

## Data Sheet

Customer: \_\_\_\_\_

Product: SMD Wire Wound Chip Inductor-WL Series

Sizes.: 0402/0603/0805/1008

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|---------------------|-----------------|---------------------|------------------------|---------------------------|
| 4-Jun-2025          | 4-Jun-2025      | 4-Jun-2025          |                        |                           |
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## SMD Wire Wound Chip Inductor

### Scope

- Ceramic body and wire wound construction provide highest SRFs available .....

### Features

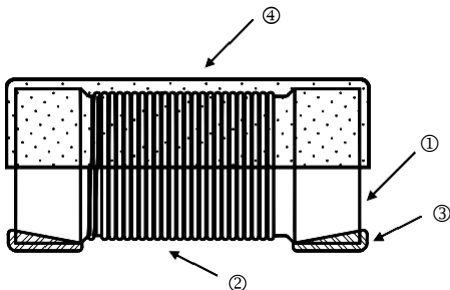
- Ceramic base provide high SRF
- Ultra-compact inductors provide high Q factors
- Low profile, high current are available
- Miniature SMD chip inductor for fully automated assembly
- Outstanding endurance from Pull-up force, mechanical shock and pressure
- Tighter tolerance down to  $\pm 2\%$
- Smaller size of 0402 (1005)
- AEC-Q200 Compliance



### Applications

- Smart Phone, Remote Control, Security System
- Wireless Mouse / Keyboard / Earphone
- VCO, RF Module & Other Wireless Products
- Base Station, Repeater
- GPS Receiver, WiFi, Bluetooth, Zigbee
- Antenna Matching and Filter
- CATV Filter, Tuner, Set Top Box
- IT Applications as USB 3.0 , IEEE 1394

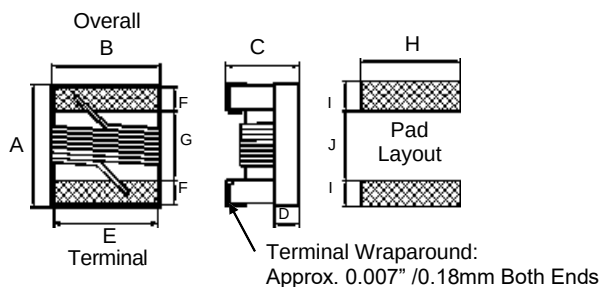
### Construction



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

SMD Wire Wound Chip Inductor

■ Dimensions



Standard

Unit: mm

| Type | Size (Inch) | A max. | B max. | C max. | D Ref. | E    | 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                |

High Current / High Q

Unit: mm

| Type | Size (Inch) | A max. | B max. | C max. | D Ref. | E    | F    | G    | H    | I    | J    |
|------|-------------|--------|--------|--------|--------|------|------|------|------|------|------|
| WL02 | 0402        | 1.27   | 0.76   | 0.61   | 0.15   | 0.51 | 0.23 | 0.56 | 0.66 | 0.50 | 0.46 |
| 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 |

■ Part Numbering

| WL           | 02                                           | J                                                     | T                                 |                                                                                       | 1N6                                                                  |
|--------------|----------------------------------------------|-------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| Product Type | Dimensions (L×W)                             | Inductance Tolerance                                  | Packaging Code                    | Design Code                                                                           | Inductance                                                           |
|              | 02: 0402<br>03: 0603<br>05: 0805<br>08: 1008 | C: ±0.2nH<br>D: ±0.5nH<br>G: ±2%<br>J: ±5%<br>K: ±10% | T: Taping Reel<br>W: 13-inch Reel | : Standard Inductor<br>H: High Current and High Q<br>S: HP4287<br>Q: High Q & Low DCR | 1N6: 1.6nH<br>82N: 82nH<br>R27: 270nH<br>1R0: 1000nH<br>103: 10000nH |

## ■Standard Electrical Specifications

WL02 Wire Wound Chip Inductors / Standard Type

| Inductance<br>(nH) | Tolerance                    | L<br>Freq.<br>(MHz) | Quality<br>Factor<br>min. | SRF<br>(GHz) min. | DCR<br>(Ω) max. | IDC<br>(mA)<br>max. | 900MHz |    | 1.7GHz |     |
|--------------------|------------------------------|---------------------|---------------------------|-------------------|-----------------|---------------------|--------|----|--------|-----|
|                    |                              |                     |                           |                   |                 |                     | L      | Q  | L      | Q   |
| 1.0                | ±10%                         | 250                 | 16                        | 12.70             | 0.045           | 1360                | 1.02   | 77 | 1.02   | 69  |
| 1.3                | ±5%,±10%                     | 250                 | 20                        | 11.30             | 0.10            | 1000                | 0.80   | 35 | 0.80   | 48  |
| 1.9                | ±0.2nH, ±0.5nH,<br>±5%, ±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                | ±5%,±10%                     | 250                 | 19                        | 10.80             | 0.070           | 960                 | 2.19   | 59 | 2.23   | 100 |
| 2.4                | ±5%,±10%                     | 250                 | 15                        | 10.50             | 0.070           | 790                 | 2.24   | 51 | 2.27   | 68  |
| 2.7                | ±5%,±10%                     | 250                 | 16                        | 10.40             | 0.120           | 640                 | 2.23   | 42 | 2.25   | 61  |
| 3.3                | ±5%,±10%                     | 250                 | 19                        | 7.00              | 0.066           | 840                 | 3.10   | 65 | 3.12   | 87  |
| 3.6                | ±2,±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                | ±2,±5, ±10%                  | 250                 | 20                        | 4.80              | 0.083           | 800                 | 5.15   | 56 | 5.25   | 82  |
| 5.6                | ±2,±5, ±10%                  | 250                 | 20                        | 4.80              | 0.083           | 760                 | 5.16   | 54 | 5.28   | 81  |
| 6.2                | ±2,±5, ±10%                  | 250                 | 20                        | 4.80              | 0.083           | 760                 | 6.16   | 52 | 6.37   | 76  |
| 6.8                | ±2,±5, ±10%                  | 250                 | 20                        | 4.80              | 0.083           | 680                 | 6.56   | 63 | 6.93   | 78  |
| 7.5                | ±2,±5, ±10%                  | 250                 | 22                        | 4.80              | 0.104           | 680                 | 7.91   | 60 | 8.22   | 88  |
| 8.2                | ±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                | ±2,±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                  | -      | -  | -      | -   |

