# LOW INDUCTANCE, HIGH FREQUENCY CHIP INDUCTOR

## TYPE 3650 SERIES

## INTRODUCTION

TE Connectivity (TE)'s 3650 Series Low Inductance, High-Frequency Chip Inductors are precision wire-wound components designed to satisfy the demanding performance requirements of RF, wireless communication, networking, automotive, industrial, and other high-speed electronic applications. Built on a premium ceramic core, the 3650 Series delivers outstanding high-frequency performance through a combination of high Q factors, elevated self-resonant frequencies (SRF), low DC resistance, and superior current-handling capability. These attributes contribute to reduced signal loss, improved efficiency, and enhanced overall system reliability. Offered in compact, industry-standard package sizes ranging from 0402 to 1008, the 3650 Series enables engineers to achieve exceptional electrical performance while conserving valuable PCB real estate. The product family encompasses a broad spectrum of inductance values and package configurations, including Standard, High Current, and High-Q variants, providing design flexibility across a wide range of applications.



These inductors are ideally suited for RF matching networks, filtering circuits, impedance matching, signal integrity enhancement, and other performance-critical, power-sensitive designs. Furthermore, selected standard products are available with AEC-Q200 qualification, making them well-suited for automotive applications that demand long-term reliability, operational stability, and consistent performance under harsh environmental conditions. Combining miniature footprints with a comprehensive range of electrical characteristics, the 3650 Series Low Inductance, High-Frequency Chip Inductors represent an ideal solution for next-generation communication, connectivity, and high-frequency electronic systems where performance, reliability, and space efficiency are paramount.

### FEATURES

- Wide inductance range from 1 nH to 15 µH
- Standard, High Current, and High-Q product options available
- RoHS compliant and halogen-free materials
- AEC-Q200 qualified standard versions available for automotive applications
- Available in compact 0402, 0603, 0805, and 1008 package sizes
- Excellent Q factor for reduced signal loss and improved efficiency

### APPLICATIONS

- Consumer Electronics and Portable Devices
- Industrial Wireless Control Systems
- High-Speed Networking Equipment
- Cellular and Telecom Infrastructure Equipment
- Wireless Communication Systems, Wi-Fi®, Bluetooth®, and GNSS Devices
- IoT and Smart Connected Devices

*Note: Combining compact footprints with superior high-frequency characteristics, the 3650 Series offers designers a versatile and reliable inductor solution for modern RF and high-speed electronic applications.*

# CATEGORY INDEX


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## ELECTRICAL CHARACTERISTICS

### 0402 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | 900MHz | | 1.7GHz | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | L | Q | L | Q |
| 1 | ±10% | 250 | 16 | 12.7 | 0.045 | 1360 | 1.02 | 77 | 1.02 | 69 |
| 1.3 | ±5%, ±10% | 250 | 20 | 11.3 | 0.1 | 1000 | 0.8 | 35 | 0.8 | 48 |
| 1.9 | ±0.2mH, ±0.5nH, ±5%, ±10% | 250 | 16 | 11.3 | 0.07 | 1040 | 1.72 | 68 | 1.74 | 82 |
| 2 | ±10% | 250 | 16 | 11.1 | 0.07 | 1040 | 1.93 | 54 | 1.93 | 75 |
| 2.2 | ±5%, ±10% | 250 | 19 | 10.8 | 0.07 | 960 | 2.19 | 59 | 2.23 | 100 |
| 2.4 | ±5%, ±10% | 250 | 15 | 10.5 | 0.07 | 790 | 2.24 | 51 | 2.27 | 68 |
| 2.7 | ±5%, ±10% | 250 | 16 | 10.4 | 0.12 | 640 | 2.23 | 42 | 2.25 | 61 |
| 3.3 | ±5%, ±10% | 250 | 19 | 7 | 0.066 | 840 | 3.1 | 65 | 3.12 | 87 |
| 3.6 | ±2.5, ±10% | 250 | 19 | 6.8 | 0.066 | 840 | 3.56 | 45 | 3.62 | 71 |
| 3.9 | ±5, ±10% | 250 | 19 | 5.8 | 0.066 | 840 | 3.89 | 50 | 4 | 75 |
| 4.3 | ±5, ±10% | 250 | 18 | 6 | 0.091 | 700 | 4.19 | 47 | 4.3 | 71 |
| 4.7 | ±5, ±10% | 250 | 18 | 4.7 | 0.13 | 640 | 4.55 | 48 | 4.68 | 68 |
| 5.1 | ±2.5, ±10% | 250 | 20 | 4.8 | 0.083 | 800 | 5.15 | 56 | 5.25 | 82 |
| 5.6 | ±2.5, ±10% | 250 | 20 | 4.8 | 0.083 | 760 | 5.16 | 54 | 5.28 | 81 |
| 6.2 | ±2.5, ±10% | 250 | 20 | 4.8 | 0.083 | 760 | 6.16 | 52 | 6.37 | 76 |
| 6.8 | ±2.5, ±10% | 250 | 20 | 4.8 | 0.083 | 680 | 6.56 | 63 | 6.93 | 78 |
| 7.5 | ±2.5, ±10% | 250 | 22 | 4.8 | 0.104 | 680 | 7.91 | 60 | 8.22 | 88 |
| 8.2 | ±2.5, ±10% | 250 | 22 | 4.4 | 0.104 | 680 | 8.5 | 57 | 8.85 | 84 |
| 8.7 | ±5, ±10% | 250 | 18 | 4.1 | 0.2 | 480 | 8.78 | 54 | 9.21 | 73 |
| 9 | ±2.5, ±10% | 250 | 22 | 4.16 | 0.104 | 680 | 9.07 | 62 | 9.53 | 78 |
| 9.5 | ±5, ±10% | 250 | 18 | 4 | 0.2 | 480 | 9.42 | 54 | 9.98 | 69 |
| 10 | ±2.5, ±10% | 250 | 21 | 3.9 | 0.195 | 480 | 9.8 | 50 | 10.1 | 67 |
| 11 | ±2, ±5, ±10% | 250 | 24 | 3.68 | 0.12 | 640 | 10.7 | 52 | 11.2 | 78 |
| 12 | ±2, ±5, ±10% | 250 | 24 | 3.6 | 0.12 | 640 | 11.9 | 53 | 12.7 | 71 |
| 13 | ±2, ±5, ±10% | 250 | 24 | 3.45 | 0.21 | 440 | 13.4 | 51 | 14.6 | 57 |
| 15 | ±2, ±5, ±10% | 250 | 24 | 3.28 | 0.172 | 560 | 14.6 | 55 | 15.5 | 77 |
| 16 | ±2, ±5, ±10% | 250 | 24 | 3.1 | 0.22 | 560 | 16.6 | 46 | 18.8 | 47 |
| 18 | ±2, ±5, ±10% | 250 | 25 | 3.1 | 0.23 | 420 | 18.3 | 57 | 20.3 | 62 |
| 19 | ±2, ±5, ±10% | 250 | 24 | 3.04 | 0.202 | 480 | 19.1 | 50 | 21.1 | 67 |
| 20 | ±2, ±5, ±10% | 250 | 25 | 3 | 0.25 | 420 | 20.7 | 52 | 23.7 | 53 |
| 22 | ±2, ±5, ±10% | 250 | 25 | 2.8 | 0.3 | 400 | 23.2 | 53 | 26.8 | 53 |
| 23 | ±2, ±5, ±10% | 250 | 24 | 2.72 | 0.3 | 400 | 23.8 | 49 | 26.9 | 64 |
| 24 | ±2, ±5, ±10% | 250 | 25 | 2.7 | 0.3 | 400 | 25.1 | 51 | 29.5 | 50 |
| 27 | ±2, ±5, ±10% | 250 | 24 | 2.48 | 0.3 | 400 | 28.7 | 49 | 33.5 | 63 |
| 30 | ±2, ±5, ±10% | 250 | 25 | 2.35 | 0.35 | 400 | 31.1 | 46 | 38.5 | 39 |
| 33 | ±2, ±5, ±10% | 250 | 24 | 2.35 | 0.35 | 400 | 34.9 | 31 | 41.7 | 32 |
| 36 | ±2, ±5, ±10% | 250 | 24 | 2.32 | 0.44 | 320 | 39.5 | 44 | 48.4 | 53 |
| 39 | ±2, ±5, ±10% | 250 | 25 | 2.1 | 0.55 | 200 | 41.7 | 47 | 50.2 | 45 |
| 40 | ±2, ±5, ±10% | 250 | 24 | 2.24 | 0.5 | 320 | 39 | 44 | 47.4 | 33 |

