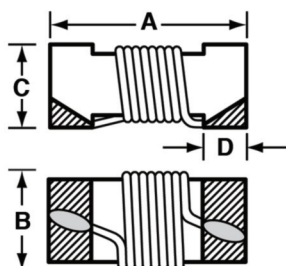


**SERIES S0603****Hi-Rel Surface Mount  
Chip Inductors**

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

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**

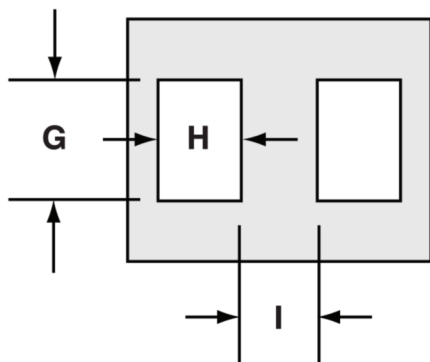
| Ordering Option Code                                   |               | S                                 | C                                 | B                                 | D                                 | E                             |
|--------------------------------------------------------|---------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-------------------------------|
| Screening Level                                        |               | MIL-STD-981<br>Class "S"          | MIL-STD-981<br>Class "S" Modified | MIL-STD-981<br>Class "B"          | MIL-STD-981<br>Class "B" Modified | High<br>Temp                  |
| Test                                                   | Method        |                                   |                                   |                                   |                                   |                               |
| Thermal Shock                                          | MIL-PRF-83446 | 25 Cycles 1/<br>(-55°C to +125°C) | 25 Cycles<br>(-55°C to +125°C)    | 25 Cycles 1/<br>(-55°C to +125°C) | 25 Cycles<br>(-55°C to +125°C)    | 5 Cycles<br>(-55°C to +175°C) |
| No-Load Burn-In                                        | MIL-STD-981   | 125°C (96 hours)                  | 125°C (96 hours)                  | 125°C (96 hours)                  | 125°C (96 hours)                  | 200°C (96 hours)              |
| Dielectric Withstanding Voltage                        | MIL-PRF-83446 | 200 Vrms                          |                                   | 200 Vrms                          |                                   |                               |
| Insulation Resistance                                  | MIL-PRF-83446 | 1000 Mohms                        |                                   | 1000 Mohms                        |                                   |                               |
| 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<br>(90°C Ambient)      | 500 Hours<br>(90°C Ambient)       |                                   |                                   | 500 Hours<br>(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

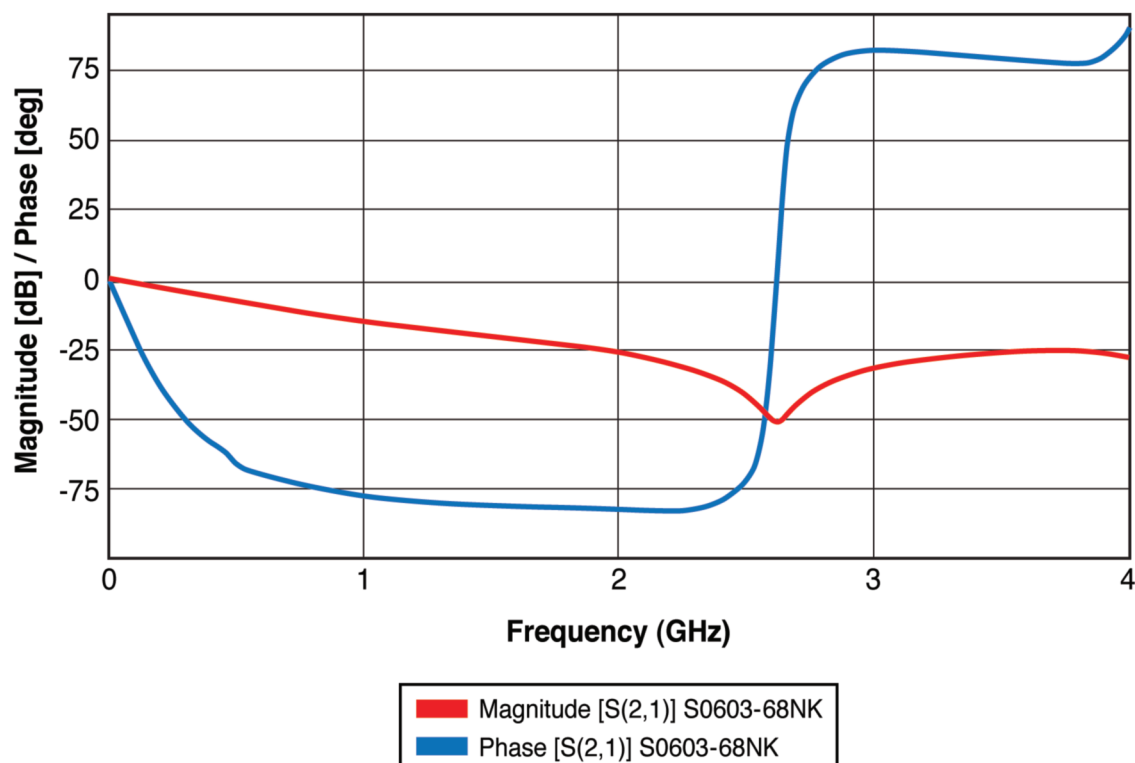
1/ Continually monitor continuity during the entire final cycle to verify no intermittent conditions.

**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.