**SMD Wire Wound Chip Inductor**

WL03 Wire Wound Chip Inductors / Standard Type

| Inductance<br>(nH) | Tolerance               | L<br>Freq.<br>(MHz) | Quality<br>Factor<br>min. | SRF<br>(GHz) min. | DCR<br>(Ω) max. | IDC<br>(mA) max. | 900MHz |    | 1.7GHz |    |
|--------------------|-------------------------|---------------------|---------------------------|-------------------|-----------------|------------------|--------|----|--------|----|
|                    |                         |                     |                           |                   |                 |                  | L      | Q  | L      | Q  |
| 1.6                | ±5, ±10%                | 250                 | 24                        | 12.5              | 0.030           | 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                | ±0.2nH,<br>±0.5nH, ±5%, | 250                 | 16                        | 6.90              | 0.080           | 700              | 1.90   | 31 | -      | -  |
| 2.2                | ±5, ±10%                | 250                 | 15                        | 6.00              | 0.100           | 700              | 2.18   | 41 | 2.20   | 64 |
| 2.3                | ±5, ±10%                | 250                 | 16                        | >4.00             | 0.140           | 700              | 2.32   | 32 | 2.35   | 40 |
| 3.3                | ±2, ±5, ±10%            | 250                 | 22                        | >6.00             | 0.080           | 700              | 3.35   | 47 | 3.40   | 65 |
| 3.6                | ±2, ±5, ±10%            | 250                 | 22                        | 5.80              | 0.063           | 700              | 3.53   | 49 | 3.58   | 65 |
| 3.9                | ±2, ±5, ±10%            | 250                 | 22                        | >6.00             | 0.080           | 700              | 3.95   | 49 | 3.96   | 67 |
| 4.3                | ±2, ±5, ±10%            | 250                 | 22                        | 5.80              | 0.063           | 700              | 4.32   | 49 | 4.43   | 67 |
| 4.5                | ±2, ±5, ±10%            | 250                 | 20                        | 5.80              | 0.120           | 700              | 4.74   | 55 | 4.87   | 92 |
| 4.7                | ±2, ±5, ±10%            | 250                 | 25                        | 5.80              | 0.120           | 700              | 4.65   | 53 | 4.80   | 67 |
| 5.1                | ±2, ±5, ±10%            | 250                 | 20                        | 5.80              | 0.160           | 700              | 5.13   | 47 | 5.36   | 56 |
| 5.6                | ±2, ±5, ±10%            | 250                 | 20                        | 5.80              | 0.170           | 700              | 5.53   | 56 | 5.86   | 77 |
| 6.2                | ±2, ±5, ±10%            | 250                 | 25                        | 5.80              | 0.110           | 700              | 6.28   | 60 | 6.40   | 85 |
| 6.3                | ±2, ±5, ±10%            | 250                 | 25                        | 5.80              | 0.110           | 700              | 6.67   | 41 | 6.86   | 61 |
| 6.8                | ±2, ±5, ±10%            | 250                 | 27                        | 5.80              | 0.110           | 700              | 6.75   | 60 | 7.10   | 81 |
| 7.5                | ±2, ±5, ±10%            | 250                 | 28                        | 4.80              | 0.106           | 700              | 7.70   | 60 | 7.82   | 65 |
| 8.2                | ±2, ±5, ±10%            | 250                 | 27                        | 4.80              | 0.110           | 700              | 8.25   | 64 | 8.40   | 81 |
| 8.7                | ±2, ±5, ±10%            | 250                 | 28                        | 4.80              | 0.109           | 700              | 8.86   | 62 | 9.32   | 58 |
| 9.1                | ±2, ±5, ±10%            | 250                 | 35                        | 4.80              | 0.130           | 700              | 9.20   | 70 | 9.70   | 80 |
| 9.5                | ±2, ±5, ±10%            | 250                 | 28                        | 5.40              | 0.135           | 700              | 9.70   | 59 | 9.92   | 61 |
| 10                 | ±2, ±5, ±10%            | 250                 | 31                        | 4.80              | 0.130           | 700              | 10.0   | 66 | 10.6   | 83 |
| 11                 | ±2, ±5, ±10%            | 250                 | 31                        | 4.00              | 0.086           | 700              | 11.3   | 53 | 12.1   | 56 |
| 12                 | ±2, ±5, ±10%            | 250                 | 35                        | 4.00              | 0.130           | 700              | 12.3   | 72 | 13.5   | 83 |
| 15                 | ±2, ±5, ±10%            | 250                 | 35                        | 4.00              | 0.170           | 700              | 15.4   | 64 | 16.8   | 89 |
| 16                 | ±2, ±5, ±10%            | 250                 | 35                        | 3.30              | 0.110           | 700              | 16.5   | 55 | 18.0   | 52 |
| 17                 | ±2, ±5, ±10%            | 250                 | 35                        | 3.20              | 0.170           | 700              | 17.6   | 56 | 19.4   | 44 |
| 18                 | ±2, ±5, ±10%            | 250                 | 35                        | 3.10              | 0.170           | 700              | 18.7   | 70 | 21.4   | 69 |
| 20                 | ±2, ±5, ±10%            | 250                 | 40                        | 3.00              | 0.190           | 700              | 20.7   | 80 | 23.5   | 30 |
| 22                 | ±2, ±5, ±10%            | 250                 | 38                        | 3.00              | 0.190           | 700              | 22.8   | 73 | 26.1   | 71 |
| 23                 | ±2, ±5, ±10%            | 250                 | 38                        | 2.85              | 0.190           | 700              | 24.1   | 71 | 28.0   | 71 |
| 24                 | ±2, ±5, ±10%            | 250                 | 38                        | 2.80              | 0.130           | 700              | 25.7   | 45 | 30.9   | 40 |
| 27                 | ±2, ±5, ±10%            | 250                 | 40                        | 2.80              | 0.220           | 600              | 29.2   | 74 | 34.6   | 65 |
| 30                 | ±2, ±5, ±10%            | 250                 | 40                        | 2.80              | 0.150           | 600              | 31.4   | 47 | 39.8   | 28 |
| 33                 | ±2, ±5, ±10%            | 250                 | 40                        | 2.30              | 0.220           | 600              | 36.0   | 67 | 49.5   | 42 |
| 36                 | ±2, ±5, ±10%            | 250                 | 37                        | 2.30              | 0.250           | 600              | 39.1   | 47 | 48.9   | 24 |
| 39                 | ±2, ±5, ±10%            | 250                 | 40                        | 2.20              | 0.250           | 600              | 42.7   | 60 | 60.2   | 40 |
| 43                 | ±2, ±5, ±10%            | 200                 | 38                        | 2.00              | 0.280           | 600              | 46.9   | 44 | 60.3   | 21 |
| 47                 | ±2, ±5, ±10%            | 200                 | 38                        | 2.00              | 0.280           | 600              | 52.2   | 62 | 77.2   | 35 |
| 51                 | ±2, ±5, ±10%            | 200                 | 38                        | 1.90              | 0.280           | 600              | 55.5   | 69 | 82.2   | 34 |
| 56                 | ±2, ±5, ±10%            | 200                 | 38                        | 1.90              | 0.310           | 600              | 62.5   | 56 | 97.0   | 26 |
| 62                 | ±2, ±5, ±10%            | 200                 | 37                        | 1.80              | 0.340           | 600              | 68.0   | 40 | 110    | 10 |
| 68                 | ±2, ±5, ±10%            | 200                 | 37                        | 1.70              | 0.340           | 600              | 80.5   | 54 | 168    | 21 |
| 72                 | ±2, ±5, ±10%            | 150                 | 34                        | 1.70              | 0.490           | 600              | 82.0   | 53 | 135    | 20 |
| 82                 | ±2, ±5, ±10%            | 150                 | 34                        | 1.70              | 0.540           | 400              | 96.2   | 54 | 177    | 21 |
| 91                 | ±2, ±5, ±10%            | 150                 | 30                        | 1.70              | 0.500           | 400              | 110.0  | 50 | 416.4  | 6  |
| 100                | ±2, ±5, ±10%            | 150                 | 34                        | 1.40              | 0.580           | 400              | 124.0  | 49 | 319.5  | 13 |
| 110                | ±2, ±5, ±10%            | 150                 | 32                        | 1.35              | 0.610           | 300              | 138.0  | 43 | 342.7  | 15 |
| 120                | ±2, ±5, ±10%            | 150                 | 32                        | 1.30              | 0.650           | 300              | 166.0  | 39 | 529.3  | 8  |
| 130                | ±2, ±5, ±10%            | 150                 | 30                        | 1.40              | 0.720           | 300              | 185.0  | 60 | -      | -  |
| 140                | ±2, ±5, ±10%            | 100                 | 28                        | 1.30              | 0.870           | 280              | 190.0  | 80 | -      | -  |
| 150                | ±2, ±5, ±10%            | 100                 | 28                        | 1.30              | 0.950           | 280              | 230.0  | 25 | -      | -  |
| 160                | ±2, ±5, ±10%            | 100                 | 25                        | 1.30              | 1.400           | 280              | 215.0  | 20 | -      | -  |
| 180                | ±2, ±5, ±10%            | 100                 | 25                        | 1.25              | 1.400           | 250              | 305.0  | 22 | -      | -  |
| 200                | ±2, ±5, ±10%            | 100                 | 25                        | -                 | 1.400           | 250              | -      | -  | -      | -  |
| 220                | ±2, ±5, ±10%            | 100                 | 25                        | 1.20              | 1.600           | 250              | 377.0  | 21 | -      | -  |
| 240                | ±2, ±5, ±10%            | 100                 | 25                        | 1.20              | 2.000           | 250              | 377.0  | 21 | -      | -  |
| 250                | ±2, ±5, ±10%            | 100                 | 25                        | 1.20              | 2.000           | 250              | 377.0  | 21 | -      | -  |
| 260                | ±2, ±5, ±10%            | 100                 | 25                        | 1.00              | 2.000           | 200              | 469.0  | 21 | -      | -  |
| 270                | ±2, ±5, ±10%            | 100                 | 25                        | 0.90              | 2.100           | 200              | 523.0  | 19 | -      | -  |
| 280                | ±2, ±5, ±10%            | 100                 | 25                        | 1.00              | 2.400           | 100              | 524.0  | 18 | -      | -  |
| 300                | ±2, ±5, ±10%            | 100                 | 25                        | 0.75              | 2.500           | 150              | 539.7  | 21 | -      | -  |
| 330                | ±2, ±5, ±10%            | 100                 | 25                        | 0.90              | 3.800           | 100              | 680.4  | 20 | -      | -  |
| 390                | ±2, ±5, ±10%            | 100                 | 25                        | 0.90              | 4.350           | 100              | 734.5  | 29 | -      | -  |
| 470                | ±2, ±5, ±10%            | 100                 | 23                        | 0.60              | 3.600           | 80               | -      | -  | -      | -  |

