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Datasheet

# RS Pro WL05 Series Wire-wound SMD Inductor with a Ceramic Core, 82 nH ±5% Wire-Wound 400mA Idc Q:65

RS Stock No: **763-1386**



## Product Details

RS Pro SMD inductor offers an inductance of 82 nH by withstanding DC current up to 400 mA. This wire-wound, ultra compact inductor has a ceramic core. It features high self-resonant frequency, high Q factors and high current capabilities. The inductor is suitable for use with RF products, broadband and IT applications.

## Features and Benefits

- Ceramic core
- Ultra compact
- High self-resonant frequency
- High Q factors
- High current capabilities

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## Specifications:

| | |
|---|---|
| Core Material | Ceramic |
| Inductor Construction | Wire Wound |
| Depth | 1.73 mm |
| Dimensions | 2.29 x 1.73 x 1.6 mm |
| Height | 1.6 mm |
| Length | 2.29 mm |
| Maximum DC Current | 400 mA |
| Maximum DC Resistance | 420 mΩ |
| Maximum Operating Temperature | +125°C |
| Maximum Self Resonant Frequency | 1300 MHz |
| Minimum Operating Temperature | -40°C |
| Minimum Quality Factor | 65 |
| Tolerance | ±5% |
| Inductance | 82 nH |
| Package/Case | 0805 |
| Package Type | Reel |

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# WL Series

## ■Scope

—Ceramic body and wire wound construction provide highest SRFs available …..

## ■Features

—Ceramic base provide high SRF
—Ultra-compact inductors provide high Q factors
—Low profile, high current are available
—Miniature SMD chip inductor for fully automated assembly
—Outstanding endurance from Pull-up force, mechanical shock and pressure
—Tighter tolerance down to ±2%
—Smaller size of 0402 (1005)



## ■Applications

RF Products:
—Cellular Phone (CDMA/GSM/PHS)
—Cordless Phone (DECT/CT1CT2)
—Remote Control, Security System
—Wireless PDA
—WLL, Wireless LAN / Mouse / Keyboard / Earphone
—VCO, RF Module & Other Wireless Products
—Base Station, Repeater
—GPS Receiver

Broad Band Applications:
- CATV Filter, Tuner
- Cable Modem/ XDSL Tuner
- Set Top Box

IT Applications:
- USB 2.0
- IEEE 1394

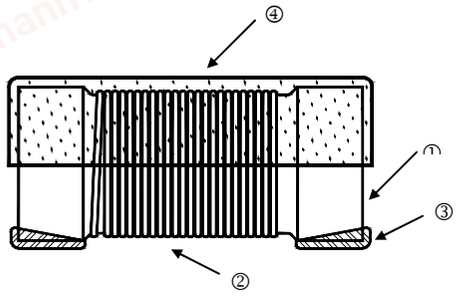
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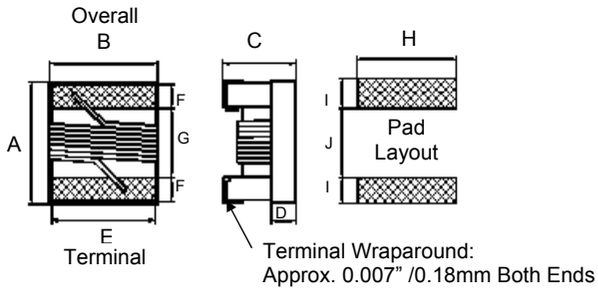
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## ■Construction




| | | | |
|---|---|---|---|
| ① | Ceramic Core | ③ | Electrode (Ag/Pd+Ni+Sn) |
| ② | Magnet Wire | ④ | UV Glue |

## ■Dimensions




**Standard** Unit: mm

| Type | Size (Inch) | A max. | B max. | C max. | D Ref. | | F | G | H | I | J | Weight (g) (1000pcs) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| WL02 | 0402 | 1.27 | 0.76 | 0.61 | 0.15 | 0.51 | 0.23 | 0.56 | 0.66 | 0.50 | 0.46 | 0.8 |
| WL03 | 0603 | 1.80 | 1.12 | 1.02 | 0.38 | 0.76 | 0.33 | 0.86 | 1.02 | 0.64 | 0.64 | 3.46 |
| WL05 | 0805 | 2.29 | 1.73 | 1.52 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 | 12.13 |
| WL08 | 1008 | 2.92 | 2.79 | 2.13 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 | 30.73 |
| WL06 | 1206 | 3.45 | 1.90 | 1.40 | 0.50 | 1.60 | 0.50 | 2.20 | 1.93 | 1.02 | 1.78 | 40 |

**Low Profile** Unit: mm

| Type | Size (Inch) | A max. | max. | C max. | D Ref. | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WL05 | 0805 | 2.29 | 1.73 | 1.03 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 |
| WL08 | 1008 | 2.92 | 2.79 | 1.40 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 |

**High Current / High Q** Unit: mm

| Type | Size (Inch) | A max. | B max. | C max. | D Ref. | E | | G | H | | J |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WL03 | 0603 | 1.80 | 1.12 | 1.02 | 0.38 | 0.76 | 0.33 | 0.86 | 1.02 | 0.64 | 0.64 |
| WL05 | 0805 | 2.29 | 1.73 | 1.52 | 0.51 | 1.27 | 0.44 | 1.02 | 1.78 | 1.02 | 0.76 |
| WL08 | 1008 | 2.92 | 2.79 | 2.03 | 0.65 | 2.03 | 0.51 | 1.52 | 2.54 | 1.02 | 1.27 |

**High SRF** Unit: mm

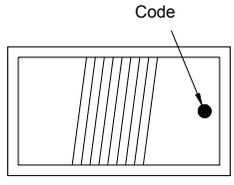
| Type | Size (Inch) | A max. | B max. | C max. | | F | G | H | I | J | Weight (g) (1000pcs) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| WL02 | 0402 | 1.15 | 0.70 | 0.60 | 0.45 | 0.20 | 0.60 | 0.65 | 0.35 | 0.50 | 0.8 |

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## ■Color Coding




**Color Coding**

0603 / 0805 / 1008 / 1206 Type (0402 Type is No Color Coding)

Because of small sizes, these parts are marked with a single color dot.

The inductance value represented by the dot is shown on the data page for each type.

## ■Part Numbering

| WL | 02 | J | T | L | 1N6 |
|---|---|---|---|---|---|
| Product Type | Dimensions (L×W) | Inductance Tolerance | Packaging Code | Design Code | Inductance |
| | 02: 0402<br>03: 0603<br>05: 0805<br>08: 1008<br>06: 1206 | C: ±0.2nH<br>D: ±0.5nH<br>G: ±2%<br>H: ±3%<br>J: ±5%<br>K: ±10% | T: Taping Reel | : Standard Inductor<br>L: Low Profile Inductor<br>H: High Current and High Q<br>P: High SRF | 1N6: 1.6nH<br>82N: 82nH<br>R27: 270nH<br>1R0: 1000nH<br>103: 10000nH |

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## ■Standard Electrical Specifications