## 0402 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUATION)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | 900MHz | | 1.7GHz | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | L | Q | L | Q |
| 43 | ±2, ±5, ±10% | 250 | 25 | 2.03 | 0.81 | 100 | 45.8 | 46 | 61.6 | 34 |
| 47 | ±2, ±5, ±10% | 250 | 25 | 2.1 | 0.83 | 150 | 50 | 38 | 55.8 | 37 |
| 51 | ±2, ±5, ±10% | 250 | 25 | 1.75 | 0.82 | 100 | 50.4 | 47 | 59.4 | 37 |
| 56 | ±2, ±5, ±10% | 250 | 25 | 1.76 | 0.97 | 100 | 57.4 | 49 | 72.4 | 40 |
| 68 | ±2, ±5, ±10% | 250 | 22 | 1.62 | 1.12 | 100 | 69.6 | 45 | 83.4 | 38 |
| 82 | ±2, ±5, ±10% | 250 | 22 | 1.26 | 1.55 | 50 | - | - | - | - |
| 100 | ±2, ±5, ±10% | 250 | 22 | 1.16 | 2 | 30 | - | - | - | - |
| 120 | ±2, ±5, ±10% | 250 | 20 | >1.80 | 2.66 | 50 | - | - | - | - |

## 0603 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | 900MHz | | 1.7GHz | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | L | Q | L | Q |
| 1.6 | ±5, ±10% | 250 | 24 | 12.5 | 0.03 | 700 | 1.53 | 35 | 1.58 | 55 |
| 1.8 | ±2, ±5, ±10% | 250 | 16 | 12.5 | 0.045 | 700 | 1.63 | 35 | 1.66 | 50 |
| 2 | ±0.2nH, ±0.5nH, ±5%, ±10% | 250 | 16 | 6.9 | 0.08 | 700 | 1.9 | 31 | - | - |
| 2.2 | ±5, ±10% | 250 | 15 | 6 | 0.1 | 700 | 2.18 | 41 | 2.2 | 64 |
| 2.3 | ±5, ±10% | 250 | 16 | >4.00 | 0.14 | 700 | 2.32 | 32 | 2.35 | 40 |
| 3.3 | ±2, ±5, ±10% | 250 | 22 | >6.00 | 0.08 | 700 | 3.35 | 47 | 3.4 | 65 |
| 3.6 | ±2, ±5, ±10% | 250 | 22 | 5.8 | 0.063 | 700 | 3.53 | 49 | 3.58 | 65 |
| 3.9 | ±2, ±5, ±10% | 250 | 22 | >6.00 | 0.08 | 700 | 3.95 | 49 | 3.96 | 67 |
| 4.3 | ±2, ±5, ±10% | 250 | 22 | 5.8 | 0.063 | 700 | 4.32 | 49 | 4.43 | 67 |
| 4.5 | ±2, ±5, ±10% | 250 | 20 | 5.8 | 0.12 | 700 | 4.74 | 55 | 4.87 | 92 |
| 4.7 | ±2, ±5, ±10% | 250 | 25 | 5.8 | 0.12 | 700 | 4.65 | 53 | 4.8 | 67 |
| 5.1 | ±2, ±5, ±10% | 250 | 20 | 5.8 | 0.16 | 700 | 5.13 | 47 | 5.36 | 56 |
| 5.6 | ±2, ±5, ±10% | 250 | 20 | 5.8 | 0.17 | 700 | 5.53 | 56 | 5.86 | 77 |
| 6.2 | ±2, ±5, ±10% | 250 | 25 | 5.8 | 0.11 | 700 | 6.28 | 60 | 6.4 | 85 |
| 6.3 | ±2, ±5, ±10% | 250 | 25 | 5.8 | 0.11 | 700 | 6.67 | 41 | 6.86 | 61 |
| 6.8 | ±2, ±5, ±10% | 250 | 27 | 5.8 | 0.11 | 700 | 6.75 | 60 | 7.1 | 81 |
| 7.5 | ±2, ±5, ±10% | 250 | 28 | 4.8 | 0.106 | 700 | 7.7 | 60 | 7.82 | 65 |
| 8.2 | ±2, ±5, ±10% | 250 | 27 | 4.8 | 0.11 | 700 | 8.25 | 64 | 8.4 | 81 |
| 8.7 | ±2, ±5, ±10% | 250 | 28 | 4.8 | 0.109 | 700 | 8.86 | 62 | 9.32 | 58 |
| 9.1 | ±2, ±5, ±10% | 250 | 35 | 4.8 | 0.13 | 700 | 9.2 | 70 | 9.7 | 80 |
| 9.5 | ±2, ±5, ±10% | 250 | 28 | 5.4 | 0.135 | 700 | 9.7 | 59 | 9.92 | 61 |
| 10 | ±2, ±5, ±10% | 250 | 31 | 4.8 | 0.13 | 700 | 10 | 66 | 10.6 | 83 |
| 11 | ±2, ±5, ±10% | 250 | 31 | 4 | 0.086 | 700 | 11.3 | 53 | 12.1 | 56 |
| 12 | ±2, ±5, ±10% | 250 | 35 | 4 | 0.13 | 700 | 12.3 | 72 | 13.5 | 83 |
| 15 | ±2, ±5, ±10% | 250 | 35 | 4 | 0.17 | 700 | 15.4 | 64 | 16.8 | 89 |
| 16 | ±2, ±5, ±10% | 250 | 35 | 3.3 | 0.11 | 700 | 16.5 | 55 | 18 | 52 |
| 17 | ±2, ±5, ±10% | 250 | 35 | 3.2 | 0.17 | 700 | 17.6 | 56 | 19.4 | 44 |