# 【WL Series】

## SMD Wire Wound Chip Inductor

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. |
|-----------------|--------------|---------------|---------------------|----------------|--------------|---------------|
| 2.7             | ±5, ±10%     | 250           | 80 @ 1500MHz        | 7.900          | 0.06         | 800           |
| 2.8             | ±2, ±5, ±10% | 250           | 80 @ 1500MHz        | 7.900          | 0.06         | 800           |
| 3.0             | ±5, ±10%     | 250           | 65 @ 1500MHz        | 7.900          | 0.06         | 800           |
| 3.3             | ±5, ±10%     | 250           | 50 @ 1500MHz        | 6.000          | 0.08         | 600           |
| 3.9             | ±5, ±10%     | 250           | 50 @ 1500MHz        | 5.500          | 0.08         | 600           |
| 4.7             | ±5, ±10%     | 250           | 65 @ 1000MHz        | 5.500          | 0.08         | 600           |
| 5.6             | ±5, ±10%     | 250           | 65 @ 1000MHz        | 5.500          | 0.08         | 600           |
| 6.2             | ±5, ±10%     | 250           | 50 @ 1000MHz        | 5.500          | 0.11         | 600           |
| 6.8             | ±5, ±10%     | 250           | 50 @ 1000MHz        | 5.500          | 0.11         | 600           |
| 7.5             | ±5, ±10%     | 250           | 50 @ 1000MHz        | 4.500          | 0.14         | 600           |
| 8.2             | ±5, ±10%     | 250           | 50 @ 1000MHz        | 4.700          | 0.12         | 600           |
| 8.7             | ±5, ±10%     | 250           | 50 @ 1000MHz        | 4.000          | 0.21         | 400           |
| 10              | ±2, ±5, ±10% | 250           | 60 @ 500MHz         | 4.200          | 0.10         | 600           |
| 12              | ±2, ±5, ±10% | 250           | 50 @ 500MHz         | 4.000          | 0.15         | 600           |
| 15              | ±2, ±5, ±10% | 250           | 50 @ 500MHz         | 3.400          | 0.17         | 600           |
| 18              | ±2, ±5, ±10% | 250           | 50 @ 500MHz         | 3.300          | 0.20         | 600           |
| 20              | ±2, ±5, ±10% | 250           | 55 @ 500MHz         | 2.600          | 0.22         | 500           |
| 22              | ±2, ±5, ±10% | 250           | 55 @ 500MHz         | 2.600          | 0.22         | 500           |
| 24              | ±2, ±5, ±10% | 250           | 50 @ 500MHz         | 2.000          | 0.22         | 500           |
| 27              | ±2, ±5, ±10% | 250           | 55 @ 500MHz         | 2.500          | 0.25         | 500           |
| 30              | ±2, ±5, ±10% | 250           | 60 @ 500MHz         | 2.050          | 0.25         | 500           |
| 33              | ±2, ±5, ±10% | 250           | 60 @ 500MHz         | 2.050          | 0.27         | 500           |
| 36              | ±2, ±5, ±10% | 250           | 55 @ 500MHz         | 1.700          | 0.27         | 500           |
| 39              | ±2, ±5, ±10% | 250           | 60 @ 500MHz         | 2.000          | 0.29         | 500           |
| 43              | ±2, ±5, ±10% | 200           | 60 @ 500MHz         | 1.650          | 0.34         | 500           |
| 47              | ±2, ±5, ±10% | 200           | 60 @ 500MHz         | 1.650          | 0.31         | 500           |
| 51              | ±2, ±5, ±10% | 200           | 60 @ 500MHz         | 1.650          | 0.34         | 500           |
| 56              | ±2, ±5, ±10% | 200           | 60 @ 500MHz         | 1.550          | 0.34         | 500           |
| 62              | ±2, ±5, ±10% | 200           | 60 @ 500MHz         | 1.500          | 0.36         | 500           |
| 68              | ±2, ±5, ±10% | 200           | 60 @ 500MHz         | 1.450          | 0.38         | 500           |
| 72              | ±2, ±5, ±10% | 150           | 65 @ 500MHz         | 1.400          | 0.40         | 500           |
| 75              | ±2, ±5, ±10% | 150           | 65 @ 500MHz         | 1.350          | 0.41         | 500           |
| 82              | ±2, ±5, ±10% | 150           | 65 @ 500MHz         | 1.300          | 0.42         | 400           |
| 91              | ±2, ±5, ±10% | 150           | 65 @ 500MHz         | 1.200          | 0.48         | 400           |
| 100             | ±2, ±5, ±10% | 150           | 65 @ 500MHz         | 1.200          | 0.46         | 400           |
| 110             | ±2, ±5, ±10% | 150           | 50 @ 250MHz         | 1.000          | 0.48         | 400           |
| 120             | ±2, ±5, ±10% | 150           | 50 @ 250MHz         | 1.100          | 0.51         | 400           |
| 130             | ±2, ±5, ±10% | 150           | 50 @ 250MHz         | 0.980          | 0.54         | 400           |
| 150             | ±2, ±5, ±10% | 100           | 50 @ 250MHz         | 0.920          | 0.56         | 400           |
| 160             | ±2, ±5, ±10% | 100           | 50 @ 250MHz         | 0.870          | 0.60         | 400           |
| 180             | ±2, ±5, ±10% | 100           | 50 @ 250MHz         | 0.870          | 0.64         | 400           |
| 200             | ±2, ±5, ±10% | 100           | 50 @ 250MHz         | 0.860          | 0.66         | 400           |
| 220             | ±2, ±5, ±10% | 100           | 50 @ 250MHz         | 0.850          | 0.70         | 400           |
| 240             | ±2, ±5, ±10% | 100           | 44 @ 250MHz         | 0.690          | 1.00         | 350           |
| 250             | ±2, ±5, ±10% | 100           | 50 @ 250MHz         | 0.680          | 1.00         | 350           |
| 270             | ±2, ±5, ±10% | 100           | 48 @ 250MHz         | 0.650          | 1.00         | 350           |
| 300             | ±2, ±5, ±10% | 100           | 48 @ 250MHz         | 0.620          | 1.20         | 330           |
| 330             | ±2, ±5, ±10% | 100           | 48 @ 250MHz         | 0.600          | 1.40         | 310           |
| 360             | ±2, ±5, ±10% | 100           | 48 @ 250MHz         | 0.580          | 1.45         | 300           |
| 390             | ±2, ±5, ±10% | 100           | 48 @ 250MHz         | 0.560          | 1.50         | 290           |
| 430             | ±2, ±5, ±10% | 50            | 33 @ 100MHz         | 0.430          | 1.70         | 230           |
| 470             | ±2, ±5, ±10% | 50            | 33 @ 100MHz         | 0.375          | 1.70         | 250           |
| 510             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.365          | 1.90         | 240           |
| 560             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.340          | 1.90         | 230           |
| 600             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.260          | 1.60         | 450           |
| 620             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.220          | 2.20         | 210           |
| 680             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.200          | 2.20         | 190           |
| 750             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.200          | 2.30         | 180           |
| 820             | ±2, ±5, ±10% | 25            | 23 @ 50MHz          | 0.200          | 2.35         | 180           |

