                   |
| 30  | LQW18AN47NJ00 | 20                 | 47nH       | ±5%       | 38        | 0.29                      | 380                   |
| 31  | LQW18AN51NJ00 | 20                 | 51nH       | ±5%       | 38        | 0.33                      | 370                   |
| 32  | LQW18AN56NJ00 | 20                 | 56nH       | ±5%       | 38        | 0.35                      | 360                   |
| 33  | LQW18AN62NJ00 | 20                 | 62nH       | ±5%       | 38        | 0.51                      | 280                   |
| 34  | LQW18AN68NJ00 | 20                 | 68nH       | ±5%       | 38        | 0.38                      | 340                   |
| 35  | LQW18AN72NJ00 | 20                 | 72nH       | ±5%       | 34        | 0.56                      | 270                   |
| 36  | LQW18AN75NJ00 | 20                 | 75nH       | ±5%       | 34        | 0.56                      | 270                   |
| 37  | LQW18AN82NJ00 | 20                 | 82nH       | ±5%       | 34        | 0.60                      | 250                   |
| 38  | LQW18AN91NJ00 | 20                 | 91nH       | ±5%       | 34        | 0.64                      | 230                   |
| 39  | LQW18ANR10J00 | 20                 | 100nH      | ±5%       | 34        | 0.68                      | 220                   |

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| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 40  | LQW18ANR11J00 | 20                 | 110nH      | ±5%       | 32        | 1.2                       | 200                   |
| 41  | LQW18ANR12J00 | 20                 | 120nH      | ±5%       | 32        | 1.3                       | 180                   |
| 42  | LQW18ANR13J00 | 20                 | 130nH      | ±5%       | 32        | 1.4                       | 170                   |
| 43  | LQW18ANR15J00 | 20                 | 150nH      | ±5%       | 32        | 1.5                       | 160                   |
| 44  | LQW18ANR16J00 | 20                 | 160nH      | ±5%       | 32        | 2.1                       | 150                   |
| 45  | LQW18ANR18J00 | 20                 | 180nH      | ±5%       | 25        | 2.2                       | 140                   |
| 46  | LQW18ANR20J00 | 20                 | 200nH      | ±5%       | 25        | 2.4                       | 120                   |
| 47  | LQW18ANR22J00 | 20                 | 220nH      | ±5%       | 25        | 2.5                       | 120                   |
| 48  | LQW18ANR27J00 | 20                 | 270nH      | ±5%       | 30        | 3.4                       | 110                   |
| 49  | LQW18ANR33J00 | 20                 | 330nH      | ±5%       | 30        | 5.5                       | 85                    |
| 50  | LQW18ANR39J00 | 20                 | 390nH      | ±5%       | 30        | 6.2                       | 80                    |
| 51  | LQW18ANR47J00 | 20                 | 470nH      | ±5%       | 30        | 7.0                       | 75                    |

### ●EKLMQW2BB (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   | LQW2BHN2N7D13 | 20                 | 2.7nH      | ±0.5nH    | 20        | 0.02                      | 1900                  |
| 2   | LQW2BHN3N1D13 | 20                 | 3.1nH      | ±0.5nH    | 20        | 0.02                      | 1800                  |
| 3   | LQW2BHN3N3D13 | 20                 | 3.3nH      | ±0.5nH    | 20        | 0.02                      | 1700                  |
| 4   | LQW2BHN5N6D13 | 20                 | 5.6nH      | ±0.5nH    | 35        | 0.02                      | 1500                  |
| 5   | LQW2BHN6N8D13 | 20                 | 6.8nH      | ±0.5nH    | 35        | 0.02                      | 1400                  |
| 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                   |

### ●EKLMQM18A (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                    |

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## Design Kits

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| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | Q<br>min. | DC Resistance<br>(Ω) max. | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|-----------|---------------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |           |                           |                       |
| 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                    |

### ●EKLMM21NA (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   | 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<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) | Rated Current<br>(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                    |

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## Design Kits

Continued from the preceding page.

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|----------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                      |                       |
| 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                    |

### ●EKLH32MB (for General Use Winding Type)

| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) max. | Rated Current<br>(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                   |
| 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                    |

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## Design Kits

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### ●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                   |
| 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                    |

### ●EKL43CB (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                   |

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## Design Kits

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| No. | Part Number   | Quantity<br>(pcs.) | Inductance |           | DC Resistance<br>(Ω) | Rated Current<br>(mA) |
|-----|---------------|--------------------|------------|-----------|----------------------|-----------------------|
|     |               |                    | Nominal    | Tolerance |                      |                       |
| 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                   |

### ●EKL43CB (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>

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  - ⑨ Data-processing equipment            ⑩ Application of similar complexity and/or reliability requirements to the applications listed in the above
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