## 0603 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUATION)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | 900MHz | | 1.7GHz | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | L | Q | L | Q |
| 18 | ±2, ±5, ±10% | 250 | 35 | 3.1 | 0.17 | 700 | 18.7 | 70 | 21.4 | 69 |
| 20 | ±2, ±5, ±10% | 250 | 40 | 3 | 0.19 | 700 | 20.7 | 80 | 23.5 | 30 |
| 22 | ±2, ±5, ±10% | 250 | 38 | 3 | 0.19 | 700 | 22.8 | 73 | 26.1 | 71 |
| 23 | ±2, ±5, ±10% | 250 | 38 | 2.85 | 0.19 | 700 | 24.1 | 71 | 28 | 71 |
| 24 | ±2, ±5, ±10% | 250 | 38 | 2.8 | 0.13 | 700 | 25.7 | 45 | 30.9 | 40 |
| 27 | ±2, ±5, ±10% | 250 | 40 | 2.8 | 0.22 | 600 | 29.2 | 74 | 34.6 | 65 |
| 30 | ±2, ±5, ±10% | 250 | 40 | 2.8 | 0.15 | 600 | 31.4 | 47 | 39.8 | 28 |
| 33 | ±2, ±5, ±10% | 250 | 40 | 2.3 | 0.22 | 600 | 36 | 67 | 49.5 | 42 |
| 36 | ±2, ±5, ±10% | 250 | 37 | 2.3 | 0.25 | 600 | 39.1 | 47 | 48.9 | 24 |
| 39 | ±2, ±5, ±10% | 250 | 40 | 2.2 | 0.25 | 600 | 42.7 | 60 | 60.2 | 40 |
| 43 | ±2, ±5, ±10% | 200 | 38 | 2 | 0.28 | 600 | 46.9 | 44 | 60.3 | 21 |
| 47 | ±2, ±5, ±10% | 200 | 38 | 2 | 0.28 | 600 | 52.2 | 62 | 77.2 | 35 |
| 51 | ±2, ±5, ±10% | 200 | 38 | 1.9 | 0.28 | 600 | 55.5 | 69 | 82.2 | 34 |
| 56 | ±2, ±5, ±10% | 200 | 38 | 1.9 | 0.31 | 600 | 62.5 | 56 | 97 | 26 |
| 62 | ±2, ±5, ±10% | 200 | 37 | 1.8 | 0.34 | 600 | 68 | 40 | 110 | 10 |
| 68 | ±2, ±5, ±10% | 200 | 37 | 1.7 | 0.34 | 600 | 80.5 | 54 | 168 | 21 |
| 72 | ±2, ±5, ±10% | 150 | 34 | 1.7 | 0.49 | 600 | 82 | 53 | 135 | 20 |
| 82 | ±2, ±5, ±10% | 150 | 34 | 1.7 | 0.54 | 400 | 96.2 | 54 | 177 | 21 |
| 91 | ±2, ±5, ±10% | 150 | 30 | 1.7 | 0.5 | 400 | 110 | 50 | 416.4 | 6 |
| 100 | ±2, ±5, ±10% | 150 | 34 | 1.4 | 0.58 | 400 | 124 | 49 | 319.5 | 13 |
| 110 | ±2, ±5, ±10% | 150 | 32 | 1.35 | 0.61 | 300 | 138 | 43 | -342.7 | 15 |
| 120 | ±2, ±5, ±10% | 150 | 32 | 1.3 | 0.65 | 300 | 166 | 39 | 529.3 | 8 |
| 130 | ±2, ±5, ±10% | 150 | 30 | 1.4 | 0.72 | 300 | 185 | 60 | - | - |
| 140 | ±2, ±5, ±10% | 100 | 28 | 1.3 | 0.87 | 280 | 190 | 80 | - | - |
| 150 | ±2, ±5, ±10% | 100 | 28 | 1.3 | 0.95 | 280 | 230 | 25 | - | - |
| 160 | ±2, ±5, ±10% | 100 | 25 | 1.3 | 1.4 | 280 | 215 | 20 | - | - |
| 180 | ±2, ±5, ±10% | 100 | 25 | 1.25 | 1.4 | 250 | 305 | 22 | - | - |
| 200 | ±2, ±5, ±10% | 100 | 25 | - | 1.4 | 250 | - | - | - | - |
| 220 | ±2, ±5, ±10% | 100 | 25 | 1.2 | 1.6 | 250 | 377 | 21 | - | - |
| 240 | ±2, ±5, ±10% | 100 | 25 | 1.2 | 2 | 250 | 377 | 21 | - | - |
| 250 | ±2, ±5, ±10% | 100 | 25 | 1.2 | 2 | 250 | 377 | 21 | - | - |
| 260 | ±2, ±5, ±10% | 100 | 25 | 1 | 2 | 200 | 469 | 21 | - | - |
| 270 | ±2, ±5, ±10% | 100 | 25 | 0.9 | 2.1 | 200 | 523 | 19 | - | - |
| 280 | ±2, ±5, ±10% | 100 | 25 | 1 | 2.4 | 100 | 524 | 18 | - | - |
| 300 | ±2, ±5, ±10% | 100 | 25 | 0.75 | 2.5 | 150 | 539.7 | 21 | - | - |
| 330 | ±2, ±5, ±10% | 100 | 25 | 0.9 | 3.8 | 100 | 680.4 | 20 | - | - |
| 390 | ±2, ±5, ±10% | 100 | 25 | 0.9 | 4.35 | 100 | 734.5 | 29 | - | - |
| 470 | ±2, ±5, ±10% | 100 | 23 | 0.6 | 3.6 | 80 | - | - | - | - |