## 【WL Series】

### SMD Wire Wound Chip Inductor

#### 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. |
|-----------------|--------------|---------------|---------------------|----------------|--------------|---------------|
| 1000            | ±2, ±5, ±10% | 25            | 20 @ 50MHz          | 0.100          | 2.50         | 170           |
| 1200            | ±2, ±5, ±10% | 7.9           | 18 @ 25MHz          | 0.100          | 2.50         | 170           |
| 1500            | ±2, ±5, ±10% | 7.9           | 16 @ 25MHz          | 0.100          | 2.50         | 170           |
| 1800            | ±2, ±5, ±10% | 7.9           | 16 @ 7.9MHz         | 0.080          | 2.50         | 170           |
| 2200            | ±2, ±5, ±10% | 7.9           | 16 @ 7.9MHz         | 0.060          | 2.70         | 160           |
| 2700            | ±2, ±5, ±10% | 7.9           | 16 @ 7.9MHz         | 0.050          | 3.10         | 150           |
| 3300            | ±2, ±5, ±10% | 7.9           | 15 @ 7.9MHz         | 0.040          | 4.40         | 90            |
| 3900            | ±2, ±5, ±10% | 7.9           | 15 @ 7.9MHz         | 0.040          | 4.41         | 90            |
| 4700            | ±2, ±5, ±10% | 7.9           | 15 @ 7.9MHz         | 0.040          | 6.40         | 90            |
| 5600            | ±2, ±5, ±10% | 7.9           | 20 @ 10MHz          | 0.075          | 7.00         | 100           |
| 6800            | ±2, ±5, ±10% | 7.9           | 20 @ 10MHz          | 0.065          | 9.80         | 80            |

#### 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. |
|-----------------|----------------|---------------|---------------------|----------------|--------------|---------------|
| 3.3             | ±5, ±10%       | 50            | 50 @ 1500MHz        | 4.000          | 0.15         | 1000          |
| 4.7             | ±5, ±10%       | 50            | 50 @ 1500MHz        | 4.000          | 0.15         | 1000          |
| *5.6            | ±5, ±10%       | 50            | 50 @ 1500MHz        | 4.000          | 0.15         | 1000          |
| *10             | ±2, ±5, ±10%   | 50            | 50 @ 500MHz         | 4.100          | 0.08         | 1000          |
| *12             | ±2, ±5, ±10%   | 50            | 50 @ 500MHz         | 3.300          | 0.09         | 1000          |
| *15             | ±2, ±5, ±10%   | 50            | 50 @ 500MHz         | 2.500          | 0.11         | 1000          |
| *18             | ±2, ±5, ±10%   | 50            | 50 @ 350MHz         | 2.400          | 0.12         | 1000          |
| *22             | ±2, ±5, ±10%   | 50            | 55 @ 350MHz         | 2.400          | 0.12         | 1000          |
| 24              | ±2, ±5, ±10%   | 50            | 55 @ 350MHz         | 1.900          | 0.13         | 1000          |
| *27             | ±2, ±5, ±10%   | 50            | 55 @ 350MHz         | 1.600          | 0.13         | 1000          |
| 30              | ±2%, ±5%, ±10% | 50            | 60 @ 350MHz         | 1.600          | 0.14         | 1000          |
| *33             | ±2, ±5, ±10%   | 50            | 60 @ 350MHz         | 1.600          | 0.14         | 1000          |
| 36              | ±2, ±5, ±10%   | 50            | 60 @ 350MHz         | 1.600          | 0.15         | 1000          |
| *39             | ±2, ±5, ±10%   | 50            | 60 @ 350MHz         | 1.500          | 0.15         | 1000          |
| *47             | ±2, ±5, ±10%   | 50            | 65 @ 350MHz         | 1.500          | 0.16         | 1000          |
| 51              | ±2, ±5, ±10%   | 50            | 65 @ 350MHz         | 1.300          | 0.18         | 1000          |
| *56             | ±2, ±5, ±10%   | 50            | 65 @ 350MHz         | 1.300          | 0.18         | 1000          |
| *62             | ±2, ±5, ±10%   | 50            | 65 @ 350MHz         | 1.250          | 0.20         | 1000          |
| *68             | ±2, ±5, ±10%   | 50            | 65 @ 350MHz         | 1.300          | 0.20         | 1000          |
| 75              | ±2, ±5, ±10%   | 50            | 60 @ 350MHz         | 1.100          | 0.21         | 1000          |
| *82             | ±2, ±5, ±10%   | 50            | 60 @ 350MHz         | 1.000          | 0.22         | 1000          |
| 91              | ±2, ±5, ±10%   | 50            | 50 @ 350MHz         | 1.000          | 0.45         | 1000          |
| *100            | ±2, ±5, ±10%   | 25            | 60 @ 350MHz         | 1.000          | 0.56         | 650           |
| *120            | ±2, ±5, ±10%   | 25            | 60 @ 350MHz         | 0.950          | 0.63         | 650           |
| *150            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.850          | 0.70         | 800           |
| 160             | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.800          | 0.75         | 650           |
| *180            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.750          | 0.77         | 620           |
| *220            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.700          | 0.84         | 500           |
| *240            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.650          | 0.88         | 500           |
| *270            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.600          | 0.91         | 690           |
| *300            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.585          | 1.00         | 450           |
| *330            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.570          | 1.05         | 450           |
| *360            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.530          | 1.10         | 470           |
| *390            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.500          | 1.12         | 630           |
| *430            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.480          | 1.15         | 470           |
| *470            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.450          | 1.19         | 470           |
| *560            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.415          | 1.33         | 580           |
| *620            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.375          | 1.40         | 300           |
| *680            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.375          | 1.47         | 540           |
| *750            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.360          | 1.54         | 360           |
| *820            | ±2, ±5, ±10%   | 25            | 45 @ 100MHz         | 0.350          | 1.61         | 400           |



# **[WL Series]**

## **SMD Wire Wound Chip Inductor**

### 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. |
|-----------------|--------------|---------------|---------------------|----------------|--------------|---------------|
| *910            | ±2, ±5, ±10% | 25            | 35 @ 50MHz          | 0.320          | 1.68         | 380           |
| *1000           | ±2, ±5, ±10% | 25            | 35 @ 50MHz          | 0.290          | 1.75         | 370           |
| *1200           | ±2, ±5, ±10% | 7.9           | 35 @ 50MHz          | 0.250          | 2.00         | 310           |
| *1500           | ±2, ±5, ±10% | 7.9           | 28 @ 50MHz          | 0.200          | 2.30         | 330           |
| *1800           | ±2, ±5, ±10% | 7.9           | 28 @ 50MHz          | 0.160          | 2.60         | 300           |
| *2200           | ±2, ±5, ±10% | 7.9           | 28 @ 50MHz          | 0.160          | 2.80         | 280           |
| *2700           | ±2, ±5, ±10% | 7.9           | 22 @ 25MHz          | 0.140          | 3.20         | 290           |
| *3300           | ±2, ±5, ±10% | 7.9           | 22 @ 25MHz          | 0.110          | 3.40         | 290           |
| *3900           | ±2, ±5, ±10% | 7.9           | 18 @ 25MHz          | 0.100          | 3.60         | 260           |
| *4700           | ±2, ±5, ±10% | 7.9           | 18 @ 25MHz          | 0.090          | 4.00         | 260           |
| 5600            | ±2, ±5, ±10% | 7.9           | 16 @ 7.96MHz        | 0.020          | 4.00         | 240           |
| 6800            | ±2, ±5, ±10% | 7.9           | 15 @ 7.96MHz        | 0.040          | 4.90         | 200           |
| 8200            | ±2, ±5, ±10% | 7.9           | 15 @ 7.96MHz        | 0.025          | 6.00         | 170           |
| 10000           | ±2, ±5, ±10% | 2.52          | 15 @ 7.96MHz        | 0.020          | 9.00         | 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           |

