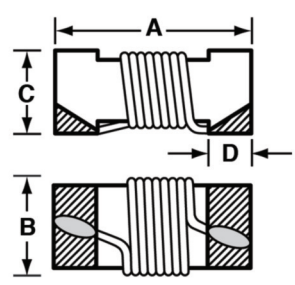


# SERIES S0603

## Hi-Rel Surface Mount Chip Inductors



← Actual Size (Max.)

### Physical Parameters

|   | Inches        | Millimeters   |
|---|---------------|---------------|
| D | 0.011 - 0.010 | 0.279 - 0.381 |
| A | 0.058 - 0.062 | 1.473 - 1.575 |
| B | 0.028 - 0.035 | 0.711 - 0.889 |
| C | 0.040 Max.    | 1.016 Max.    |

**Operating Temperature Range** -55°C to +125°C

**Current Rating at 90°C Ambient** +35°C Rise

**Insulation Resistance at 100 Vdc** 1000 Mohm Min.

**Dielectric Withstanding Voltage (DWV)** 200 Vrms.

### Core Material / Termination

- Al<sub>2</sub>O<sub>3</sub> / Sintered MoMn / Electroplated Ni /  
 Electroplated Au Finish (RoHS)  
 Termination Options: 1. Au Finish (RoHS)  
 2. SnPb Solder  
 3. Pb Free Solder (RoHS)

**Electrical Characteristics** Measured at +25°C

| DASH NUMBER* | INDUCTANCE (nH) ± 5% | Q MINIMUM | INDUCTANCE & Q TEST FREQUENCY (MHz) | SRF MINIMUM (MHz) | DC RESISTANCE MAXIMUM (OHMS) | CURRENT RATING MAXIMUM (mA) |
|--------------|----------------------|-----------|-------------------------------------|-------------------|------------------------------|-----------------------------|
| SERIES S0603 |                      |           |                                     |                   |                              |                             |
| -3N3J        | 3.3                  | 18        | 250                                 | 6000              | 0.100                        | 700                         |
| -5N6J        | 5.6                  | 18        | 250                                 | 5800              | 0.190                        | 700                         |
| -8N2J        | 8.2                  | 24        | 250                                 | 4800              | 0.150                        | 700                         |
| -10NJ        | 10.0                 | 28        | 250                                 | 4800              | 0.160                        | 700                         |
| -15NJ        | 15.0                 | 32        | 250                                 | 4000              | 0.200                        | 700                         |
| -22NJ        | 22.0                 | 35        | 250                                 | 3000              | 0.220                        | 700                         |
| -33NJ        | 33.0                 | 37        | 250                                 | 2300              | 0.250                        | 600                         |
| -39NJ        | 39.0                 | 37        | 250                                 | 2200              | 0.280                        | 600                         |
| -47NJ        | 47.0                 | 35        | 200                                 | 2000              | 0.310                        | 600                         |
| -56NJ        | 56.0                 | 35        | 200                                 | 1900              | 0.340                        | 600                         |
| -68NJ        | 68.0                 | 34        | 200                                 | 1700              | 0.370                        | 600                         |
| -82NJ        | 82.0                 | 34        | 150                                 | 1700              | 0.570                        | 400                         |
| -101NJ       | 100.0                | 31        | 150                                 | 1400              | 0.610                        | 400                         |
| -151NJ       | 150.0                | 29        | 100                                 | 1300              | 0.980                        | 280                         |
| -221NJ       | 220.0                | 22        | 100                                 | 1200              | 1.700                        | 250                         |
| -271NJ       | 270.0                | 22        | 100                                 | 900               | 2.200                        | 200                         |

Inductance Tolerance Options H (± 3%), G (± 2%), F (± 1%)

### S0603 Test Plan Advantages

- Provides multiple screening alternatives
- Eliminates necessity for SCD's
- Provides quicker delivery
- Reduces overall costs