## 0805 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 2.7 | ±5, ±10% | 250 | 80 @ 1500MHz | 7.9 | 0.06 | 800 |
| 2.8 | ±2.5, ±10% | 250 | 80 @ 1500MHz | 7.9 | 0.06 | 800 |
| 3 | ±5, ±10% | 250 | 65 @ 1500MHz | 7.9 | 0.06 | 800 |
| 3.3 | ±5, ±10% | 250 | 50 @ 1500MHz | 6 | 0.08 | 600 |
| 3.9 | ±5, ±10% | 250 | 50 @ 1500MHz | 5.5 | 0.08 | 600 |
| 4.7 | ±5, ±10% | 250 | 65 @ 1000MHz | 5.5 | 0.08 | 600 |
| 5.6 | ±5, ±10% | 250 | 65 @ 1000MHz | 5.5 | 0.08 | 600 |
| 6.2 | ±5, ±10% | 250 | 50 @ 1000MHz | 5.5 | 0.11 | 600 |
| 6.8 | ±5, ±10% | 250 | 50 @ 1000MHz | 5.5 | 0.11 | 600 |
| 7.5 | ±5, ±10% | 250 | 50 @ 1000MHz | 4.5 | 0.14 | 600 |
| 8.2 | ±5, ±10% | 250 | 50 @ 1000MHz | 4.7 | 0.12 | 600 |
| 8.7 | ±5, ±10% | 250 | 50 @ 1000MHz | 4 | 0.21 | 400 |
| 10 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 4.2 | 0.1 | 600 |
| 12 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 4 | 0.15 | 600 |
| 15 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 3.4 | 0.17 | 600 |
| 18 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 3.3 | 0.2 | 600 |
| 20 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 2.6 | 0.22 | 500 |
| 22 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 2.6 | 0.22 | 500 |
| 24 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2 | 0.22 | 500 |
| 27 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 2.5 | 0.25 | 500 |
| 30 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 2.05 | 0.25 | 500 |
| 33 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 2.05 | 0.27 | 500 |
| 36 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 1.7 | 0.27 | 500 |
| 39 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 2 | 0.29 | 500 |
| 43 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.65 | 0.34 | 500 |
| 47 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.65 | 0.31 | 500 |
| 51 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.65 | 0.34 | 500 |
| 56 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.55 | 0.34 | 500 |
| 62 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.5 | 0.36 | 500 |
| 68 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.45 | 0.38 | 500 |
| 72 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.4 | 0.4 | 500 |
| 75 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.35 | 0.41 | 500 |
| 82 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.3 | 0.42 | 400 |
| 91 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.2 | 0.48 | 400 |
| 100 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.2 | 0.46 | 400 |
| 36 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 1.7 | 0.27 | 500 |
| 39 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 2 | 0.29 | 500 |
| 43 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.65 | 0.34 | 500 |
| 47 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.65 | 0.31 | 500 |
| 51 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.65 | 0.34 | 500 |

## 0805 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUATION)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 56 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.55 | 0.34 | 500 |
| 62 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.5 | 0.36 | 500 |
| 68 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.45 | 0.38 | 500 |
| 72 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.4 | 0.4 | 500 |
| 75 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.35 | 0.41 | 500 |
| 82 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.3 | 0.42 | 400 |
| 91 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.2 | 0.48 | 400 |
| 100 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.2 | 0.46 | 400 |
| 110 | ±2, ±5, ±10% | 150 | 50 @ 250MHz | 1 | 0.48 | 400 |
| 120 | ±2, ±5, ±10% | 150 | 50 @ 250MHz | 1.1 | 0.51 | 400 |
| 130 | ±2, ±5, ±10% | 150 | 50 @ 250MHz | 0.98 | 0.54 | 400 |
| 150 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.92 | 0.56 | 400 |
| 160 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.87 | 0.6 | 400 |
| 180 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.87 | 0.64 | 400 |
| 200 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.86 | 0.66 | 400 |
| 220 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.85 | 0.7 | 400 |
| 240 | ±2, ±5, ±10% | 100 | 44 @ 250MHz | 0.69 | 1 | 350 |
| 250 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.68 | 1 | 350 |
| 270 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.65 | 1 | 350 |
| 300 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.62 | 1.2 | 330 |
| 330 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.6 | 1.4 | 310 |
| 360 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.58 | 1.45 | 300 |
| 390 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.56 | 1.5 | 290 |
| 430 | ±2, ±5, ±10% | 50 | 33 @ 100MHz | 0.43 | 1.7 | 230 |
| 470 | ±2, ±5, ±10% | 50 | 33 @ 100MHz | 0.375 | 1.7 | 250 |
| 510 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.365 | 1.9 | 240 |
| 560 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.34 | 1.9 | 230 |
| 600 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.26 | 1.6 | 450 |
| 620 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.22 | 2.2 | 210 |
| 680 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.2 | 2.2 | 190 |
| 750 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.2 | 2.3 | 180 |
| 820 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.2 | 2.35 | 180 |
| 1000 | ±2, ±5, ±10% | 25 | 20 @ 50MHz | 0.1 | 2.5 | 170 |
| 1200 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.1 | 2.5 | 170 |
| 1500 | ±2, ±5, ±10% | 7.9 | 16 @ 25MHz | 0.1 | 2.5 | 170 |
| 1800 | ±2, ±5, ±10% | 7.9 | 16 @ 7.9MHz | 0.08 | 2.5 | 170 |
| 2200 | ±2, ±5, ±10% | 7.9 | 16 @ 7.9MHz | 0.06 | 2.7 | 160 |
| 2700 | ±2, ±5, ±10% | 7.9 | 16 @ 7.9MHz | 0.05 | 3.1 | 150 |
| 3300 | ±2, ±5, ±10% | 7.9 | 15 @ 7.9MHz | 0.04 | 4.4 | 90 |
| 3900 | ±2, ±5, ±10% | 7.9 | 15 @ 7.9MHz | 0.04 | 4.41 | 90 |

## 0805 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUATION)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 4700 | ±2, ±5, ±10% | 7.9 | 15 @ 7.9MHz | 0.04 | 6.4 | 90 |
| 5600 | ±2, ±5, ±10% | 7.9 | 20 @ 10MHz | 0.075 | 7 | 100 |
| 6800 | ±2, ±5, ±10% | 7.9 | 20 @ 10MHz | 0.065 | 9.8 | 80 |

## 1008 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 3.3 | ±5, ±10% | 50 | 50 @ 1500MHz | 4 | 0.15 | 1000 |
| 4.7 | ±5, ±10% | 50 | 50 @ 1500MHz | 4 | 0.15 | 1000 |
| *5.6 | ±5, ±10% | 50 | 50 @ 1500MHz | 4 | 0.15 | 1000 |
| *10 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 4.1 | 0.08 | 1000 |
| *12 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 3.3 | 0.09 | 1000 |
| *15 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 2.5 | 0.11 | 1000 |
| *18 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 2.4 | 0.12 | 1000 |
| *22 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 2.4 | 0.12 | 1000 |
| 24 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 1.9 | 0.13 | 1000 |
| *27 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 1.6 | 0.13 | 1000 |
| 30 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.6 | 0.14 | 1000 |
| *33 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.6 | 0.14 | 1000 |
| 36 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.6 | 0.15 | 1000 |
| *39 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.5 | 0.15 | 1000 |
| *47 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.5 | 0.16 | 1000 |
| 51 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.3 | 0.18 | 1000 |
| *56 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.3 | 0.18 | 1000 |
| *62 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.25 | 0.2 | 1000 |
| *68 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.3 | 0.2 | 1000 |
| 75 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.1 | 0.21 | 1000 |
| *82 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1 | 0.22 | 1000 |
| 91 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 1 | 0.45 | 1000 |
| *100 | ±2, ±5, ±10% | 25 | 60 @ 350MHz | 1 | 0.56 | 650 |
| *120 | ±2, ±5, ±10% | 25 | 60 @ 350MHz | 0.95 | 0.63 | 650 |
| *150 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.85 | 0.7 | 800 |
| 160 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.8 | 0.75 | 650 |
| *180 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.75 | 0.77 | 620 |
| *220 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.7 | 0.84 | 500 |
| *240 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.65 | 0.88 | 500 |
| *270 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.6 | 0.91 | 690 |
| *300 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.585 | 1 | 450 |
| *330 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.57 | 1.05 | 450 |
| *360 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.53 | 1.1 | 470 |