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

### WL08(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         | 4.000          | 0.15         | 1000          |
| 4.7             | ±5, ±10%     | 50            | 50 @ 500MHz         | 4.000          | 0.15         | 1000          |
| 5.6             | ±5, ±10%     | 50            | 50 @ 500MHz         | 4.000          | 0.15         | 1000          |
| 8.2             | ±5, ±10%     | 50            | 50 @ 500MHz         | 4.100          | 0.08         | 1000          |
| 10              | ±2, ±5, ±10% | 50            | 50 @ 500MHz         | 4.100          | 0.08         | 1000          |
| 12              | ±2, ±5, ±10% | 50            | 50 @ 500MHz         | 3.300          | 0.09         | 1000          |
| 15              | ±2, ±5, ±10% | 50            | 50 @ 500MHz         | 2.500          | 0.11         | 1000          |
| 18              | ±2, ±5, ±10% | 50            | 50 @ 350MHz         | 2.400          | 0.12         | 1000          |
| 22              | ±2, ±5, ±10% | 50            | 55 @ 350MHz         | 2.400          | 0.12         | 1000          |
| 24              | ±2, ±5, ±10% | 50            | 55 @ 350MHz         | 1.900          | 0.13         | 1000          |
| 27              | ±2, ±5, ±10% | 50            | 55 @ 350MHz         | 1.600          | 0.13         | 1000          |
| 30              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.600          | 0.14         | 1000          |
| 33              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.600          | 0.14         | 1000          |
| 36              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.6000         | 0.15         | 1000          |
| 39              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.500          | 0.15         | 1000          |
| 43              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.500          | 0.16         | 1000          |
| 47              | ±2, ±5, ±10% | 50            | 65 @ 350MHz         | 1.500          | 0.16         | 1000          |
| 56              | ±2, ±5, ±10% | 50            | 65 @ 350MHz         | 1.300          | 0.18         | 1000          |
| 62              | ±2, ±5, ±10% | 50            | 65 @ 350MHz         | 1.250          | 0.20         | 1000          |
| 68              | ±2, ±5, ±10% | 50            | 65 @ 350MHz         | 1.300          | 0.20         | 1000          |
| 75              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.100          | 0.21         | 1000          |
| 82              | ±2, ±5, ±10% | 50            | 60 @ 350MHz         | 1.000          | 0.22         | 1000          |
| 91              | ±2, ±5, ±10% | 50            | 50 @ 350MHz         | 1.000          | 0.45         | 1000          |
| 100             | ±2, ±5, ±10% | 25            | 60 @ 350MHz         | 1.000          | 0.56         | 650           |
| 120             | ±2, ±5, ±10% | 25            | 60 @ 350MHz         | 0.950          | 0.63         | 650           |
| 150             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.850          | 0.70         | 800           |
| 180             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.750          | 0.77         | 620           |
| 220             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.700          | 0.84         | 500           |
| 240             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.650          | 0.88         | 500           |
| 270             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.600          | 0.91         | 690           |
| 300             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.585          | 1.00         | 450           |
| 330             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.570          | 1.05         | 450           |
| 360             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.530          | 1.10         | 470           |
| 390             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.500          | 1.12         | 630           |
| 430             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.480          | 1.15         | 470           |
| 470             | ±2, ±5, ±10% | 25            | 45 @ 100MHz         | 0.450          | 1.19         | 470           |



## 【WL Series】

### SMD Wire Wound Chip Inductor

|       |              |      |              |       |       |     |
|-------|--------------|------|--------------|-------|-------|-----|
| 560   | ±2, ±5, ±10% | 25   | 45 @ 100MHz  | 0.415 | 1.33  | 580 |
| 620   | ±2, ±5, ±10% | 25   | 45 @ 100MHz  | 0.375 | 1.40  | 300 |
| 680   | ±2, ±5, ±10% | 25   | 45 @ 100MHz  | 0.375 | 1.47  | 540 |
| 750   | ±2, ±5, ±10% | 25   | 45 @ 100MHz  | 0.360 | 1.54  | 360 |
| 820   | ±2, ±5, ±10% | 25   | 45 @ 100MHz  | 0.350 | 1.61  | 400 |
| 910   | ±2, ±5, ±10% | 25   | 35 @ 50MHz   | 0.320 | 1.68  | 380 |
| 1000  | ±2, ±5, ±10% | 25   | 35 @ 50MHz   | 0.290 | 1.75  | 370 |
| 1200  | ±2, ±5, ±10% | 7.9  | 35 @ 50MHz   | 0.250 | 2.00  | 310 |
| 1800  | ±2, ±5, ±10% | 7.9  | 28 @ 50MHz   | 0.160 | 2.60  | 300 |
| 2200  | ±2, ±5, ±10% | 7.9  | 28 @ 50MHz   | 0.160 | 2.80  | 280 |
| 2700  | ±2, ±5, ±10% | 7.9  | 22 @ 25MHz   | 0.140 | 3.20  | 290 |
| 3300  | ±2, ±5, ±10% | 7.9  | 22 @ 25MHz   | 0.110 | 3.40  | 290 |
| 3900  | ±2, ±5, ±10% | 7.9  | 18 @ 25MHz   | 0.100 | 3.60  | 260 |
| 4700  | ±2, ±5, ±10% | 7.9  | 18 @ 25MHz   | 0.090 | 4.00  | 260 |
| 5600  | ±2, ±5, ±10% | 7.9  | 16 @ 7.96MHz | 0.020 | 4.00  | 260 |
| 6800  | ±2, ±5, ±10% | 7.9  | 15 @ 7.96MHz | 0.040 | 4.90  | 200 |
| 8200  | ±2, ±5, ±10% | 7.9  | 15 @ 7.96MHz | 0.025 | 6.00  | 170 |
| 10000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.020 | 9.00  | 150 |
| 12000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.018 | 10.50 | 130 |
| 15000 | ±2, ±5, ±10% | 2.52 | 15 @ 7.96MHz | 0.015 | 11.50 | 120 |

#### WL08(Q) Wire Wound Chip Inductors

| Inductance<br>(nH) | Tolerance    | L<br>Freq.<br>(MHz) | Quality<br>Factor<br>min. | SRF<br>(GHz) min. | DCR<br>(Ω) max. | IDC<br>(mA) max. |
|--------------------|--------------|---------------------|---------------------------|-------------------|-----------------|------------------|
| 180                | ±2, ±5, ±10% | 25                  | 45 @ 100MHz               | 0.750             | 0.35            | 800              |
| 4700               | ±2, ±5, ±10% | 7.9                 | 25 @ 25MHz                | 0.090             | 4.10            | 260              |