WL02 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 |
| 1.0 | ±10% | 250 | 16 | 12.70 | 0.045 | 1360 | 1.02 | 77 | 1.02 | 69 |
| 1.9 | ±10% | 250 | 16 | 11.30 | 0.070 | 1040 | 1.72 | 68 | 1.74 | 82 |
| 2.0 | ±10% | 250 | 16 | 11.10 | 0.070 | 1040 | 1.93 | 54 | 1.93 | 75 |
| 2.2 | ±10% | 250 | 19 | 10.80 | 0.070 | 960 | 2.19 | 59 | 2.23 | 100 |
| 2.4 | ±10% | 250 | 15 | 10.50 | 0.070 | 790 | 2.24 | 51 | 2.27 | 68 |
| 2.7 | ±10% | 250 | 16 | 10.40 | 0.120 | 640 | 2.23 | 42 | 2.25 | 61 |
| 3.3 | ±10% | 250 | 19 | 7.00 | 0.066 | 840 | 3.10 | 65 | 3.12 | 87 |
| 3.6 | ±5, ±10% | 250 | 19 | 6.80 | 0.066 | 840 | 3.56 | 45 | 3.62 | 71 |
| 3.9 | ±5, ±10% | 250 | 19 | 5.80 | 0.066 | 840 | 3.89 | 50 | 4.00 | 75 |
| 4.3 | ±5, ±10% | 250 | 18 | 6.00 | 0.091 | 700 | 4.19 | 47 | 4.30 | 71 |
| 4.7 | ±5, ±10% | 250 | 18 | 4.70 | 0.130 | 640 | 4.55 | 48 | 4.68 | 68 |
| 5.1 | ±5, ±10% | 250 | 20 | 4.80 | 0.083 | 800 | 5.15 | 56 | 5.25 | 82 |
| 5.6 | ±5, ±10% | 250 | 20 | 4.80 | 0.083 | 760 | 5.16 | 54 | 5.28 | 81 |
| 6.2 | ±5, ±10% | 250 | 20 | 4.80 | 0.083 | 760 | 6.16 | 52 | 6.37 | 76 |
| 6.8 | ±5, ±10% | 250 | 20 | 4.80 | 0.083 | 680 | 6.56 | 63 | 6.93 | 78 |
| 7.5 | ±5, ±10% | 250 | 22 | 4.80 | 0.104 | 680 | 7.91 | 60 | 8.22 | 88 |
| 8.2 | ±5, ±10% | 250 | 22 | 4.40 | 0.104 | 680 | 8.50 | 57 | 8.85 | 84 |
| 8.7 | ±5, ±10% | 250 | 18 | 4.10 | 0.200 | 480 | 8.78 | 54 | 9.21 | 73 |
| 9.0 | ±5, ±10% | 250 | 22 | 4.16 | 0.104 | 680 | 9.07 | 62 | 9.53 | 78 |
| 9.5 | ±5, ±10% | 250 | 18 | 4.00 | 0.200 | 480 | 9.42 | 54 | 9.98 | 69 |
| 10 | ±2, ±5, ±10% | 250 | 21 | 3.90 | 0.195 | 480 | 9.80 | 50 | 10.10 | 67 |
| 11 | ±2, ±5, ±10% | 250 | 24 | 3.68 | 0.120 | 640 | 10.70 | 52 | 11.20 | 78 |
| 12 | ±2, ±5, ±10% | 250 | 24 | 3.60 | 0.120 | 640 | 11.90 | 53 | 12.70 | 71 |
| 13 | ±2, ±5, ±10% | 250 | 24 | 3.45 | 0.210 | 440 | 13.40 | 51 | 14.60 | 57 |
| 15 | ±2, ±5, ±10% | 250 | 24 | 3.28 | 0.172 | 560 | 14.60 | 55 | 15.50 | 77 |
| 16 | ±2, ±5, ±10% | 250 | 24 | 3.10 | 0.220 | 560 | 16.60 | 46 | 18.80 | 47 |
| 18 | ±2, ±5, ±10% | 250 | 25 | 3.10 | 0.230 | 420 | 18.30 | 57 | 20.30 | 62 |
| 19 | ±2, ±5, ±10% | 250 | 24 | 3.04 | 0.202 | 480 | 19.10 | 50 | 21.10 | 67 |
| 20 | ±2, ±5, ±10% | 250 | 25 | 3.00 | 0.250 | 420 | 20.70 | 52 | 23.70 | 53 |
| 22 | ±2, ±5, ±10% | 250 | 25 | 2.80 | 0.300 | 400 | 23.20 | 53 | 26.80 | 53 |
| 23 | ±2, ±5, ±10% | 250 | 24 | 2.72 | 0.300 | 400 | 23.80 | 49 | 26.90 | 64 |
| 24 | ±2, ±5, ±10% | 250 | 25 | 2.70 | 0.300 | 400 | 25.10 | 51 | 29.50 | 50 |
| 27 | ±2, ±5, ±10% | 250 | 24 | 2.48 | 0.300 | 400 | 28.70 | 49 | 33.50 | 63 |
| 30 | ±2, ±5, ±10% | 250 | 25 | 2.35 | 0.350 | 400 | 31.10 | 46 | 38.50 | 39 |
| 33 | ±2, ±5, ±10% | 250 | 24 | 2.35 | 0.350 | 400 | 34.90 | 31 | 41.70 | 32 |
| 36 | ±2, ±5, ±10% | 250 | 24 | 2.32 | 0.440 | 320 | 39.50 | 44 | 48.40 | 53 |
| 39 | ±2, ±5, ±10% | 250 | 25 | 2.10 | 0.550 | 200 | 41.70 | 47 | 50.20 | 45 |
| 40 | ±2, ±5, ±10% | 250 | 24 | 2.24 | 0.500 | 320 | 39.00 | 44 | 47.40 | 33 |
| 43 | ±2, ±5, ±10% | 250 | 25 | 2.03 | 0.810 | 100 | 45.80 | 46 | 61.60 | 34 |
| 47 | ±2, ±5, ±10% | 250 | 25 | 2.10 | 0.830 | 150 | 50.00 | 38 | 55.80 | 37 |
| 51 | ±2, ±5, ±10% | 250 | 25 | 1.75 | 0.820 | 100 | 50.40 | 47 | 59.40 | 37 |
| 56 | ±2, ±5, ±10% | 250 | 25 | 1.76 | 0.970 | 100 | 57.40 | 49 | 72.40 | 40 |
| 68 | ±2, ±5, ±10% | 250 | 22 | 1.62 | 1.120 | 100 | 69.60 | 45 | 83.40 | 38 |
| 82 | ±2, ±5, ±10% | 250 | 22 | 1.26 | 1.550 | 50 | - | - | - | - |
| 100 | ±2, ±5, ±10% | 250 | 22 | 1.16 | 2.000 | 30 | - | - | - | - |
| 120 | ±2, ±5, ±10% | 250 | 20 | >1.80 | 2.660 | 50 | - | - | - | - |