## 1008 WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUATION)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| *390 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.5 | 1.12 | 630 |
| *430 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.48 | 1.15 | 470 |
| *470 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.45 | 1.19 | 470 |
| *560 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.415 | 1.33 | 580 |
| *620 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.375 | 1.4 | 300 |
| *680 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.375 | 1.47 | 540 |
| *750 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.36 | 1.54 | 360 |
| *820 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.35 | 1.61 | 400 |
| *910 | ±2, ±5, ±10% | 25 | 35 @ 50MHz | 0.32 | 1.68 | 380 |
| *1000 | ±2, ±5, ±10% | 25 | 35 @ 50MHz | 0.29 | 1.75 | 370 |
| *1200 | ±2, ±5, ±10% | 7.9 | 35 @ 50MHz | 0.25 | 2 | 310 |
| *1500 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.2 | 2.3 | 330 |
| *1800 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.16 | 2.6 | 300 |
| *2200 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.16 | 2.8 | 280 |
| *2700 | ±2, ±5, ±10% | 7.9 | 22 @ 25MHz | 0.14 | 3.2 | 290 |
| *3300 | ±2, ±5, ±10% | 7.9 | 22 @ 25MHz | 0.11 | 3.4 | 290 |
| *3900 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.1 | 3.6 | 260 |
| *4700 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.09 | 4 | 260 |
| 5600 | ±2, ±5, ±10% | 7.9 | 16 @ 7.96MHz | 0.02 | 4 | 240 |
| 6800 | ±2, ±5, ±10% | 7.9 | 15 @ 7.96MHz | 0.04 | 4.9 | 200 |
| 8200 | ±2, ±5, ±10% | 7.9 | 15 @ 7.96MHz | 0.025 | 6 | 170 |
| 10000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.02 | 9 | 150 |
| 12000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.018 | 10.5 | 130 |
| 15000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.015 | 11.5 | 120 |

**Note:**
1. " * " Test Methods / Instrument: Network / Spectrum Analyzer.

## 1008(S) WIRE WOUND CHIP INDUCTORS / STANDARD TYPE

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 4.2 | ±5, ±10% | 50 | 50 @ 500MHz | 4 | 0.15 | 1000 |
| 4.7 | ±5, ±10% | 50 | 50 @ 500MHz | 4 | 0.15 | 1000 |
| 5.6 | ±5, ±10% | 50 | 50 @ 500MHz | 4 | 0.15 | 1000 |
| 8.2 | ±5, ±10% | 50 | 50 @ 500MHz | 4.1 | 0.08 | 1000 |
| 10 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 4.1 | 0.08 | 1000 |
| 12 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 3.3 | 0.09 | 1000 |
| 15 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 2.5 | 0.11 | 1000 |
| 18 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 2.4 | 0.12 | 1000 |
| 22 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 2.4 | 0.12 | 1000 |
| 24 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 1.9 | 0.13 | 1000 |
| 27 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 1.6 | 0.13 | 1000 |

## 1008(S) WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUATION)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 30 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.6 | 0.14 | 1000 |
| 33 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.6 | 0.14 | 1000 |
| 36 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.6 | 0.15 | 1000 |
| 39 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.5 | 0.15 | 1000 |
| 43 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.5 | 0.16 | 1000 |
| 47 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.5 | 0.16 | 1000 |
| 56 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.3 | 0.18 | 1000 |
| 62 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.25 | 0.2 | 1000 |
| 68 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.3 | 0.2 | 1000 |
| 75 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.1 | 0.21 | 1000 |
| 82 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1 | 0.22 | 1000 |
| 91 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 1 | 0.45 | 1000 |
| 100 | ±2, ±5, ±10% | 25 | 60 @ 350MHz | 1 | 0.56 | 650 |
| 120 | ±2, ±5, ±10% | 25 | 60 @ 350MHz | 0.95 | 0.63 | 650 |
| 150 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.85 | 0.7 | 800 |
| 180 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.75 | 0.77 | 620 |
| 220 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.7 | 0.84 | 500 |
| 240 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.65 | 0.88 | 500 |
| 270 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.6 | 0.91 | 690 |
| 300 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.585 | 1 | 450 |
| 330 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.57 | 1.05 | 450 |
| 360 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.53 | 1.1 | 470 |
| 390 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.5 | 1.12 | 630 |
| 430 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.48 | 1.15 | 470 |
| 470 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.45 | 1.19 | 470 |
| 560 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.415 | 1.33 | 580 |
| 620 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.375 | 1.4 | 300 |
| 680 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.375 | 1.47 | 540 |
| 750 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.36 | 1.54 | 360 |
| 820 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.35 | 1.61 | 400 |
| 910 | ±2, ±5, ±10% | 25 | 35 @ 50MHz | 0.32 | 1.68 | 380 |
| 1000 | ±2, ±5, ±10% | 25 | 35 @ 50MHz | 0.29 | 1.75 | 370 |
| 1200 | ±2, ±5, ±10% | 7.9 | 35 @ 50MHz | 0.25 | 2 | 310 |
| 1800 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.16 | 2.6 | 300 |
| 2200 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.16 | 2.8 | 280 |
| 2700 | ±2, ±5, ±10% | 7.9 | 22 @ 25MHz | 0.14 | 3.2 | 290 |
| 3300 | ±2, ±5, ±10% | 7.9 | 22 @ 25MHz | 0.11 | 3.4 | 290 |
| 3900 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.1 | 3.6 | 260 |
| 4700 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.09 | 4 | 260 |
| 5600 | ±2, ±5, ±10% | 7.9 | 16 @ 7.96MHz | 0.02 | 4 | 260 |

## 1008(S) WIRE WOUND CHIP INDUCTORS / STANDARD TYPE (CONTINUED)

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 6800 | ±2, ±5, ±10% | 7.9 | 15 @ 7.96MHz | 0.04 | 4.9 | 200 |
| 8200 | ±2, ±5, ±10% | 7.9 | 15 @ 7.96MHz | 0.025 | 6 | 170 |
| 10000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.02 | 9 | 150 |
| 12000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.018 | 10.5 | 130 |
| 15000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.015 | 11.5 | 120 |

## 1008(Q) WIRE WOUND CHIP INDUCTORS

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|
| 180 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.750 | 0.35 | 800 |
| 4700 | ±2, ±5, ±10% | 25 | 25 @ 25MHz | 0.090 | 4.10 | 260 |