## ■High Current Electrical Specifications

WL03(H) Wire Wound Chip Inductors / High Current Type

| Inductance<br>(nH) | Tolerance    | L<br>Freq.<br>(MHz) | Quality<br>Factor<br>min. | SRF<br>(GHz) min. | DCR<br>(Ω) max. | IDC<br>(mA) max. |
|--------------------|--------------|---------------------|---------------------------|-------------------|-----------------|------------------|
| 1.6                | ±5, ±10%     | 250                 | 24                        | 12.50             | 0.030           | 2400             |
| 3.6                | ±5, ±10%     | 250                 | 24                        | 5.90              | 0.048           | 2300             |
| 3.9                | ±5, ±10%     | 250                 | 25                        | 5.90              | 0.054           | 2200             |
| 6.8                | ±5, ±10%     | 250                 | 35                        | 5.80              | 0.054           | 2100             |
| 7.5                | ±5, ±10%     | 250                 | 38                        | 3.70              | 0.059           | 2100             |
| 8.2                | ±5, ±10%     | 250                 | 38                        | 3.70              | 0.060           | 2000             |
| 10                 | ±2, ±5, ±10% | 250                 | 38                        | 3.70              | 0.071           | 2000             |
| 12                 | ±2, ±5, ±10% | 250                 | 38                        | 3.00              | 0.075           | 2000             |
| 15                 | ±2, ±5, ±10% | 250                 | 38                        | 2.80              | 0.080           | 1900             |
| 18                 | ±2, ±5, ±10% | 250                 | 40                        | 2.80              | 0.099           | 1900             |
| 22                 | ±2, ±5, ±10% | 250                 | 42                        | 2.40              | 0.099           | 1800             |
| 24                 | ±2, ±5, ±10% | 250                 | 42                        | 2.40              | 0.105           | 1800             |

## [WL Series]

### SMD Wire Wound Chip Inductor

#### High Q Electrical Specifications

WL02(H) Wire Wound Chip Inductors /High Q Type

| Inductance<br>(nH) | Tolerance                 | L<br>Freq.<br>(MHz) | Quality<br>Factor |        | SRF<br>(GHz) min. | DCR<br>(Ω) max. | IDC<br>(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              | 0.075           | 1500             |
| 3.3                | ±0.2nH, ±0.5nH, ±5%, ±10% | 250                 | 66                | 95     | 12.8              | 0.045           | 1700             |
| 3.6                | ±0.2nH, ±0.5nH, ±5%, ±10% | 250                 | 65                | 94     | 11.7              | 0.045           | 1700             |
| 3.9                | ±0.2nH, ±0.5nH, ±5%, ±10% | 250                 | 64                | 98     | 9.50              | 0.045           | 1700             |
| 4.3                | ±0.5nH, ±5%, ±10%         | 250                 | 63                | 90     | 7.15              | 0.050           | 1600             |
| 4.7                | ±0.5nH, ±5%, ±10%         | 250                 | 58                | 83     | 6.85              | 0.070           | 1500             |
| 5.1                | ±2%, ±5%, ±10%            | 250                 | 54                | 76     | 6.80              | 0.115           | 1200             |
| 5.6                | ±2%, ±5%, ±10%            | 250                 | 73                | 105    | 6.50              | 0.050           | 1600             |
| 6.2                | ±2%, ±5%, ±10%            | 250                 | 73                | 100    | 5.80              | 0.055           | 1600             |
| 6.8                | ±2%, ±5%, ±10%            | 250                 | 68                | 94     | 5.80              | 0.065           | 1500             |
| 7.5                | ±2%, ±5%, ±10%            | 250                 | 60                | 82     | 5.40              | 0.090           | 1400             |
| 8.2                | ±2%, ±5%, ±10%            | 250                 | 68                | 95     | 5.40              | 0.065           | 1500             |
| 8.7                | ±2%, ±5%, ±10%            | 250                 | 68                | 95     | 5.00              | 0.065           | 1500             |
| 9.0                | ±2%, ±5%, ±10%            | 250                 | 67                | 92     | 5.00              | 0.080           | 1400             |
| 9.5                | ±2%, ±5%, ±10%            | 250                 | 64                | 90     | 4.70              | 0.090           | 1400             |
| 10                 | ±2%, ±5%, ±10%            | 250                 | 62                | 90     | 4.70              | 0.100           | 1300             |
| 11                 | ±2%, ±5%, ±10%            | 250                 | 68                | 98     | 4.70              | 0.065           | 1400             |
| 12                 | ±2%, ±5%, ±10%            | 250                 | 66                | 100    | 4.40              | 0.100           | 1200             |
| 13                 | ±2%, ±5%, ±10%            | 250                 | 62                | 82     | 4.20              | 0.150           | 870              |
| 15                 | ±2%, ±5%, ±10%            | 250                 | 62                | 85     | 3.90              | 0.110           | 1100             |
| 16                 | ±2%, ±5%, ±10%            | 250                 | 57                | 77     | 3.70              | 0.140           | 850              |
| 18                 | ±2%, ±5%, ±10%            | 250                 | 58                | 74     | 3.55              | 0.120           | 900              |
| 19                 | ±2%, ±5%, ±10%            | 250                 | 61                | 88     | 3.50              | 0.145           | 850              |
| 20                 | ±2%, ±5%, ±10%            | 250                 | 58                | 76     | 3.50              | 0.185           | 780              |
| 21                 | ±2%, ±5%, ±10%            | 250                 | 48                | 62     | 1.70              | 0.460           | 450              |
| 22                 | ±2%, ±5%, ±10%            | 250                 | 60                | 74     | 3.30              | 0.160           | 800              |
| 23                 | ±2%, ±5%, ±10%            | 250                 | 60                | 77     | 3.30              | 0.160           | 800              |
| 24                 | ±2%, ±5%, ±10%            | 250                 | 55                | 71     | 3.15              | 0.200           | 700              |
| 25                 | ±2%, ±5%, ±10%            | 250                 | 57                | 73     | 3.15              | 0.250           | 600              |
| 26                 | ±2%, ±5%, ±10%            | 250                 | 56                | 74     | 3.15              | 0.285           | 450              |
| 27                 | ±2%, ±5%, ±10%            | 250                 | 62                | 86     | 3.20              | 0.320           | 450              |
| 30                 | ±2%, ±5%, ±10%            | 250                 | 61                | 87     | 2.90              | 0.330           | 450              |
| 33                 | ±2%, ±5%, ±10%            | 250                 | 61                | 80     | 2.80              | 0.330           | 490              |
| 36                 | ±2%, ±5%, ±10%            | 250                 | 59                | 76     | 2.80              | 0.380           | 480              |
| 37                 | ±2%, ±5%, ±10%            | 250                 | 57                | 72     | 2.70              | 0.460           | 470              |
| 39                 | ±2%, ±5%, ±10%            | 250                 | 56                | 84     | 2.60              | 0.430           | 450              |
| 40                 | ±2%, ±5%, ±10%            | 250                 | 56                | 75     | 2.60              | 0.430           | 450              |
| 43                 | ±2%, ±5%, ±10%            | 250                 | 52                | 68     | 2.50              | 0.520           | 450              |
| 47                 | ±2%, ±5%, ±10%            | 250                 | 48                | 62     | 2.40              | 0.580           | 420              |
| 51                 | ±2%, ±5%, ±10%            | 250                 | 52                | 59     | 2.30              | 0.700           | 360              |
| 56                 | ±2%, ±5%, ±10%            | 250                 | 45                | 30     | 2.30              | 0.700           | 360              |
| 82                 | ±5%, ±10%                 | 250                 | 37                | -      | 1.75              | 1.100           | 315              |
| 100                | ±2%, ±5%, ±10%            | 250                 | 50                | -      | 1.50              | 1.400           | 315              |
| 150                | ±5%, ±10%                 | 100                 | -                 | -      | 1.14              | 2.300           | 240              |