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WL03 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 | | Color Code |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | L | Q | L | Q | |
| 1.6 | ±5, ±10% | 250 | 24 | 12.5 | 0.030 | 700 | 1.53 | 35 | 1.58 | 55 | Blue |
| 1.8 | ±5, ±10% | 250 | 16 | 12.5 | 0.045 | 700 | 1.63 | 35 | 1.66 | 50 | Black |
| 2.2 | ±5, ±10% | 250 | 15 | 6.00 | 0.100 | 700 | 2.18 | 41 | 2.20 | 64 | White |
| 2.3 | ±5, ±10% | 250 | 16 | >4.00 | 0.140 | 700 | 2.32 | 32 | 2.35 | 40 | Yellow |
| 3.3 | ±2, ±5, ±10% | 250 | 22 | >6.00 | 0.080 | 700 | 3.35 | 47 | 3.40 | 65 | Red |
| 3.6 | ±2, ±5, ±10% | 250 | 22 | 5.80 | 0.063 | 700 | 3.53 | 49 | 3.58 | 65 | Violet |
| 3.9 | ±2, ±5, ±10% | 250 | 22 | >6.00 | 0.080 | 700 | 3.95 | 49 | 3.96 | 67 | Brown |
| 4.3 | ±2, ±5, ±10% | 250 | 22 | 5.80 | 0.063 | 700 | 4.32 | 49 | 4.43 | 67 | Orange |
| 4.5 | ±2, ±5, ±10% | 250 | 20 | 5.80 | 0.120 | 700 | 4.74 | 55 | 4.87 | 92 | Gray |
| 4.7 | ±2, ±5, ±10% | 250 | 25 | 5.80 | 0.120 | 700 | 4.65 | 53 | 4.80 | 67 | Violet |
| 5.1 | ±2, ±5, ±10% | 250 | 20 | 5.80 | 0.160 | 700 | 5.13 | 47 | 5.36 | 56 | Green |
| 5.6 | ±2, ±5, ±10% | 250 | 20 | 5.80 | 0.170 | 700 | 5.53 | 56 | 5.86 | 77 | Yellow |
| 6.2 | ±2, ±5, ±10% | 250 | 25 | 5.80 | 0.110 | 700 | 6.28 | 60 | 6.40 | 85 | Black |
| 6.3 | ±2, ±5, ±10% | 250 | 25 | 5.80 | 0.110 | 700 | 6.67 | 41 | 6.86 | 61 | Black |
| 6.8 | ±2, ±5, ±10% | 250 | 27 | 5.80 | 0.110 | 700 | 6.75 | 60 | 7.10 | 81 | Red |
| 7.5 | ±2, ±5, ±10% | 250 | 28 | 4.80 | 0.106 | 700 | 7.70 | 60 | 7.82 | 65 | Brown |
| 8.2 | ±2, ±5, ±10% | 250 | 27 | 4.80 | 0.110 | 700 | 8.25 | 64 | 8.40 | 81 | Green |
| 8.7 | ±2, ±5, ±10% | 250 | 28 | 4.80 | 0.109 | 700 | 8.86 | 62 | 9.32 | 58 | Yellow |
| 9.1 | ±2, ±5, ±10% | 250 | 35 | 4.80 | 0.130 | 700 | 9.20 | 70 | 9.70 | 80 | Black |
| 9.5 | ±2, ±5, ±10% | 250 | 28 | 5.40 | 0.135 | 700 | 9.70 | 59 | 9.92 | 61 | Blue |
| 10 | ±2, ±5, ±10% | 250 | 31 | 4.80 | 0.130 | 700 | 10.0 | 66 | 10.6 | 83 | Orange |
| 11 | ±2, ±5, ±10% | 250 | 31 | 4.00 | 0.086 | 700 | 11.3 | 53 | 12.1 | 56 | Gray |
| 12 | ±2, ±5, ±10% | 250 | 35 | 4.00 | 0.130 | 700 | 12.3 | 72 | 13.5 | 83 | Yellow |
| 15 | ±2, ±5, ±10% | 250 | 35 | 4.00 | 0.170 | 700 | 15.4 | 64 | 16.8 | 89 | Green |
| 16 | ±2, ±5, ±10% | 250 | 35 | 3.30 | 0.110 | 700 | 16.5 | 55 | 18.0 | 52 | White |
| 17 | ±2, ±5, ±10% | 250 | 35 | 3.20 | 0.170 | 700 | 17.6 | 56 | 19.4 | 44 | Red |
| 18 | ±2, ±5, ±10% | 250 | 35 | 3.10 | 0.170 | 700 | 18.7 | 70 | 21.4 | 69 | Blue |
| 20 | ±2, ±5, ±10% | 250 | 40 | 3.00 | 0.190 | 700 | 20.7 | 80 | 23.5 | 30 | Green |
| 22 | ±2, ±5, ±10% | 250 | 38 | 3.00 | 0.190 | 700 | 22.8 | 73 | 26.1 | 71 | Violet |
| 23 | ±2, ±5, ±10% | 250 | 38 | 2.85 | 0.190 | 700 | 24.1 | 71 | 28.0 | 71 | Orange |
| 24 | ±2, ±5, ±10% | 250 | 38 | 2.80 | 0.130 | 700 | 25.7 | 45 | 30.9 | 40 | Black |
| 27 | ±2, ±5, ±10% | 250 | 40 | 2.80 | 0.220 | 600 | 29.2 | 74 | 34.6 | 65 | Gray |
| 30 | ±2, ±5, ±10% | 250 | 40 | 2.80 | 0.150 | 600 | 31.4 | 47 | 39.8 | 28 | Brown |
| 33 | ±2, ±5, ±10% | 250 | 40 | 2.30 | 0.220 | 600 | 36.0 | 67 | 49.5 | 42 | White |
| 36 | ±2, ±5, ±10% | 250 | 37 | 2.30 | 0.250 | 600 | 39.1 | 47 | 48.9 | 24 | Red |
| 39 | ±2, ±5, ±10% | 250 | 40 | 2.20 | 0.250 | 600 | 42.7 | 60 | 60.2 | 40 | Black |
| 43 | ±2, ±5, ±10% | 200 | 38 | 2.00 | 0.280 | 600 | 46.9 | 44 | 60.3 | 21 | Orange |
| 47 | ±2, ±5, ±10% | 200 | 38 | 2.00 | 0.280 | 600 | 52.2 | 62 | 77.2 | 35 | Brown |
| 51 | ±2, ±5, ±10% | 200 | 38 | 1.90 | 0.280 | 600 | 55.5 | 69 | 82.2 | 34 | Blue |
| 56 | ±2, ±5, ±10% | 200 | 38 | 1.90 | 0.310 | 600 | 62.5 | 56 | 97.0 | 26 | Red |
| 62 | ±2, ±5, ±10% | 200 | 37 | 1.80 | 0.340 | 600 | 68.0 | 40 | 110 | 10 | Gray |
| 68 | ±2, ±5, ±10% | 200 | 37 | 1.70 | 0.340 | 600 | 80.5 | 54 | 168 | 21 | Orange |
| 72 | ±2, ±5, ±10% | 150 | 34 | 1.70 | 0.490 | 600 | 82.0 | 53 | 135 | 20 | Yellow |
| 82 | ±2, ±5, ±10% | 150 | 34 | 1.70 | 0.540 | 400 | 96.2 | 54 | 177 | 21 | Green |
| 91 | ±2, ±5, ±10% | 150 | 30 | 1.70 | 0.500 | 400 | 110.0 | 50 | 416.4 | 6 | Brown |
| 100 | ±2, ±5, ±10% | 150 | 34 | 1.40 | 0.580 | 400 | 124.0 | 49 | 319.5 | 13 | Blue |
| 110 | ±2, ±5, ±10% | 150 | 32 | 1.35 | 0.610 | 300 | 138.0 | 43 | 342.7 | 15 | Violet |
| 120 | ±2, ±5, ±10% | 150 | 32 | 1.30 | 0.650 | 300 | 166.0 | 39 | 529.3 | 8 | Gray |
| 130 | ±2, ±5, ±10% | 150 | 30 | 1.40 | 0.720 | 300 | 185.0 | 60 | - | - | White |
| 140 | ±2, ±5, ±10% | 100 | 28 | 1.30 | 0.870 | 280 | 190.0 | 80 | - | - | Blue |
| 150 | ±2, ±5, ±10% | 100 | 28 | 1.30 | 0.950 | 280 | 230.0 | 25 | - | - | White |
| 160 | ±2, ±5, ±10% | 100 | 25 | 1.30 | 1.400 | 280 | 215.0 | 20 | - | - | Yellow |
| 180 | ±2, ±5, ±10% | 100 | 25 | 1.25 | 1.400 | 250 | 305.0 | 22 | - | - | Black |
| 220 | ±2, ±5, ±10% | 100 | 25 | 1.20 | 1.600 | 250 | 377.0 | 21 | - | - | Brown |
| 260 | ±2, ±5, ±10% | 100 | 25 | 1.00 | 2.000 | 200 | 469.0 | 21 | - | - | Violet |
| 270 | ±2, ±5, ±10% | 100 | 25 | 0.90 | 2.100 | 200 | 523.0 | 19 | - | - | Red |
| 280 | ±2, ±5, ±10% | 100 | 25 | 1.00 | 2.400 | 100 | 524.0 | 18 | - | - | Green |
| 300 | ±2, ±5, ±10% | 100 | 25 | 0.75 | 2.500 | 150 | 539.7 | 21 | - | - | Orange |
| 330 | ±2, ±5, ±10% | 100 | 25 | 0.90 | 3.800 | 100 | 680.4 | 20 | - | - | Blue |
| 390 | ±2, ±5, ±10% | 100 | 25 | 0.90 | 4.350 | 100 | 734.5 | 29 | - | - | Yellow |
| 470 | ±2, ±5, ±10% | 100 | 23 | 0.60 | 3.600 | 80 | - | - | - | - | White |