## ENVIRONMENTAL CHARACTERISTICS

### ELECTRICAL PERFORMANCE TEST

| Item | Requirement | Test Method |
|---|---|---|
| Inductance | Refer to standard electrical characteristic spec. | HP4286/E4982A |
| Q | | HP4286/E4982A |
| SRF | | HP4287/E4982A |
| DC Resistance RDC | | Micro-Ohm meter (Gom-801G)/E4982A |
| Rated Current IDC | | When the rated current is applied to the coil, the coil temperature shall not increase by more than ΔT = 15°C (Ta = 25°C). |
| Over Load | Inductors shall have no evidence of electrical and mechanical damage | Applied 2 times of rated allowed DC current to inductor for a period of 5 minutes |
| Withstanding Voltage | Inductors shall be no evidence of electrical and mechanical damage. | AC voltage of 500 VAC applied between inductors terminal and case for 1 min. |
| Insulation Resistance | 1000M ohm min. | Apply 100 VDC between the inductor terminal and the case. |

### MECHANICAL PERFORMANCE TEST

| Item | Requirement | Test Method |
|---|---|---|
| Vibration | Appearance: No damage<br>L change: within ±5%<br>Q change: within ±10% | Test device shall be soldered onto the substrate.<br>Oscillation Frequency: 10 Hz to 55 Hz to 10 Hz for 1 min.<br>Amplitude: 1.5 mm<br>Time: 2 hrs. for each axis (X, Y & Z) total 6 hrs. |
| Resistance to Soldering Heat | | Solder Temperature: 260±5°C<br>Immersion Time: 10±2 seconds |
| Component Adhesion (Push Test) | 1 lbs. For 0402<br>2 lbs. For 0603<br>3 lbs. For the rest | The device should be soldered (260±5°C for 10 seconds) to a tinned copper substrate. A dynamometer force gauge should be applied to the side of the component. The device must withstand a minimum force of 2 or 4 pounds without a failure of adhesion on termination |
| Drop | No damage | Dropping chip by each side and each corner.<br>Drop 10 times in total<br>Drop height: 100cm<br>Drop weight: 125g |
| Solderability | 90% covered with solder | The inductor shall be dipped in molten solder at 245 ± 5°C for 3 seconds. |
| Resistance to Solvent | No damage on appearance and marking | **(MIL-STD-202, Method 215)** |

## ENVIRONMENTAL CHARACTERISTICS (CONTINUATION)

### CLIMATIC TEST

| Item | Requirement | Test Method | | |
|---|---|---|---|---|
| Temperature Characteristic | Appearance: No damage<br>L change: within ±10%<br>Q change: within ±20% | -40°C~+125°C | | |
| Humidity | | Temperature: 40±2°C<br>Relative Humidity: 90~95%<br>Time: 96±2 hrs.<br>Measured after exposure in the room condition for 2 hrs. | | |
| Low Temperature Storage | | Temperature: -40±2°C<br>Time: 96±2 hrs.<br>Inductors are tested after 1 hour at room temperature | | |
| Thermal Shock | | One cycle: | | |
| | | **Step** | **Temperature (°C)** | **Time (min)** |
| | | 1 | -25±3 | 30 |
| | | 2 | 25±2 | 15 |
| | | 3 | 125±3 | 30 |
| | | 4 | 25±2 | 15 |
| | | Total: 5 cycles | | |
| High Temperature Storage | | Temperature: 125±2°C<br>Time: 96±2 hrs.<br>Measured after exposure in the room condition for 1 hour | | |
| High Temperature Load Life | | Temperature: 85±2°C<br>Time: 1000±12 hrs.<br>Load: Allowed DC current | | |
| Damp Heat with Load | There should be no evidence of short of open circuit. | Temperature: 40±2°C<br>Relative Humidity: 90%~95%<br>Time: 1000±12 hrs.<br>Load: Allowed DC current. | | |

## VOLTAGE RATING

Resistors shall have a rated direct-current (DC) continuous working voltage or an approximate sine-wave root-mean-square (RMS) alternating-current (AC) continuous working voltage at commercial-line frequency and waveform corresponding to the power rating, as determined from the following formula:

$$RCWV = \sqrt{P} \times R$$

**Note:**

**1.** Maximum. working voltage or $\sqrt{P} \times R$ whichever is lower

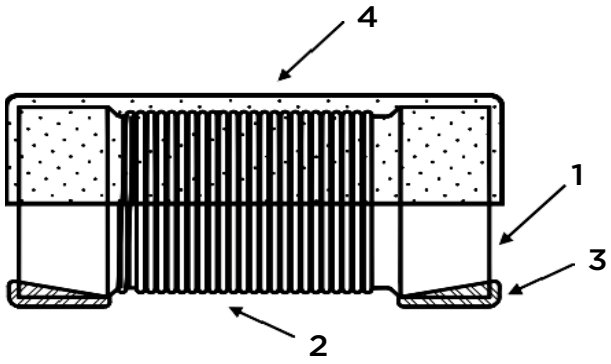
**2.** Maximum. overload voltage or $2.5\sqrt{P} \times R$ whichever is lower

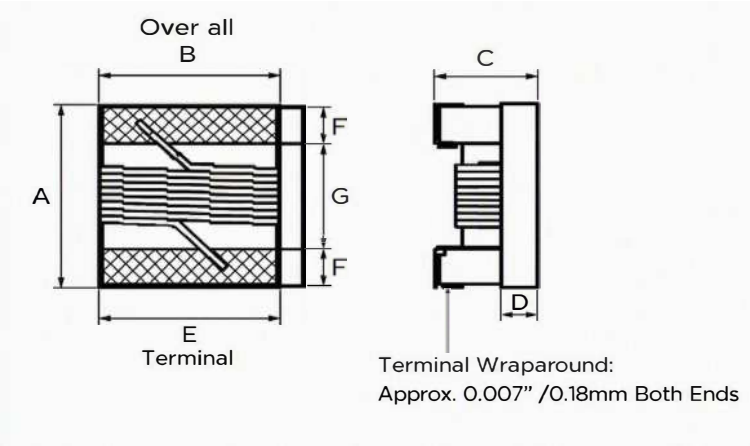
Where: RCWV = Rated DC or RMS AC continuous working voltage at commercial-line frequency and waveform (volt) and

P = Power Rating (watt)

R = Nominal Resistance (ohm)

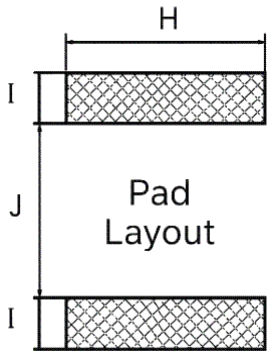
## CONSTRUCTION AND DIMENSIONS (Unit: mm)




| | | | |
|---|---|---|---|
| 1 | Ceramic Core | 3 | Electrode |
| 2 | Magnet Wire | 4 | UV Glue |