# 【WL Series】

## SMD Wire Wound Chip Inductor

[WL03\(Q\)](#) Wire Wound Chip Inductors / [High Q Type](#)

| Inductance<br>(nH) | Tolerance    | L<br>Freq.<br>(MHz) | Q typ at<br>250(MHz) | SRF typ<br>(GHz) | DCR<br>(Ω) max. | IDC<br>(mA) max. | 900MHz |       | 1.7GHz |       |
|--------------------|--------------|---------------------|----------------------|------------------|-----------------|------------------|--------|-------|--------|-------|
|                    |              |                     |                      |                  |                 |                  | L typ  | Q typ | L Typ  | Q Typ |
| 1.8                | ±5, ±10%     | 250                 | 23                   | 16.0             | 0.033           | 2100             | 1.77   | 40    | 1.77   | 65    |
| 2.2                | ±5, ±10%     | 250                 | 13                   | 15.0             | 0.180           | 900              | 2.14   | 25    | 2.12   | 35    |
| 2.7                | ±2, ±5, ±10% | 250                 | 32                   | 15.0             | 0.050           | 900              | 2.70   | 40    | 2.73   | 75    |
| 3.0                | ±5, ±10%     | 250                 | 35                   | 9.5              | 0.024           | 1000             | 2.96   | 65    | 2.97   | 85    |
| 3.3                | ±5, ±10%     | 250                 | 32                   | 9.60             | 0.024           | 1900             | 3.28   | 67    | 3.32   | 104   |
| 3.6                | ±2, ±5, ±10% | 250                 | 40                   | 9.70             | 0.031           | 1900             | 3.59   | 70    | 3.62   | 116   |
| 3.9                | ±2, ±5, ±10% | 250                 | 35                   | 7.50             | 0.039           | 1600             | 3.88   | 68    | 3.95   | 108   |
| 4.3                | ±2, ±5, ±10% | 250                 | 30                   | 7.50             | 0.080           | 1300             | 4.29   | 58    | 4.31   | 91    |
| 4.7                | ±2, ±5, ±10% | 250                 | 26                   | 7.90             | 0.100           | 1100             | 4.65   | 48    | 4.71   | 75    |
| 5.1                | ±2, ±5, ±10% | 250                 | 40                   | 8.90             | 0.036           | 1700             | 5.08   | 84    | 5.12   | 140   |
| 5.6                | ±2, ±5, ±10% | 250                 | 41                   | 6.60             | 0.036           | 1700             | 5.6    | 72    | 5.73   | 95    |
| 6.0                | ±2, ±5, ±10% | 250                 | 49                   | 6.00             | 0.036           | 1700             | 5.92   | 94    | 6.12   | 154   |
| 6.8                | ±2, ±5, ±10% | 250                 | 42                   | 5.80             | 0.042           | 1400             | 6.83   | 88    | 7.05   | 143   |
| 7.2                | ±2, ±5, ±10% | 250                 | 48                   | 5.40             | 0.052           | 1400             | 7.25   | 96    | 7.38   | 139   |
| 7.5                | ±2, ±5, ±10% | 250                 | 41                   | 5.30             | 0.080           | 1300             | 7.55   | 61    | 7.85   | 72    |
| 8.2                | ±2, ±5, ±10% | 250                 | 46                   | 5.90             | 0.054           | 1400             | 8.21   | 96    | 8.39   | 148   |
| 8.7                | ±2, ±5, ±10% | 250                 | 46                   | 5.50             | 0.054           | 1400             | 8.73   | 97    | 9.00   | 149   |
| 9.1                | ±2, ±5, ±10% | 250                 | 40                   | 5.10             | 0.037           | 1400             | 9.18   | 76    | 9.64   | 109   |
| 9.5                | ±2, ±5, ±10% | 250                 | 49                   | 4.90             | 0.053           | 1400             | 9.56   | 98    | 9.99   | 149   |
| 10                 | ±2, ±5, ±10% | 250                 | 49                   | 4.30             | 0.048           | 1400             | 10.16  | 90    | 10.64  | 142   |
| 11                 | ±2, ±5, ±10% | 250                 | 41                   | 4.10             | 0.058           | 1400             | 11.06  | 78    | 11.82  | 108   |
| 12                 | ±2, ±5, ±10% | 250                 | 37                   | 4.10             | 0.088           | 1100             | 12.26  | 69    | 13.2   | 91    |
| 15                 | ±2, ±5, ±10% | 250                 | 48                   | 3.60             | 0.078           | 1200             | 15.41  | 83    | 17.2   | 124   |
| 16                 | ±2, ±5, ±10% | 250                 | 45                   | 3.50             | 0.085           | 1100             | 16.37  | 77    | 18.7   | 116   |
| 18                 | ±2, ±5, ±10% | 250                 | 41                   | 3.30             | 0.066           | 1200             | 18.56  | 76    | 20.9   | 100   |
| 22                 | ±2, ±5, ±10% | 250                 | 44                   | 3.15             | 0.140           | 850              | 22.7   | 77    | 25.9   | 88    |
| 23                 | ±2, ±5, ±10% | 250                 | 40                   | 3.00             | 0.183           | 850              | 24     | 69    | 29.53  | 80    |
| 24                 | ±2, ±5, ±10% | 250                 | 42                   | 2.95             | 0.074           | 1100             | 24.9   | 77    | 28.9   | 91    |
| 27                 | ±2, ±5, ±10% | 250                 | 44                   | 2.80             | 0.150           | 780              | 28.4   | 74    | 34.0   | 84    |
| 30                 | ±2, ±5, ±10% | 250                 | 49                   | 2.80             | 0.130           | 920              | 31.5   | 82    | 37.9   | 82    |
| 33                 | ±2, ±5, ±10% | 250                 | 45                   | 2.70             | 0.170           | 680              | 34.9   | 76    | 42.9   | 80    |
| 36                 | ±2, ±5, ±10% | 250                 | 44                   | 2.50             | 0.225           | 720              | 38.5   | 69    | 50.0   | 64    |
| 39                 | ±2, ±5, ±10% | 250                 | 48                   | 2.45             | 0.19            | 680              | 41.5   | 78    | 51.9   | 74    |
| 43                 | ±2, ±5, ±10% | 250                 | 45                   | 2.45             | 0.17            | 810              | 45.7   | 83    | 58.1   | 76    |
| 47                 | ±2, ±5, ±10% | 200                 | 47                   | 2.30             | 0.24            | 680              | 50.6   | 77    | 66.9   | 72    |
| 51                 | ±2, ±5, ±10% | 200                 | 49                   | 2.30             | 0.28            | 660              | 54.6   | 73    | 71.3   | 62    |
| 56                 | ±2, ±5, ±10% | 200                 | 50                   | 2.20             | 0.30            | 610              | 60.3   | 74    | 79.9   | 56    |
| 68                 | ±2, ±5, ±10% | 200                 | 46                   | 2.00             | 0.33            | 600              | 75.5   | 73    | 113.3  | 49    |
| 72                 | ±2, ±5, ±10% | 150                 | 46                   | 1.90             | 0.42            | 550              | 80.8   | 69    | -      | -     |
| 75                 | ±2, ±5, ±10% | 150                 | 46                   | 1.90             | 0.52            | 500              | 84.6   | 71    | -      | -     |
| 82                 | ±2, ±5, ±10% | 150                 | 45                   | 1.80             | 0.46            | 510              | 94     | 62    | -      | -     |
| 91                 | ±2, ±5, ±10% | 150                 | 45                   | 1.65             | 0.58            | 440              | 103    | 64    | -      | -     |
| 100                | ±2, ±5, ±10% | 150                 | 49                   | 1.70             | 0.54            | 470              | 114    | 69    | -      | -     |
| 110                | ±2, ±5, ±10% | 150                 | 47                   | 1.60             | 0.58            | 440              | 126.2  | 63    | -      | -     |
| 120                | ±2, ±5, ±10% | 150                 | 47                   | 1.55             | 0.72            | 420              | 142.4  | 61    | -      | -     |
| 150                | ±2, ±5, ±10% | 150                 | 47                   | 1.35             | 0.82            | 390              | 188.8  | 57    | -      | -     |
| 180                | ±2, ±5, ±10% | 100                 | 48                   | 1.30             | 1.50            | 310              | 232.2  | 50    | -      | -     |
| 200                | ±2, ±5, ±10% | 100                 | 47                   | 1.25             | 2.00            | 280              | 265    | 47    | -      | -     |
| 210                | ±2, ±5, ±10% | 100                 | 48                   | 1.20             | 2.00            | 280              | 288    | 45    | -      | -     |
| 220                | ±2, ±5, ±10% | 100                 | 47                   | 1.10             | 2.00            | 280              | 315    | 41    | -      | -     |
| 250                | ±2, ±5, ±10% | 100                 | 45                   | 1.05             | 3.00            | 240              | -      | -     | -      | -     |
| 270                | ±2, ±5, ±10% | 100                 | 46                   | 1.05             | 2.25            | 260              | -      | -     | -      | -     |
| 300                | ±2, ±5, ±10% | 100                 | 47                   | 0.99             | 2.80            | 220              | -      | -     | -      | -     |
| 330                | ±2, ±5, ±10% | 100                 | 46                   | 0.93             | 3.60            | 180              | -      | -     | -      | -     |
| 360                | ±2, ±5, ±10% | 100                 | 47                   | 0.93             | 4.00            | 170              | -      | -     | -      | -     |
| 390                | ±2, ±5, ±10% | 100                 | 47                   | 0.88             | 4.00            | 170              | -      | -     | -      | -     |