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WL05 Wire Wound Chip Inductors / Standard Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| 2.7 | ±5, ±10% | 250 | 80 @ 1500MHz | 7.900 | 0.06 | 800 | Brown |
| 2.8 | ±5, ±10% | 250 | 80 @ 1500MHz | 7.900 | 0.06 | 800 | Gray |
| 3.0 | ±5, ±10% | 250 | 65 @ 1500MHz | 7.900 | 0.06 | 800 | White |
| 3.3 | ±5, ±10% | 250 | 50 @ 1500MHz | 6.000 | 0.08 | 600 | Black |
| 5.6 | ±5, ±10% | 250 | 65 @ 1000MHz | 5.500 | 0.08 | 600 | Orange |
| 6.2 | ±5, ±10% | 250 | 50 @ 1000MHz | 5.500 | 0.11 | 600 | Green |
| 6.8 | ±5, ±10% | 250 | 50 @ 1000MHz | 5.500 | 0.11 | 600 | Brown |
| 7.5 | ±5, ±10% | 250 | 50 @ 1000MHz | 4.500 | 0.14 | 600 | Green |
| 8.2 | ±5, ±10% | 250 | 50 @ 1000MHz | 4.700 | 0.12 | 600 | Red |
| 8.7 | ±5, ±10% | 250 | 50 @ 1000MHz | 4.000 | 0.21 | 400 | White |
| 10 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 4.200 | 0.10 | 600 | Blue |
| 12 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 4.000 | 0.15 | 600 | Orange |
| 15 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 3.400 | 0.17 | 600 | Yellow |
| 18 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 3.300 | 0.20 | 600 | Green |
| 22 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 2.600 | 0.22 | 500 | Blue |
| 24 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2.000 | 0.22 | 500 | Gray |
| 27 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 2.500 | 0.25 | 500 | Violet |
| 33 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 2.050 | 0.27 | 500 | Gray |
| 36 | ±2, ±5, ±10% | 250 | 55 @ 500MHz | 1.700 | 0.27 | 500 | Orange |
| 39 | ±2, ±5, ±10% | 250 | 60 @ 500MHz | 2.000 | 0.29 | 500 | White |
| 43 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.650 | 0.34 | 500 | Yellow |
| 47 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.650 | 0.31 | 500 | Black |
| 56 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.550 | 0.34 | 500 | Brown |
| 68 | ±2, ±5, ±10% | 200 | 60 @ 500MHz | 1.450 | 0.38 | 500 | Red |
| 72 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.400 | 0.40 | 500 | Green |
| 82 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.300 | 0.42 | 400 | Orange |
| 91 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.200 | 0.48 | 400 | Black |
| 100 | ±2, ±5, ±10% | 150 | 65 @ 500MHz | 1.200 | 0.46 | 400 | Yellow |
| 110 | ±2, ±5, ±10% | 150 | 50 @ 250MHz | 1.000 | 0.48 | 400 | Brown |
| 120 | ±2, ±5, ±10% | 150 | 50 @ 250MHz | 1.100 | 0.51 | 400 | Green |
| 150 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.920 | 0.56 | 400 | Blue |
| 180 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.870 | 0.64 | 400 | Violet |
| 200 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.860 | 0.66 | 400 | Orange |
| 220 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.850 | 0.70 | 400 | Gray |
| 240 | ±2, ±5, ±10% | 100 | 44 @ 250MHz | 0.690 | 1.00 | 350 | Red |
| 250 | ±2, ±5, ±10% | 100 | 50 @ 250MHz | 0.680 | 1.00 | 350 | Green |
| 270 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.650 | 1.00 | 350 | White |
| 300 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.620 | 1.20 | 330 | Yellow |
| 330 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.600 | 1.40 | 310 | Black |
| 360 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.580 | 1.45 | 300 | Green |
| 390 | ±2, ±5, ±10% | 100 | 48 @ 250MHz | 0.560 | 1.50 | 290 | Brown |
| 430 | ±2, ±5, ±10% | 50 | 33 @ 100MHz | 0.430 | 1.70 | 230 | Blue |
| 470 | ±2, ±5, ±10% | 50 | 33 @ 100MHz | 0.375 | 1.70 | 250 | Red |
| 560 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.340 | 1.90 | 230 | Orange |
| 600 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.260 | 1.60 | 450 | White |
| 620 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.220 | 2.20 | 210 | Yellow |
| 680 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.200 | 2.20 | 190 | Green |
| 750 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.200 | 2.30 | 180 | Blue |
| 820 | ±2, ±5, ±10% | 25 | 23 @ 50MHz | 0.200 | 2.35 | 180 | Violet |
| 1000 | ±2, ±5, ±10% | 25 | 20 @ 50MHz | 0.100 | 2.50 | 170 | Gray |
| 1200 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.100 | 2.50 | 170 | White |
| 1500 | ±2, ±5, ±10% | 7.9 | 16 @ 25MHz | 0.100 | 2.50 | 170 | Black |
| 1800 | ±2, ±5, ±10% | 7.9 | 16 @ 7.9MHz | 0.080 | 2.50 | 170 | Brown |
| 2200 | ±2, ±5, ±10% | 7.9 | 16 @ 7.9MHz | 0.060 | 2.70 | 160 | Red |
| 2700 | ±2, ±5, ±10% | 7.9 | 16 @ 7.9MHz | 0.050 | 3.10 | 150 | Orange |
| 3300 | ±2, ±5, ±10% | 7.9 | 15 @ 7.9MHz | 0.040 | 4.40 | 90 | Blue |
| 4700 | ±2, ±5, ±10% | 7.9 | 15 @ 7.9MHz | 0.040 | 6.40 | 90 | Green |