### How To Order:

|              |             |          |          |          |                          |
|--------------|-------------|----------|----------|----------|--------------------------|
| <b>S0603</b> | <b>101N</b> | <b>J</b> | <b>1</b> | <b>C</b> | (A) Inductor Series      |
| (A)          | (B)         | (C)      | (D)      | (E)      | (B) Inductance Value     |
|              |             |          |          |          | (C) Inductance Tolerance |
|              |             |          |          |          | (D) Termination Finish   |
|              |             |          |          |          | (E) Test Plan Screening  |

### S0603 Test Plan Options

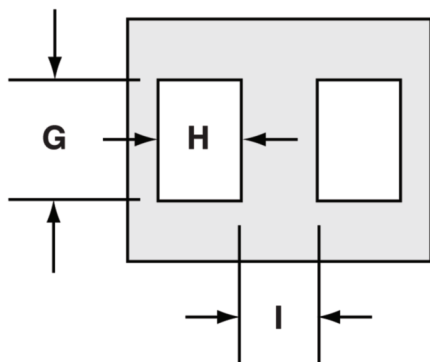
| Ordering Option Code                                   |               | S                              | C                              | B                              | D                              | E                          |
|--------------------------------------------------------|---------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|----------------------------|
| Screening Level                                        |               | MIL-STD-981 Class "S"          | MIL-STD-981 Class "S" Modified | MIL-STD-981 Class "B"          | MIL-STD-981 Class "B" Modified | High Temp                  |
| Test                                                   | Method        | 25 Cycles 1/ (-55°C to +125°C) | 25 Cycles (-55°C to +125°C)    | 25 Cycles 1/ (-55°C to +125°C) | 25 Cycles (-55°C to +125°C)    | 5 Cycles (-55°C to +175°C) |
| Thermal Shock                                          | MIL-PRF-83446 | 125°C (96 hours)               | 125°C (96 hours)               | 125°C (96 hours)               | 125°C (96 hours)               | 200°C (96 hours)           |
| No-Load Burn-In                                        | MIL-STD-981   | 200 Vrms                       | 200 Vrms                       | 200 Vrms                       | 200 Vrms                       | 200°C (96 hours)           |
| Dielectric Withstanding Voltage                        | MIL-PRF-83446 | 1000 Mohms                     | 1000 Mohms                     | 1000 Mohms                     | 1000 Mohms                     |                            |
| Insulation Resistance                                  | MIL-PRF-83446 |                                |                                |                                |                                |                            |
| Electrical Characteristics: L, Q, DCR, SRF             | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| Radiographic Inspection                                | MIL-STD-981   | •                              | •                              | •                              | •                              | •                          |
| Visual & Dimensional Examination (external)            | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Electrical Characteristics (initial): L, Q, DCR, SRF | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Low Temperature Operation                            | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Temperature Rise                                     | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Overload                                             | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Moisture Resistance                                  | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Electrical Characteristics: L and Q                  | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * High Temperature Exposure                            | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Electrical Characteristics (final)                   | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Bond Strength                                        | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Visual & Mechanical Examination (external)           | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Visual & Mechanical Examination (internal)           | MIL-STD-981   | •                              | •                              | •                              | •                              | •                          |
| * Solderability                                        | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Electrical Characteristics (initial): L, Q, DCR, SRF | MIL-PRF-83446 | •                              | •                              | •                              | •                              | •                          |
| * Life                                                 | MIL-PRF-83446 | 2000 Hours (90°C Ambient)      | 500 Hours (90°C Ambient)       |                                |                                | 500 Hours (175°C Ambient)  |
| * Dielectric Withstanding Voltage                      | MIL-PRF-83446 | 80 Vrms                        | 80 Vrms                        |                                |                                |                            |
| * Insulation Resistance                                | MIL-PRF-83446 | 1000 Mohms                     | 1000 Mohms                     |                                |                                |                            |
| * Electrical Characteristics (final): L, Q, DCR, SRF   | MIL-PRF-83446 | •                              | •                              |                                |                                |                            |
| * Visual & Mechanical Examination (external)           | MIL-PRF-83446 | •                              | •                              |                                |                                |                            |
| Mechanical Shock/Vibration                             | MIL-STD-883   |                                |                                |                                |                                | •                          |

