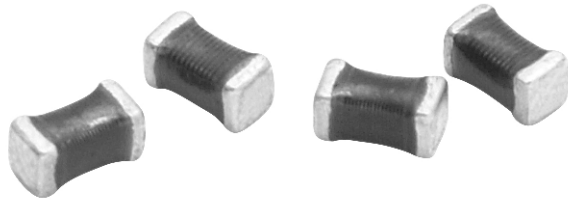


## High Frequency, Surface Mount, Laser Spiral, Coated Inductors


**FEATURES**

- Very small in size
- High self-resonant frequency values
- High Q values relative to size at higher frequencies
- Coated coil provides protection and moisture resistance
- Compatible with vapor phase and infrared reflow soldering
- Tape and reel packaging for automatic handling, 10 000/reel, EIA-481
- L and Q value not affected by mounting orientation
- 100 % lead (Pb)-free and RoHS compliant


**RoHS**  
COMPLIANT

**ELECTRICAL SPECIFICATIONS**

**Inductance Range:** 1.0 nH to 100 nH  
**Inductance and Tolerance:** ± 0.3 nH for 1.0 - 5.6 nH  
 ± 5 % for 6.8 nH to 100 nH  
**Operating Temperature:** - 40 °C to + 100 °C  
**Core Material:** Ceramic

**TEST EQUIPMENT**

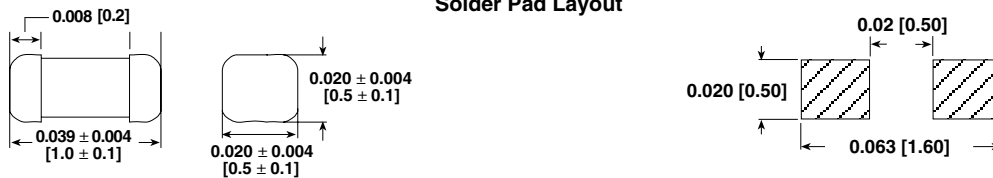
- Inductance and Q measured on HP4291B
- SRF measured on HP8753E
- DCR measured on HP4338B

**STANDARD ELECTRICAL SPECIFICATIONS**

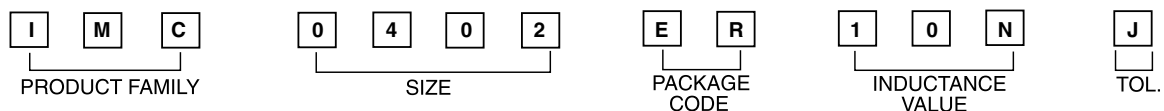
| INDUCTANCE (nH) | TOLERANCE        | TEST FREQUENCY L (MHz) | Q TYPICAL | TEST FREQUENCY Q (MHz) | SELF-RESONANT FREQUENCY MINIMUM (MHz) | DCR MAXIMUM (Ohms) | RATED DC* CURRENT (mA) |
|-----------------|------------------|------------------------|-----------|------------------------|---------------------------------------|--------------------|------------------------|
| 1.0             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 6000                                  | 0.05               | 400                    |
| 1.2             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 6000                                  | 0.06               | 400                    |
| 1.5             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 6000                                  | 0.07               | 400                    |
| 1.8             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 6000                                  | 0.08               | 400                    |
| 2.2             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 6000                                  | 0.09               | 400                    |
| 2.7             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 5500                                  | 0.10               | 400                    |
| 3.3             | ± 0.3 nH, 0.2 nH | 100                    | 21        | 800                    | 5500                                  | 0.12               | 400                    |
| 3.9             | ± 0.3 nH, 0.2 nH | 100                    | 20        | 800                    | 5200                                  | 0.15               | 360                    |
| 4.7             | ± 0.3 nH, 0.2 nH | 100                    | 20        | 800                    | 4800                                  | 0.17               | 360                    |
| 5.6             | ± 0.3 nH, 0.2 nH | 100                    | 20        | 800                    | 4600                                  | 0.19               | 340                    |
| 6.8             | ± 5 %            | 100                    | 19        | 800                    | 4000                                  | 0.30               | 320                    |
| 8.2             | ± 5 %            | 100                    | 19        | 800                    | 3500                                  | 0.35               | 320                    |
| 10              | ± 5 %, 2 %       | 100                    | 19        | 800                    | 2800                                  | 0.41               | 320                    |
| 12              | ± 5 %, 2 %       | 100                    | 19        | 800                    | 2800                                  | 0.45               | 320                    |
| 15              | ± 5 %, 2 %       | 100                    | 19        | 800                    | 2500                                  | 0.60               | 240                    |
| 18              | ± 5 %, 2 %       | 100                    | 19        | 800                    | 2200                                  | 0.70               | 240                    |
| 22              | ± 5 %, 2 %       | 100                    | 19        | 800                    | 2000                                  | 0.80               | 200                    |
| 27              | ± 5 %, 2 %       | 100                    | 19        | 800                    | 1800                                  | 1.20               | 200                    |
| 33              | ± 5 %, 2 %       | 100                    | 18        | 800                    | 1800                                  | 1.40               | 170                    |
| 39              | ± 5 %, 2 %       | 100                    | 18        | 800                    | 1800                                  | 1.70               | 150                    |
| 47              | ± 5 %, 2 %       | 100                    | 17        | 800                    | 1800                                  | 2.10               | 140                    |
| 56              | ± 5 %, 2 %       | 100                    | 17        | 800                    | 1500                                  | 2.50               | 130                    |
| 68              | ± 5 %, 2 %       | 100                    | 15        | 800                    | 1500                                  | 4.00               | 120                    |
| 82              | ± 5 %, 2 %       | 100                    | 15        | 800                    | 1400                                  | 4.50               | 110                    |
| 100             | ± 5 %, 2 %       | 100                    | 14        | 800                    | 1200                                  | 5.50               | 90                     |

\*Value obtained when current flows and temperature has risen 15 °C

**DIMENSIONS** in inches [millimeters]

**Solder Pad Layout**

**DESCRIPTION**

|          |                  |                      |              |                               |
|----------|------------------|----------------------|--------------|-------------------------------|
| IMC-0402 | 10 nH            | ± 5 %                | ER           | e4                            |
| MODEL    | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC LEAD (Pb)-FREE STANDARD |

**GLOBAL PART NUMBER**




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