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WL08 Wire Wound Chip Inductors / Standard Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| *5.6 | ±5, ±10% | 50 | 50 @ 1500MHz | 4.000 | 0.15 | 1000 | Black |
| *10 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 4.100 | 0.08 | 1000 | Brown |
| *12 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 3.300 | 0.09 | 1000 | Red |
| *15 | ±2, ±5, ±10% | 50 | 50 @ 500MHz | 2.500 | 0.11 | 1000 | Orange |
| *18 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 2.400 | 0.12 | 1000 | Yellow |
| *22 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 2.400 | 0.12 | 1000 | Green |
| 24 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 1.900 | 0.13 | 1000 | Blue |
| *27 | ±2, ±5, ±10% | 50 | 55 @ 350MHz | 1.600 | 0.13 | 1000 | Violet |
| *33 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.600 | 0.14 | 1000 | Gray |
| 36 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.600 | 0.15 | 1000 | Orange |
| *39 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.500 | 0.15 | 1000 | White |
| *47 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.500 | 0.16 | 1000 | Black |
| *56 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.300 | 0.18 | 1000 | Brown |
| *62 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.250 | 0.20 | 1000 | Blue |
| *68 | ±2, ±5, ±10% | 50 | 65 @ 350MHz | 1.300 | 0.20 | 1000 | Red |
| 75 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.100 | 0.21 | 1000 | White |
| *82 | ±2, ±5, ±10% | 50 | 60 @ 350MHz | 1.000 | 0.22 | 1000 | Orange |
| 91 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 1.000 | 0.45 | 1000 | White |
| *100 | ±2, ±5, ±10% | 25 | 60 @ 350MHz | 1.000 | 0.56 | 650 | Yellow |
| *120 | ±2, ±5, ±10% | 25 | 60 @ 350MHz | 0.950 | 0.63 | 650 | Green |
| *150 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.850 | 0.70 | 800 | Blue |
| *180 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.750 | 0.77 | 620 | Violet |
| *220 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.700 | 0.84 | 500 | Gray |
| *240 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.650 | 0.88 | 500 | White |
| *270 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.600 | 0.91 | 690 | Black |
| *300 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.585 | 1.00 | 450 | Brown |
| *330 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.570 | 1.05 | 450 | Red |
| *360 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.530 | 1.10 | 470 | Orange |
| *390 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.500 | 1.12 | 630 | Yellow |
| *430 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.480 | 1.15 | 470 | Green |
| *470 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.450 | 1.19 | 470 | Blue |
| *560 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.415 | 1.33 | 580 | Violet |
| *620 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.375 | 1.40 | 300 | Gray |
| *680 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.375 | 1.47 | 540 | White |
| *750 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.360 | 1.54 | 360 | Black |
| *820 | ±2, ±5, ±10% | 25 | 45 @ 100MHz | 0.350 | 1.61 | 400 | Brown |
| *910 | ±2, ±5, ±10% | 25 | 35 @ 50MHz | 0.320 | 1.68 | 380 | Red |
| *1000 | ±2, ±5, ±10% | 25 | 35 @ 50MHz | 0.290 | 1.75 | 370 | Orange |
| *1200 | ±2, ±5, ±10% | 7.9 | 35 @ 50MHz | 0.250 | 2.00 | 310 | Yellow |
| *1500 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.200 | 2.30 | 330 | Green |
| *1800 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.160 | 2.60 | 300 | Blue |
| *2200 | ±2, ±5, ±10% | 7.9 | 28 @ 50MHz | 0.160 | 2.80 | 280 | Violet |
| *2700 | ±2, ±5, ±10% | 7.9 | 22 @ 25MHz | 0.140 | 3.20 | 290 | Gray |
| *3300 | ±2, ±5, ±10% | 7.9 | 22 @ 25MHz | 0.110 | 3.40 | 290 | White |
| *3900 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.100 | 3.60 | 260 | Black |
| *4700 | ±2, ±5, ±10% | 7.9 | 18 @ 25MHz | 0.090 | 4.00 | 260 | Brown |
| 5600 | ±2, ±5, ±10% | 7.9 | 16 @ 7.96MHz | 0.020 | 4.00 | 240 | Red |
| 6800 | ±2, ±5, ±10% | 7.9 | 15 @ 7.96MHz | 0.040 | 4.90 | 200 | Orange |
| 8200 | ±2, ±5, ±10% | 7.9 | 15 @ 7.96MHz | 0.025 | 6.00 | 170 | Yellow |
| 10000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.020 | 9.00 | 150 | Green |
| 12000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.018 | 10.5 | 130 | Blue |
| 15000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.015 | 11.5 | 120 | Violet |

**" * " Test Methods / Instrument: Network / Spectrum Analyzer**

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WL06 Wire Wound Chip Inductors / Standard Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| 6.8 | ±5, ±10% | 100 | 30 @ 300MHz | 5.50 | 0.07 | 1000 | Brown |
| 10 | ±5, ±10% | 100 | 40 @ 300MHz | 4.00 | 0.08 | 1000 | Red |
| 12 | ±5, ±10% | 100 | 40 @ 300MHz | 3.20 | 0.08 | 1000 | Orange |
| 15 | ±5, ±10% | 100 | 40 @ 300MHz | 3.20 | 0.10 | 1000 | Yellow |
| 18 | ±5, ±10% | 100 | 50 @ 300MHz | 2.80 | 0.10 | 1000 | Green |
| 22 | ±5, ±10% | 100 | 50 @ 300MHz | 2.20 | 0.10 | 1000 | Blue |
| 24 | ±5, ±10% | 100 | 50 @ 300MHz | 2.00 | 0.10 | 1000 | Red |
| 27 | ±2, ±5, ±10% | 100 | 50 @ 300MHz | 1.80 | 0.11 | 1000 | Violet |
| 33 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.80 | 0.11 | 1000 | Gray |
| 39 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.80 | 0.12 | 1000 | White |
| 47 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.50 | 0.13 | 1000 | Black |
| 56 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.45 | 0.14 | 1000 | Brown |
| 62 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.20 | 0.20 | 1000 | Violet |
| 68 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.20 | 0.26 | 950 | Red |
| 82 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.20 | 0.21 | 920 | Orange |
| 91 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.10 | 0.24 | 900 | White |
| 100 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 1.10 | 0.26 | 850 | Yellow |
| 120 | ±2, ±5, ±10% | 100 | 55 @ 300MHz | 0.75 | 0.26 | 800 | Green |
| 150 | ±2, ±5, ±10% | 100 | 60 @ 300MHz | 0.95 | 0.31 | 750 | Blue |
| 180 | ±2, ±5, ±10% | 50 | 55 @ 300MHz | 0.90 | 0.43 | 700 | Violet |
| 220 | ±2, ±5, ±10% | 50 | 55 @ 300MHz | 0.76 | 0.50 | 670 | Gray |
| 270 | ±2, ±5, ±10% | 50 | 55 @ 300MHz | 0.74 | 0.56 | 630 | White |
| 300 | ±2, ±5, ±10% | 50 | 50 @ 150MHz | 0.68 | 0.60 | 600 | Green |
| 330 | ±2, ±5, ±10% | 50 | 45 @ 150MHz | 0.65 | 0.62 | 590 | Black |
| 360 | ±2, ±5, ±10% | 50 | 45 @ 150MHz | 0.60 | 0.65 | 550 | Blue |
| 390 | ±2, ±5, ±10% | 50 | 45 @ 150MHz | 0.60 | 0.75 | 530 | Brown |
| 470 | ±2, ±5, ±10% | 50 | 45 @ 150MHz | 0.55 | 1.30 | 490 | Red |
| 560 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.47 | 1.34 | 460 | Orange |
| 620 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.47 | 1.58 | 460 | Gray |
| 680 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.45 | 1.58 | 430 | Yellow |
| 750 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.44 | 2.25 | 320 | White |
| 820 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.42 | 1.82 | 400 | Green |
| 910 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.41 | 2.95 | 310 | Green |
| 1000 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.40 | 2.80 | 320 | Blue |
| 1200 | ±2, ±5, ±10% | 35 | 45 @ 150MHz | 0.38 | 3.20 | 300 | Violet |

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## ■Low Profile Electrical Specifications