## RECOMMENDED LAND PATTERN (Unit: mm)




## STANDARD (Unit: mm)

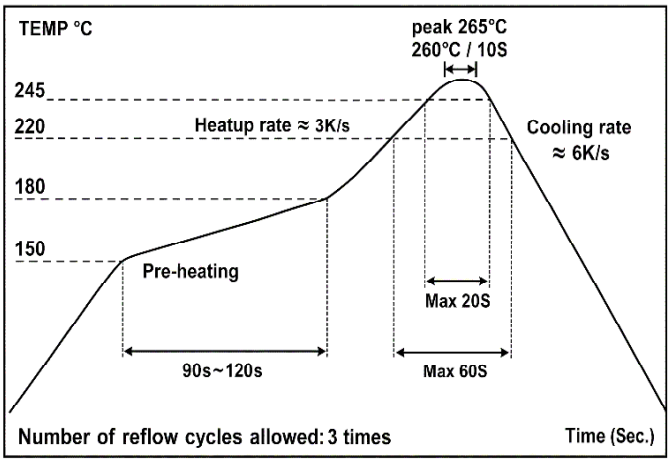
| Type | Size (Inch) | A max. | B max. | C max. | D Ref. | E | F | G | H | I | J | Weight (g) (1000pcs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0402 | 0402 | 1.27 | 0.76 | 0.61 | 0.15 | 0.51 | 0.23 | 0.56 | 0.66 | 0.5 | 0.46 | 0.8 |
| 0603 | 0603 | 1.80 | 1.12 | 1.02 | 0.38 | 0.76 | 0.33 | 0.86 | 1.02 | 0.64 | 0.64 | 3.46 |
| 0805 | 0805 | 2.29 | 1.73 | 1.52 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 | 12.13 |
| 1008 | 1008 | 2.92 | 2.79 | 2.13 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 | 30.73 |

## HIGH CURRENT / HIGH Q (Unit: mm)

| Type | Size (Inch) | A max. | B max. | C max. | D Ref. | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0402 | 0402 | 1.27 | 0.76 | 0.61 | 0.15 | 0.51 | 0.23 | 0.56 | 0.66 | 0.5 | 0.46 |
| 0603 | 0603 | 1.80 | 1.12 | 1.02 | 0.38 | 0.76 | 0.33 | 0.86 | 1.02 | 0.64 | 0.64 |
| 0805 | 0805 | 2.29 | 1.73 | 1.52 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 |
| 1008 | 1008 | 2.92 | 2.79 | 2.13 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 |

## SOLDERING PROFILE

IR Reflow Soldering




**Note:**

1. Time of IR reflow soldering at maximum temperature point 260°C : 10s

## MULTIPLIER CODE

| Code | A | B | C | D | E | F | G | H | X | Y | Z |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Multiplier | $10^0$ | $10^1$ | $10^2$ | $10^3$ | $10^4$ | $10^5$ | $10^6$ | $10^7$ | $10^{-1}$ | $10^{-2}$ | $10^{-3}$ |

**Coding**

XX — Resistance Code

**Formula**

X — Multiplier Code

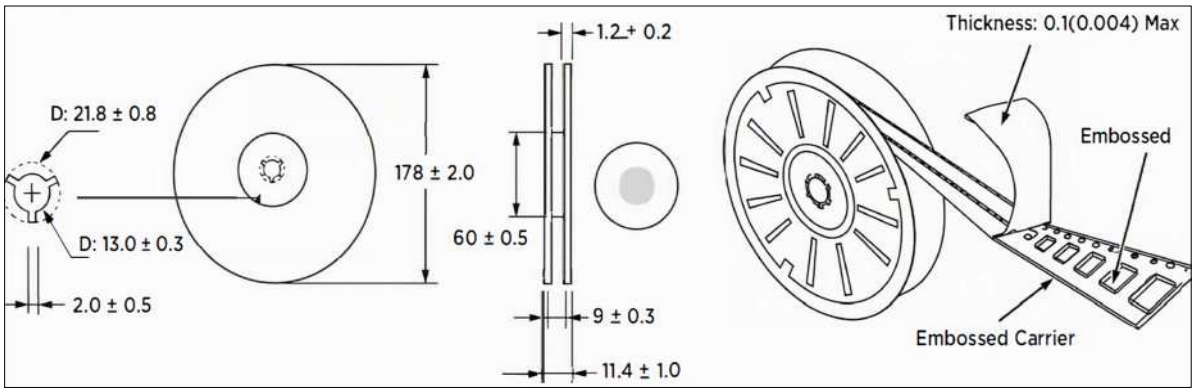
**Example :**

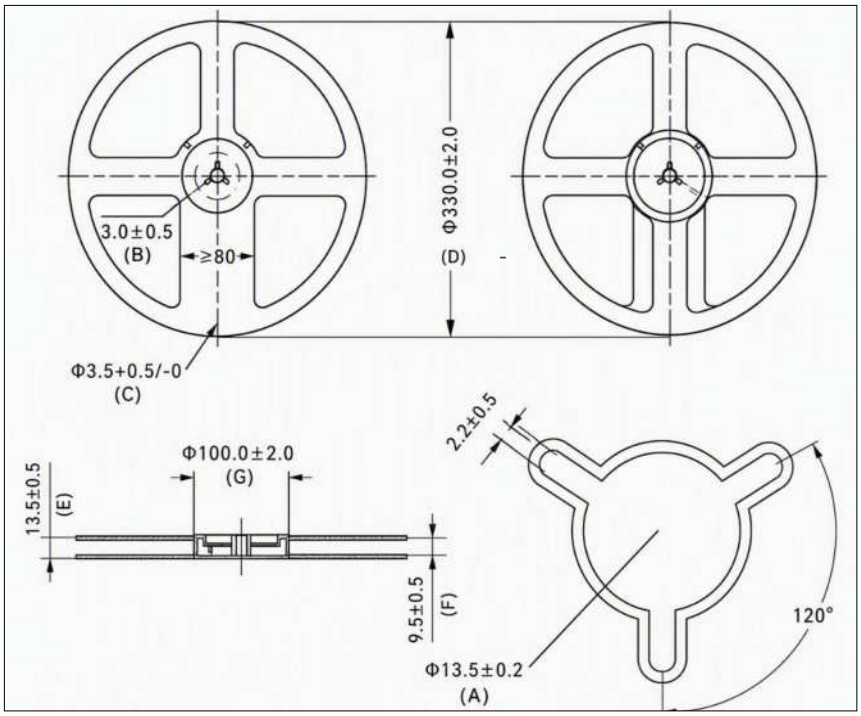
$10.2K\Omega = 102 \times 10^{2}\ \Omega = 02C$ (02, C)

$33.2\Omega = 332 \times 10^{-1}\ \Omega = 51X$ (51, X)

