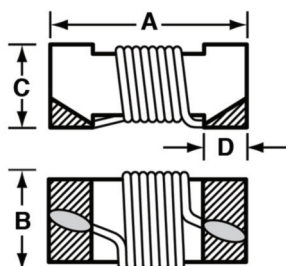


**SERIES S0402****Hi-Rel Surface Mount  
Chip Inductors**

Actual Size (Max.)

**Physical Parameters**

|   | Inches        | Millimeters   |
|---|---------------|---------------|
| D | 0.006 - 0.010 | 0.152 - 0.254 |
| A | 0.037 - 0.043 | 0.940 - 1.092 |
| B | 0.018 - 0.025 | 0.457 - 0.635 |
| C | 0.030 Max.    | 0.762 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 S0402 |                      |           |                                     |                   |                              |                             |
| -2N2J        | 2.2                  | 18        | 250                                 | 8500              | 0.090                        | 950                         |
| -3N3J        | 3.3                  | 18        | 250                                 | 7000              | 0.080                        | 800                         |
| -4N7J        | 4.7                  | 14        | 250                                 | 4700              | 0.150                        | 600                         |
| -6N8J        | 6.8                  | 19        | 250                                 | 4800              | 0.100                        | 600                         |
| -8N2J        | 8.2                  | 20        | 250                                 | 4400              | 0.130                        | 600                         |
| -10NJ        | 10.0                 | 20        | 250                                 | 3900              | 0.210                        | 475                         |
| -12NJ        | 12.0                 | 21        | 250                                 | 3600              | 0.220                        | 475                         |
| -15NJ        | 15.0                 | 23        | 250                                 | 3280              | 0.220                        | 475                         |
| -22NJ        | 22.0                 | 24        | 250                                 | 2800              | 0.350                        | 400                         |
| -27NJ        | 27.0                 | 23        | 250                                 | 2480              | 0.360                        | 400                         |
| -33NJ        | 33.0                 | 23        | 250                                 | 2350              | 0.370                        | 400                         |
| -47NJ        | 47.0                 | 19        | 250                                 | 2100              | 0.830                        | 150                         |
| -56NJ        | 56.0                 | 21        | 250                                 | 1700              | 1.000                        | 100                         |
| -68NJ        | 68.0                 | 20        | 250                                 | 1620              | 1.180                        | 100                         |

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

**S0402 Test Plan Advantages**

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

**How To Order:****S0402**

(A)

**8N2**

(B)

**G**

(C)

**2**

(D)

**S**

(E)

(A) Inductor Series

(B) Inductance Value

(C) Inductance Tolerance

(D) Termination Finish

(E) Test Plan Screening

**S0402 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                  |
| <b>Test</b>                                            | <b>Method</b> |                                |                                |                                |                                |                            |
| Thermal Shock                                          | MIL-PRF-83446 | 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) |
| 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 (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   |                                |                                |                                |                                | •                          |

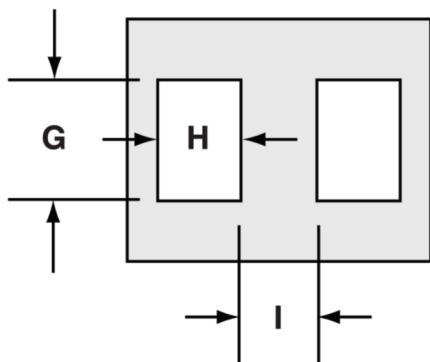
\*Destructive Test Units Required

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

# SERIES S0402

Hi-Rel Surface Mount  
Chip Inductors

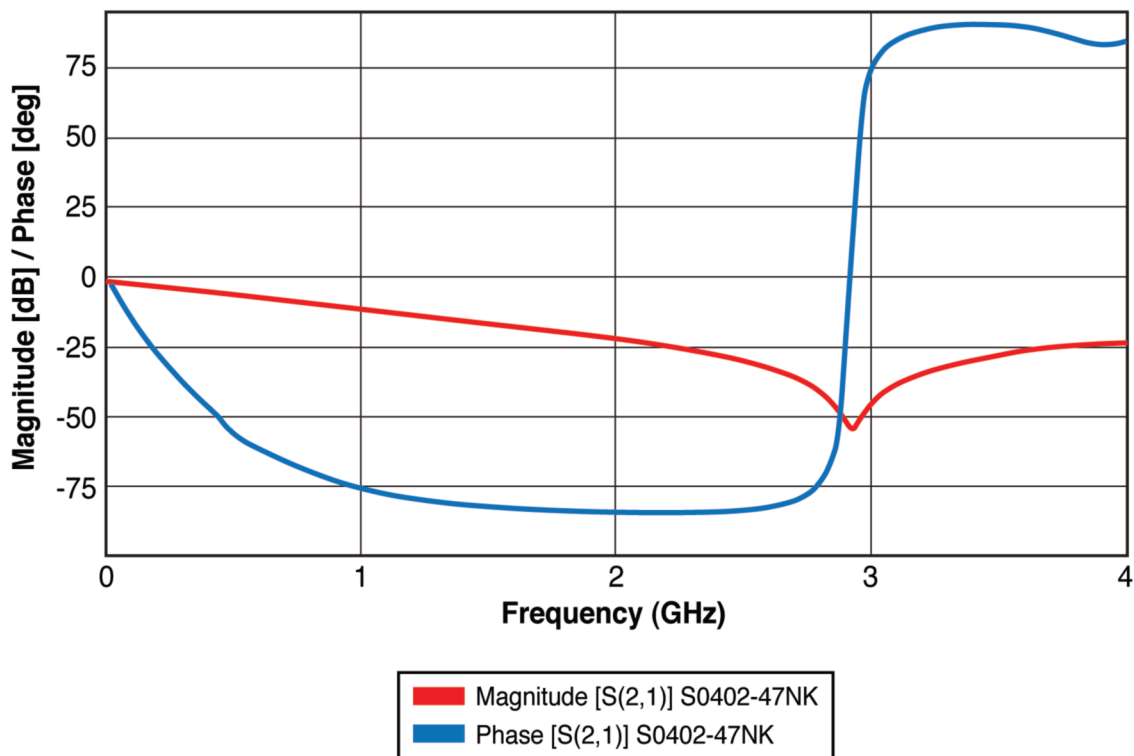
## Suggested Land Patterns



| Delevan Series | G      |       | H      |       | I      |       |
|----------------|--------|-------|--------|-------|--------|-------|
|                | Inches | mm    | Inches | mm    | Inches | mm    |
| S0402 Series   | 0.026  | 0.660 | 0.014  | 0.356 | 0.018  | 0.457 |



## S-Parameters (Typical)



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