WL05 Wire Wound Chip Inductors / Low Profile Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| 1.8 | ±5% | 250 | 55 @ 1500MHz | 9.40 | 0.03 | 800 | Black |
| 3.9 | ±5, ±10% | 250 | 60 @ 1000MHz | 6.10 | 0.06 | 800 | Brown |
| 4.7 | ±5, ±10% | 250 | 50 @ 1000MHz | 5.50 | 0.06 | 800 | Red |
| 6.8 | ±5, ±10% | 250 | 50 @ 1000MHz | 5.50 | 0.08 | 800 | Orange |
| 8.2 | ±5, ±10% | 250 | 50 @ 1000MHz | 4.80 | 0.08 | 800 | Yellow |
| 10 | ±2, ±5, ±10% | 250 | 55 @ 750MHz | 3.30 | 0.08 | 800 | Green |
| 12 | ±2, ±5, ±10% | 250 | 55 @ 750MHz | 3.80 | 0.10 | 800 | Blue |
| 15 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2.95 | 0.10 | 800 | Violet |
| 18 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 3.10 | 0.13 | 800 | Gray |
| 22 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2.90 | 0.15 | 800 | Whit |
| 27 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2.45 | 0.23 | 600 | Black |
| 33 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2.35 | 0.28 | 600 | Brown |
| 39 | ±2, ±5, ±10% | 250 | 50 @ 500MHz | 2.20 | 0.33 | 600 | Red |
| 47 | ±2, ±5, ±10% | 200 | 50 @ 500MHz | 2.00 | 0.39 | 600 | Orange |
| 56 | ±2, ±5, ±10% | 200 | 50 @ 500MHz | 1.85 | 0.39 | 500 | Yellow |
| 68 | ±2, ±5, ±10% | 200 | 50 @ 500MHz | 1.50 | 0.40 | 500 | Green |
| 82 | ±2, ±5, ±10% | 150 | 50 @ 500MHz | 1.50 | 0.44 | 500 | Blue |
| 100 | ±2, ±5, ±10% | 150 | 50 @ 500MHz | 1.20 | 0.64 | 400 | Violet |
| 120 | ±2, ±5, ±10% | 150 | 40 @ 250MHz | 1.15 | 0.68 | 300 | Gray |
| 150 | ±2, ±5, ±10% | 150 | 40 @ 250MHz | 1.05 | 0.80 | 300 | Whit |
| 1000 | ±2, ±5, ±10% | 25 | 16 @ 50MHz | 0.08 | 3.50 | 170 | Black |

WL08 Wire Wound Chip Inductors / Low Profile Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| 3.3 | ±5, ±10% | 50 | 42 @ 1500MHz | 6.00 | 0.03 | 1000 | White |
| 4.2 | ±5, ±10% | 50 | 42 @ 1500MHz | 6.00 | 0.15 | 1000 | Black |
| 6.8 | ±5, ±10% | 50 | 50 @ 1500MHz | 5.40 | 0.17 | 1000 | Brown |
| 8.2 | ±5, ±10% | 50 | 50 @ 1500MHz | 5.00 | 0.22 | 1000 | Red |
| 15 | ±5, ±10% | 50 | 57 @ 500MHz | 3.00 | 0.22 | 1000 | Orange |
| 18 | ±5, ±10% | 50 | 50 @ 350MHz | 2.40 | 0.12 | 1000 | Gray |
| 20 | ±5, ±10% | 50 | 72 @ 500MHz | 2.40 | 0.33 | 1000 | Yellow |
| 27 | ±5, ±10% | 50 | 50 @ 350MHz | 1.60 | 0.13 | 850 | Green |
| 30 | ±5, ±10% | 50 | 69 @ 500MHz | 2.40 | 0.38 | 600 | Blue |
| 40 | ±5, ±10% | 50 | 67 @ 500MHz | 2.00 | 0.43 | 600 | Violet |
| 50 | ±2, ±5, ±10% | 50 | 72 @ 500MHz | 1.90 | 0.48 | 600 | Gray |
| 60 | ±2, ±5, ±10% | 50 | 75 @ 500MHz | 1.80 | 0.52 | 600 | White |
| 70 | ±2, ±5, ±10% | 50 | 68 @ 500MHz | 1.70 | 0.55 | 510 | Black |
| 80 | ±2, ±5, ±10% | 50 | 75 @ 500MHz | 1.40 | 0.56 | 510 | Brown |
| 180 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 0.90 | 0.40 | 450 | Blue |
| 560 | ±2, ±5, ±10% | 25 | 40 @ 100MHz | 0.415 | 1.33 | 400 | Red |

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## ■High Q Electrical Specifications

WL05 Wire Wound Chip Inductors / High Q Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| 2.5 | ±5, ±10% | 250 | 80 @ 1500MHz | 6.00 | 0.020 | 1600 | Black |
| 5.6 | ±5, ±10% | 250 | 98 @ 1500MHz | 6.00 | 0.035 | 1600 | Brown |
| 6.2 | ±5, ±10% | 250 | 88 @ 1000MHz | 4.75 | 0.035 | 1600 | Red |
| 6.8 | ±5, ±10% | 250 | 80 @ 1000MHz | 4.40 | 0.035 | 1600 | White |
| 8.2 | ±5, ±10% | 250 | 75 @ 1000MHz | 3.00 | 0.075 | 1000 | Gray |
| 10 | ±5, ±10% | 250 | 80 @ 1000MHz | 3.00 | 0.060 | 1600 | Black |
| 12 | ±5, ±10% | 250 | 80 @ 1000MHz | 3.00 | 0.045 | 1600 | Orange |
| 15 | ±2, ±5, ±10% | 250 | 80 @ 1000MHz | 2.80 | 0.100 | 1200 | Black |
| 16 | ±2, ±5, ±10% | 250 | 72 @ 500MHz | 2.95 | 0.060 | 1500 | Yellow |
| 18 | ±2, ±5, ±10% | 250 | 75 @ 500MHz | 2.55 | 0.060 | 1400 | Green |
| 20 | ±2, ±5, ±10% | 250 | 70 @ 500MHz | 2.05 | 0.055 | 1400 | Blue |
| 22 | ±2, ±5, ±10% | 250 | 80 @ 500MHz | 2.00 | 0.100 | 1200 | Black |
| 27 | ±2, ±5, ±10% | 250 | 75 @ 500MHz | 2.00 | 0.070 | 1300 | Violet |
| 30 | ±2, ±5, ±10% | 250 | 65 @ 500MHz | 1.95 | 0.095 | 1200 | Gray |
| 39 | ±2, ±5, ±10% | 250 | 65 @ 500MHz | 1.60 | 0.110 | 1100 | White |
| 48 | ±2, ±5, ±10% | 200 | 65 @ 500MHz | 1.40 | 0.095 | 1200 | Black |
| 51 | ±2, ±5, ±10% | 200 | 65 @ 500MHz | 1.40 | 0.120 | 1000 | Brown |

WL08 Wire Wound Chip Inductors / High Q Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. | Color Code |
|---|---|---|---|---|---|---|---|
| 3.0 | ±5, ±10% | 50 | 70 @ 1500MHz | 6.00 | 0.04 | 1600 | Black |
| 3.9 | ±5, ±10% | 50 | 75 @ 1500MHz | 6.00 | 0.05 | 1600 | White |
| 4.1 | ±5, ±10% | 50 | 75 @ 1500MHz | 6.00 | 0.05 | 1600 | Brown |
| 7.8 | ±5, ±10% | 50 | 75 @ 500MHz | 3.80 | 0.05 | 1600 | Red |
| 10 | ±2, ±5, ±10% | 50 | 60 @ 500MHz | 3.60 | 0.06 | 1600 | Orange |
| 12 | ±2, ±5, ±10% | 50 | 70 @ 500MHz | 2.80 | 0.06 | 1500 | Yellow |
| 18 | ±2, ±5, ±10% | 50 | 62 @ 350MHz | 2.70 | 0.07 | 1400 | Green |
| 22 | ±2, ±5, ±10% | 50 | 62 @ 350MHz | 2.05 | 0.07 | 1400 | Blue |
| 33 | ±2, ±5, ±10% | 50 | 75 @ 350MHz | 1.70 | 0.09 | 1300 | Violet |
| 39 | ±2, ±5, ±10% | 50 | 75 @ 350MHz | 1.30 | 0.09 | 1300 | Gray |
| 47 | ±2, ±5, ±10% | 50 | 75 @ 350MHz | 1.45 | 0.12 | 1200 | White |
| 56 | ±2, ±5, ±10% | 50 | 75 @ 350MHz | 1.23 | 0.12 | 1200 | Black |
| 68 | ±2, ±5, ±10% | 50 | 80 @ 350MHz | 1.15 | 0.13 | 1100 | Brown |
| 82 | ±2, ±5, ±10% | 50 | 80 @ 350MHz | 1.06 | 0.16 | 1100 | Red |
| 100 | ±2, ±5, ±10% | 50 | 50 @ 350MHz | 0.82 | 0.16 | 1000 | Orange |