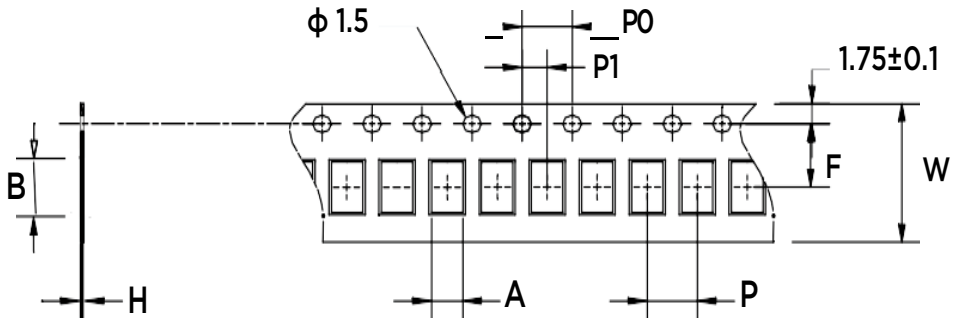
| Value | Code | Value | Code | Value | Code | Value | Code | Value | Code |
|---|---|---|---|---|---|---|---|---|---|
| 100 | 01 | 162 | 21 | 261 | 41 | 422 | 61 | 681 | 81 |
| 102 | 02 | 165 | 22 | 267 | 42 | 432 | 62 | 698 | 82 |
| 105 | 03 | 169 | 23 | 274 | 43 | 442 | 63 | 715 | 83 |
| 107 | 04 | 174 | 24 | 280 | 44 | 453 | 64 | 732 | 84 |
| 110 | 05 | 178 | 25 | 287 | 45 | 464 | 65 | 750 | 85 |
| 113 | 06 | 182 | 26 | 294 | 46 | 475 | 66 | 768 | 86 |
| 115 | 07 | 187 | 27 | 301 | 47 | 487 | 67 | 787 | 87 |
| 118 | 08 | 191 | 28 | 309 | 48 | 499 | 68 | 806 | 88 |
| 121 | 09 | 196 | 29 | 316 | 49 | 511 | 69 | 825 | 89 |
| 124 | 10 | 200 | 30 | 324 | 50 | 523 | 70 | 845 | 90 |
| 127 | 11 | 205 | 31 | 332 | 51 | 536 | 71 | 866 | 91 |
| 130 | 12 | 210 | 32 | 340 | 52 | 549 | 72 | 887 | 92 |
| 133 | 13 | 215 | 33 | 348 | 53 | 562 | 73 | 909 | 93 |
| 137 | 14 | 221 | 34 | 357 | 54 | 576 | 74 | 931 | 94 |
| 140 | 15 | 226 | 35 | 365 | 55 | 590 | 75 | 953 | 95 |
| 143 | 16 | 232 | 36 | 374 | 56 | 604 | 76 | 976 | 96 |
| 147 | 17 | 237 | 37 | 383 | 57 | 619 | 77 | | |
| 150 | 18 | 243 | 38 | 392 | 58 | 634 | 78 | | |
| 154 | 19 | 249 | 39 | 402 | 59 | 649 | 79 | | |
| 158 | 20 | 255 | 40 | 412 | 60 | 665 | 80 | | |

## PACKAGING SPECIFICATION



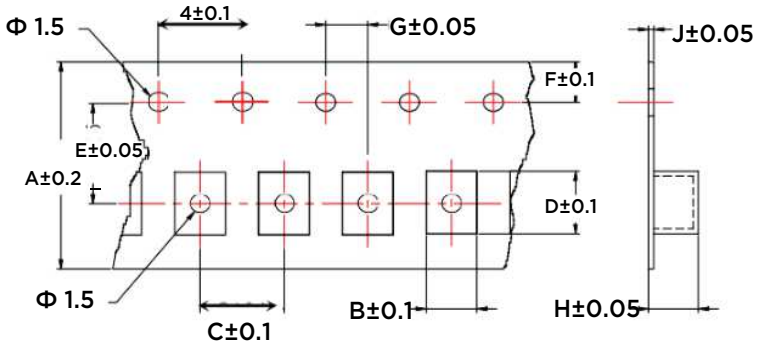




### PAPER TAPING AND PACKAGING QUANTITY (Unit: mm)




| Type | A | B | H | F | P | $P_0$ | $P_1$ | W | Reel (EA) |
|---|---|---|---|---|---|---|---|---|---|
| 0402 | 0.81 | 1.23 | 0.73 | 3.5 | 2.00 | 4.00 | 2.00 | 8.00 | 4,000 |
| 0603 | 1.35 | 1.95 | 0.95 | 3.5 | 4.00 | 4.00 | 2.00 | 8.00 | 4,000/10,000 |

### EMBOSSED PLASTIC TAPING AND PACKAGING QUANTITY (Unit: mm)




| Type | A | B | C | D | E | F | G | H | J | Reel (EA) |
|---|---|---|---|---|---|---|---|---|---|---|
| 0805 | 8.00 | 1.85 | 4.00 | 2.3 | 3.5 | 1.75 | 2.00 | 1.45 | 0.23 | 2,000 |
| 0805 (H) | 8.00 | 1.85 | 4.00 | 2.3 | 3.5 | 1.75 | 2.00 | 1.45 | 0.23 | 2,000 |
| 1008 | 8.00 | 2.7 | 4.00 | 2.8 | 3.5 | 1.75 | 2.00 | 2.00 | 0.23 | 2,000 |
| 1008 (H) | 8.00 | 2.7 | 4.00 | 2.8 | 3.5 | 1.75 | 2.00 | 2.00 | 0.23 | 2,000 |

## ENVIRONMENT RELATED SUBSTANCE

This product complies with the applicable requirements of the EU RoHS Directive, EU PAHs requirements, EU PFOS requirements, and halogen-free material expectations. Ozone-depleting substances are not used in the manufacturing process for this product. This product is not manufactured using chlorofluorocarbons (CFCs), Hydrochlorofluorocarbons (HCFCs), hydrobromofluorocarbons (HBFCs), or other ozone-depleting substances at any stage of manufacture.

### STORAGE CONDITION (MSL1)

The performance of these products, including solderability, is guaranteed for one year from the date of arrival at the customer location, provided the products remain in the original delivered packaging and are stored at 15°C~28°C (RH <80%). Even within this period, the products should not be stored under conditions that may adversely affect electrical performance, solderability, or packaging integrity.

1. In salty air or in atmospheres containing corrosive gases such as Cl2, H2S, NH3, SO2, or NO2.
2. In direct sunlight

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## ORDERING INFORMATION

**Typical product code**

**3650 1J J T _ 1N6**

**Product Type**

| | |
|---|---|
| **3650** | Standard |
| **3652** | High Current |
| **3653** | High Q |

**Dimensions (LxW)**

| | |
|---|---|
| **1E** | 0402 |
| **1J** | 0603 |
| **2A** | 0805 |
| **2C** | 1008 |

**Inductance Tolerance**

| | |
|---|---|
| **C** | ±0.2nH |
| **D** | ±0.5nH |
| **G** | ±2% |
| **J** | ±5% |
| **K** | ±10% |

**Inductance**

| | |
|---|---|
| **1N6** | 1.6nH |
| **82N** | 82nH |
| **R27** | 270nH |
| **1R0** | 1000nH |
| **103** | 10000nH |

**Design Code**

| | |
|---|---|
| **[Blank]** | Standard Inductor |
| **H** | High Current and High Q |
| **S** | HP4287 |
| **Q** | High Q & Low DCR |

**Packing Type**

| | |
|---|---|
| **T** | Taping Reel |
| **W** | 13-inch Reel |

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