\*Destructive Test Units Required

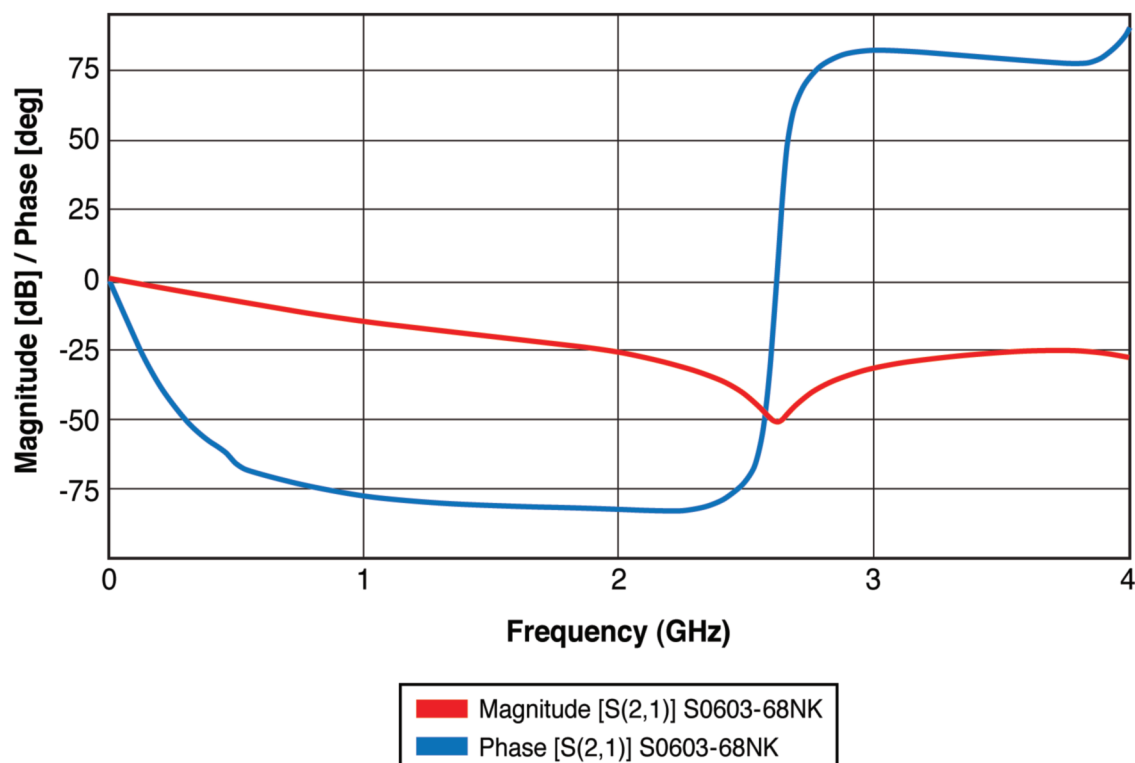
1/ Continually monitor continuity during the entire final cycle to verify no intermittent conditions.

**SERIES S0603**

Hi-Rel Surface Mount  
Chip Inductors

**Suggested Land Patterns**

| Delevan Series | G      |       | H      |       | I      |       |
|----------------|--------|-------|--------|-------|--------|-------|
|                | Inches | mm    | Inches | mm    | Inches | mm    |
| S0603 Series   | 0.040  | 1.016 | 0.025  | 0.635 | 0.025  | 0.635 |

**S-Parameters (Typical)**

All product specifications and data contained herein are subject to change without notice to improve reliability, function, performance, design or otherwise.