■**Parts (3.0nH, 7.8nH) are wound on a low profile bobbin. (Max 2.41×2.01×1.09)**

## ■High Current Electrical Specifications

WL03 Wire Wound Chip Inductors / High Current Type

| Inductance | Tolerance | Freq. | Quality min. | SRF | DCR | IDC | Color |
|---|---|---|---|---|---|---|---|
| 1.6 | ±5, ±10% | 250 | 24 | 12.50 | 0.030 | 2400 | Black |
| 3.6 | ±5, ±10% | 250 | 24 | 5.90 | 0.048 | 2300 | Brown |
| 3.9 | ±5, ±10% | 250 | 25 | 5.90 | 0.054 | 2200 | Red |
| 6.8 | ±5, ±10% | 250 | 35 | 5.80 | 0.054 | 2100 | Orange |
| 7.5 | ±5, ±10% | 250 | 38 | 3.70 | 0.059 | 2100 | Yellow |
| 8.2 | ±5, ±10% | 250 | 38 | 3.70 | 0.060 | 2000 | White |
| 10 | ±2, ±5, ±10% | 250 | 38 | 3.70 | 0.071 | 2000 | Green |
| 12 | ±2, ±5, ±10% | 250 | 38 | 3.00 | 0.075 | 2000 | Blue |
| 15 | ±2, ±5, ±10% | 250 | 38 | 2.80 | 0.080 | 1900 | Violet |
| 18 | ±2, ±5, ±10% | 250 | 40 | 2.80 | 0.099 | 1900 | Gray |
| 22 | ±2, ±5, ±10% | 250 | 42 | 2.40 | 0.099 | 1800 | White |
| 24 | ±2, ±5, ±10% | 250 | 42 | 2.40 | 0.105 | 1800 | Black |

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## ■High SRF Electrical Specifications

WL02 Wire Wound Chip Inductors / High SRF Type

| Inductance (nH) | Tolerance | L Freq. (MHz) | Q | | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|---|---|---|---|---|---|---|---|
| | | | 900MHz | 1.7GHz | | | |
| 1.0 | ±0.2nH, ±0.5nH, ±5%, ±10% | 250 | 46 | 75 | 16.0 | 0.030 | 2300 |
| 2.0 | ±0.2nH, ±0.5nH, ±5%, ±10% | 250 | 58 | 85 | 15.2 | 0.038 | 2100 |
| 2.2 | ±0.2nH, ±0.5nH, ±5%, ±10% | 250 | 60 | 86 | 15.1 | 0.038 | 2100 |
| 2.4 | ±0.2nH, ±0.5nH, ±5%, ±10% | 250 | 60 | 83 | 14.0 | 0.042 | 2000 |
| 2.7 | ±0.2nH, ±0.5nH, ±5%±10% | 250 | 62 | 85 | 13.0 | 0.056 | 1500 |
| 3.3 | ±0.5nH, ±3%, ±5%±10% | 250 | 66 | 95 | 12.8 | 0.045 | 1700 |
| 3.6 | ±0.5nH, ±3%, ±5%±10% | 250 | 65 | 94 | 11.7 | 0.045 | 1700 |
| 3.9 | ±0.5nH, ±3%, ±5%±10% | 250 | 64 | 98 | 9.50 | 0.045 | 1700 |
| 4.3 | ±0.5nH, ±3%, ±5%±10% | 250 | 63 | 90 | 7.15 | 0.045 | 1600 |
| 4.7 | ±0.5nH, ±3%, ±5%±10% | 250 | 58 | 83 | 6.85 | 0.060 | 1500 |
| 5.1 | ±2%, ±3%, ±5%, ±10% | 250 | 54 | 76 | 6.80 | 0.100 | 1200 |
| 5.6 | ±2%, ±3%, ±5%, ±10% | 250 | 73 | 105 | 6.50 | 0.048 | 1600 |
| 6.2 | ±2%, ±3%, ±5%, ±10% | 250 | 73 | 100 | 5.80 | 0.050 | 1600 |
| 6.8 | ±2%, ±3%, ±5%, ±10% | 250 | 68 | 94 | 5.80 | 0.055 | 1500 |
| 7.5 | ±2%, ±3%, ±5%, ±10% | 250 | 60 | 82 | 5.40 | 0.080 | 1400 |
| 8.2 | ±2%, ±3%, ±5%, ±10% | 250 | 68 | 95 | 5.40 | 0.058 | 1500 |
| 8.7 | ±2%, ±3%, ±5%, ±10% | 250 | 68 | 95 | 5.00 | 0.058 | 1500 |
| 9.0 | ±2%, ±3%, ±5%, ±10% | 250 | 67 | 92 | 5.00 | 0.080 | 1400 |
| 9.5 | ±2%, ±3%, ±5%, ±10% | 250 | 64 | 90 | 4.70 | 0.080 | 1400 |
| 10 | ±2%, ±3%, ±5%, ±10% | 250 | 62 | 90 | 4.70 | 0.085 | 1300 |
| 11 | ±2%, ±3%, ±5%, ±10% | 250 | 68 | 98 | 4.70 | 0.065 | 1400 |
| 12 | ±2%, ±3%, ±5%, ±10% | 250 | 66 | 100 | 4.40 | 0.090 | 1200 |
| 13 | ±2%, ±3%, ±5%, ±10% | 250 | 62 | 82 | 4.20 | 0.140 | 870 |
| 15 | ±2%, ±3%, ±5%, ±10% | 250 | 62 | 85 | 3.90 | 0.110 | 1100 |
| 16 | ±2%, ±3%, ±5%, ±10% | 250 | 57 | 77 | 3.70 | 0.130 | 850 |
| 18 | ±2%, ±3%, ±5%, ±10% | 250 | 58 | 74 | 3.55 | 0.120 | 900 |
| 19 | ±2%, ±3%, ±5%, ±10% | 250 | 61 | 88 | 3.50 | 0.145 | 850 |
| 20 | ±2%, ±3%, ±5%, ±10% | 250 | 58 | 76 | 3.50 | 0.185 | 780 |
| 21 | ±2%, ±3%, ±5%, ±10% | 250 | 48 | 62 | 1.70 | 0.460 | 450 |
| 22 | ±2%, ±3%, ±5%, ±10% | 250 | 60 | 74 | 3.30 | 0.160 | 800 |
| 23 | ±2%, ±3%, ±5%, ±10% | 250 | 60 | 77 | 3.30 | 0.160 | 800 |
| 24 | ±2%, ±3%, ±5%, ±10% | 250 | 55 | 71 | 3.15 | 0.190 | 700 |
| 25 | ±2%, ±3%, ±5%, ±10% | 250 | 57 | 73 | 3.15 | 0.230 | 600 |
| 26 | ±2%, ±3%, ±5%, ±10% | 250 | 56 | 74 | 3.15 | 0.275 | 450 |
| 27 | ±2%, ±3%, ±5%, ±10% | 250 | 62 | 86 | 3.20 | 0.275 | 450 |
| 30 | ±2%, ±3%, ±5%, ±10% | 250 | 61 | 87 | 2.90 | 0.330 | 450 |
| 33 | ±2%, ±3%, ±5%, ±10% | 250 | 61 | 80 | 2.80 | 0.330 | 490 |
| 36 | ±2%, ±3%, ±5%, ±10% | 250 | 59 | 76 | 2.80 | 0.360 | 480 |
| 37 | ±2%, ±3%, ±5%, ±10% | 250 | 57 | 72 | 2.70 | 0.480 | 470 |
| 39 | ±2%, ±3%, ±5%, ±10% | 250 | 56 | 84 | 2.60 | 0.430 | 450 |
| 40 | ±2%, ±3%, ±5%, ±10% | 250 | 56 | 75 | 2.60 | 0.430 | 450 |
| 43 | ±2%, ±3%, ±5%, ±10% | 250 | 52 | 68 | 2.50 | 0.520 | 450 |
| 47 | ±2%, ±3%, ±5%, ±10% | 250 | 48 | 62 | 2.40 | 0.580 | 420 |
| 51 | ±2%, ±3%, ±5%, ±10% | 250 | 52 | 59 | 2.30 | 0.700 | 360 |

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## ■Environmental Characteristics

Electrical Performance Test

| Item | Requirement | Test Method |
|---|---|---|
| Inductance | Refer to standard electrical characteristic spec. | HP4286 |
| Q | | HP4286 |
| SRF | | HP4287 |
| DC Resistance RDC | | Micro-Ohm meter (Gom-801G) |
| Rated Current IDC | | Applied the current to coils, The inductance change should be less than 10% to initial value |
| 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. | 100 $V_{DC}$ applied between inductor terminal and 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 on the substrate<br>Oscillation Frequency: 10 to 55 to 10Hz 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℃ for 10 seconds) to a tinned copper subs rate. A dynamiter force gauge should be applied to the side of the component. The device must with stand 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. Drop 10 times in total<br>Drop height: 100 cm<br>Drop weight: 125 g |
| Solderability | 90% covered with solder | Inductor shall be dipped in a melted solder bath at 245±5℃ for 3 seconds |
| Resistance to Solvent | No damage on appearance and marking | MIL-STD-202F, Method 215D |

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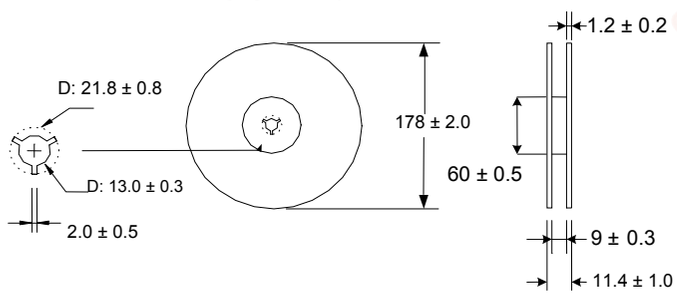
Climatic Test

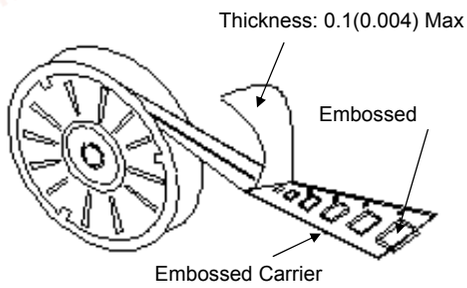
| Item | Requirement | Test Method |
|---|---|---|
| Temperature Characteristic | Appearance: No damage<br>L change: within ±10%<br>Q change: within ±20% | -40℃~+125°C℃ |
| Humidity | | Temperature: 40±2°C℃<br>Relative Humidity: 90~95%<br>Time: 96±2 hrs<br>Measured after exposure in the room condition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

■ **Storage Temperature: 25±3°C; Humidity < 80%RH**

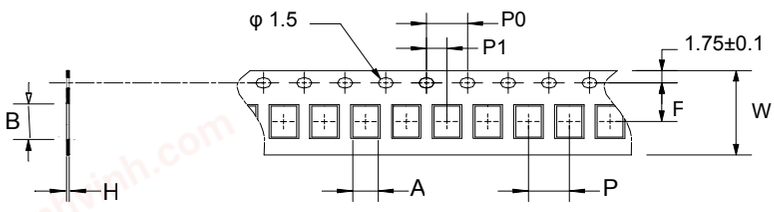
## ■Packaging

Reel Dimensions & Packaging Quantity




Paper Tape specification and Packaging Quantity




Unit : mm

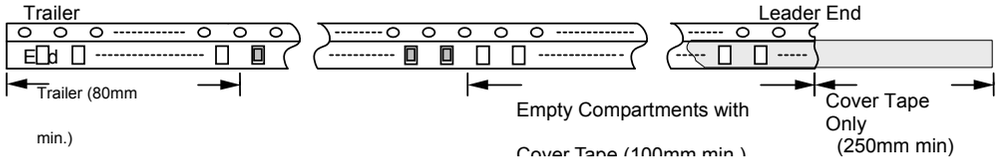
| Type | A | B | H | F | P | $P_0$ | $P_1$ | W | Reel (EA) |
|---|---|---|---|---|---|---|---|---|---|
| WL02 | 0.72 | 1.19 | 0.60 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 | 4,000 |
| WL03 | 1.35 | 1.95 | 0.95 | 3.50 | 4.00 | 4.00 | 2.00 | 8.00 | 4,000 |

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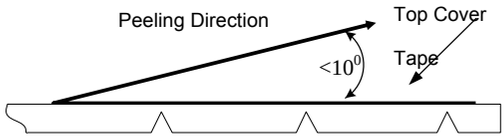
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Leader / Trailer Tape

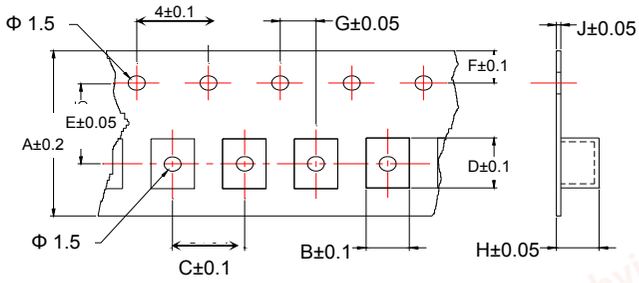



Peel-off Force

Peel-off force should be in the range of 0.1N~0.7N at a peel-off speed of 300±10 mm/min



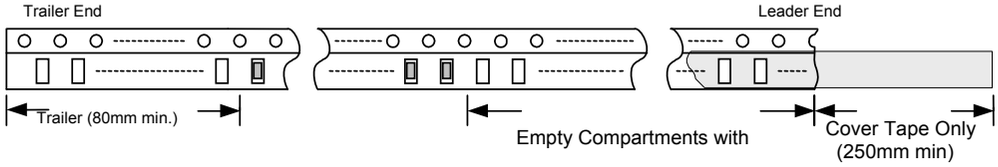

Embossed Plastic Tape specification and Packaging Quantity




Unit: mm

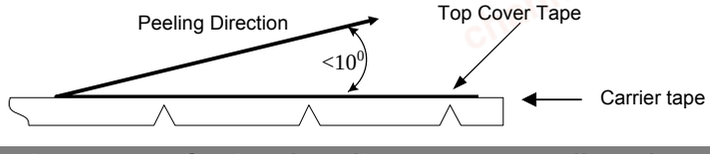
| Type | A | B | C | D | E | F | G | H | J | Reel (EA) |
|---|---|---|---|---|---|---|---|---|---|---|
| WL05 | 8 | 1.85 | 4 | 2.30 | 3.5 | 1.75 | 2 | 1.45 | 0.23 | 2000 |
| WL05 (L) | 8 | 1.80 | 4 | 2.30 | 3.5 | 1.75 | 2 | 0.90 | 0.23 | 2000 |
| WL05 (H) | 8 | 1.85 | 4 | 2.30 | 3.5 | 1.75 | 2 | 1.45 | 0.23 | 2000 |
| WL06 | 8 | 1.95 | 4 | 3.50 | 3.5 | 1.75 | 2 | 1.50 | 0.23 | 2000 |
| WL08 | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 2.00 | 0.23 | 2000 |
| WL08 (L) | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 1.50 | 0.23 | 2000 |
| WL08 (H) | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 2.00 | 0.23 | 2000 |

Leader / Trailer Tape




Peel-off Force

Peel-off force should be in the range of 0.1N~0.7N at a peel-off speed of 300±10 mm/min




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