## 【WL Series】

### SMD Wire Wound Chip Inductor

WL05(H) Wire Wound Chip Inductors / High Q Type

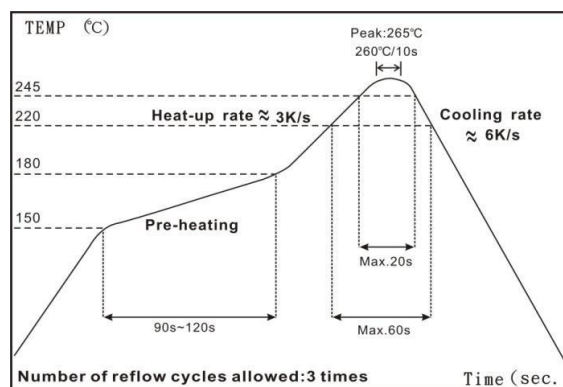
| Inductance (nH) | Tolerance    | L Freq. (MHz) | Quality Factor min. | SRF (GHz) min. | DCR (Ω) max. | IDC (mA) max. |
|-----------------|--------------|---------------|---------------------|----------------|--------------|---------------|
| 2.5             | ±5, ±10%     | 250           | 80 @ 1500MHz        | 6.00           | 0.020        | 1600          |
| 5.6             | ±5, ±10%     | 250           | 98 @ 1500MHz        | 6.00           | 0.035        | 1600          |
| 6.2             | ±5, ±10%     | 250           | 88 @ 1000MHz        | 4.75           | 0.035        | 1600          |
| 6.8             | ±5, ±10%     | 250           | 80 @ 1000MHz        | 4.40           | 0.035        | 1600          |
| 8.2             | ±5, ±10%     | 250           | 75 @ 1000MHz        | 3.00           | 0.075        | 1000          |
| 10              | ±5, ±10%     | 250           | 80 @ 1000MHz        | 3.00           | 0.060        | 1600          |
| 12              | ±5, ±10%     | 250           | 80 @ 1000MHz        | 3.00           | 0.045        | 1600          |
| 15              | ±2, ±5, ±10% | 250           | 80 @ 1000MHz        | 2.80           | 0.100        | 1200          |
| 16              | ±2, ±5, ±10% | 250           | 72 @ 500MHz         | 2.95           | 0.060        | 1500          |
| 18              | ±2, ±5, ±10% | 250           | 75 @ 500MHz         | 2.55           | 0.060        | 1400          |
| 20              | ±2, ±5, ±10% | 250           | 70 @ 500MHz         | 2.05           | 0.055        | 1400          |
| 22              | ±2, ±5, ±10% | 250           | 80 @ 500MHz         | 2.00           | 0.100        | 1200          |
| 27              | ±2, ±5, ±10% | 250           | 75 @ 500MHz         | 2.00           | 0.070        | 1300          |
| 30              | ±2, ±5, ±10% | 250           | 65 @ 500MHz         | 1.95           | 0.095        | 1200          |
| 39              | ±2, ±5, ±10% | 250           | 65 @ 500MHz         | 1.60           | 0.110        | 1100          |
| 48              | ±2, ±5, ±10% | 200           | 65 @ 500MHz         | 1.40           | 0.095        | 1200          |
| 51              | ±2, ±5, ±10% | 200           | 65 @ 500MHz         | 1.40           | 0.120        | 1000          |
| 100             | ±2, ±5, ±10% | 150           | 90 @ 500MHz         | 1.00           | 0.220        | 600           |
| 120             | ±2, ±5, ±10% | 150           | 60 @ 250MHz         | 1.00           | 0.293        | 600           |
| 150             | ±2, ±5, ±10% | 100           | 65 @ 250MHz         | 1.00           | 0.288        | 600           |

WL08(H) 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. |
|-----------------|--------------|---------------|---------------------|----------------|--------------|---------------|
| 3.0             | ±5, ±10%     | 50            | 70 @ 1500MHz        | 6.00           | 0.04         | 1600          |
| 3.9             | ±5, ±10%     | 50            | 75 @ 1500MHz        | 6.00           | 0.05         | 1600          |
| 4.1             | ±5, ±10%     | 50            | 75 @ 1500MHz        | 6.00           | 0.05         | 1600          |
| 7.8             | ±5, ±10%     | 50            | 75 @ 500MHz         | 3.80           | 0.05         | 1600          |
| 10              | ±2, ±5, ±10% | 50            | 60 @ 500MHz         | 3.60           | 0.06         | 1600          |
| 12              | ±2, ±5, ±10% | 50            | 70 @ 500MHz         | 2.80           | 0.06         | 1500          |
| 18              | ±2, ±5, ±10% | 50            | 62 @ 350MHz         | 2.70           | 0.07         | 1400          |
| 22              | ±2, ±5, ±10% | 50            | 62 @ 350MHz         | 2.05           | 0.07         | 1400          |
| 33              | ±2, ±5, ±10% | 50            | 75 @ 350MHz         | 1.70           | 0.09         | 1300          |
| 39              | ±2, ±5, ±10% | 50            | 75 @ 350MHz         | 1.30           | 0.09         | 1300          |
| 47              | ±2, ±5, ±10% | 50            | 75 @ 350MHz         | 1.45           | 0.12         | 1200          |
| 56              | ±2, ±5, ±10% | 50            | 75 @ 350MHz         | 1.23           | 0.12         | 1200          |
| 68              | ±2, ±5, ±10% | 50            | 80 @ 350MHz         | 1.15           | 0.13         | 1100          |
| 82              | ±2, ±5, ±10% | 50            | 80 @ 350MHz         | 1.06           | 0.16         | 1100          |
| 100             | ±2, ±5, ±10% | 50            | 50 @ 350MHz         | 0.82           | 0.16         | 1000          |
| 120             | ±2, ±5, ±10% | 100           | 50 @ 100MHz         | 0.82           | 0.16         | 1000          |

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

## ■ Soldering Condition



### IR Reflow Soldering

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

## 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     |                                                                      | Applied the current to coils, the temperature of coil increases $\Delta T15^{\circ}\text{C}$ ( $T_a=25^{\circ}\text{C}$ ). |
| 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.                                                       | 100 V <sub>DC</sub> applied between inductor terminal and case                                                             |

### Mechanical Performance Test

| Item                           | Requirement                                                                        | Test Method                                                                                                                                                                                                                                                                                |
|--------------------------------|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Vibration                      | Appearance: No damage<br>L change: within $\pm 5\%$<br>Q change: within $\pm 10\%$ | 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: $260 \pm 5^{\circ}\text{C}$<br>Immersion Time: $10 \pm 2$ 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 ( $260 \pm 5^{\circ}\text{C}$ 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 $245 \pm 5^{\circ}\text{C}$ for 3 seconds                                                                                                                                                                                              |
| Resistance to Solvent          | No damage on appearance and marking                                                | MIL-STD-202, Method 215                                                                                                                                                                                                                                                                    |

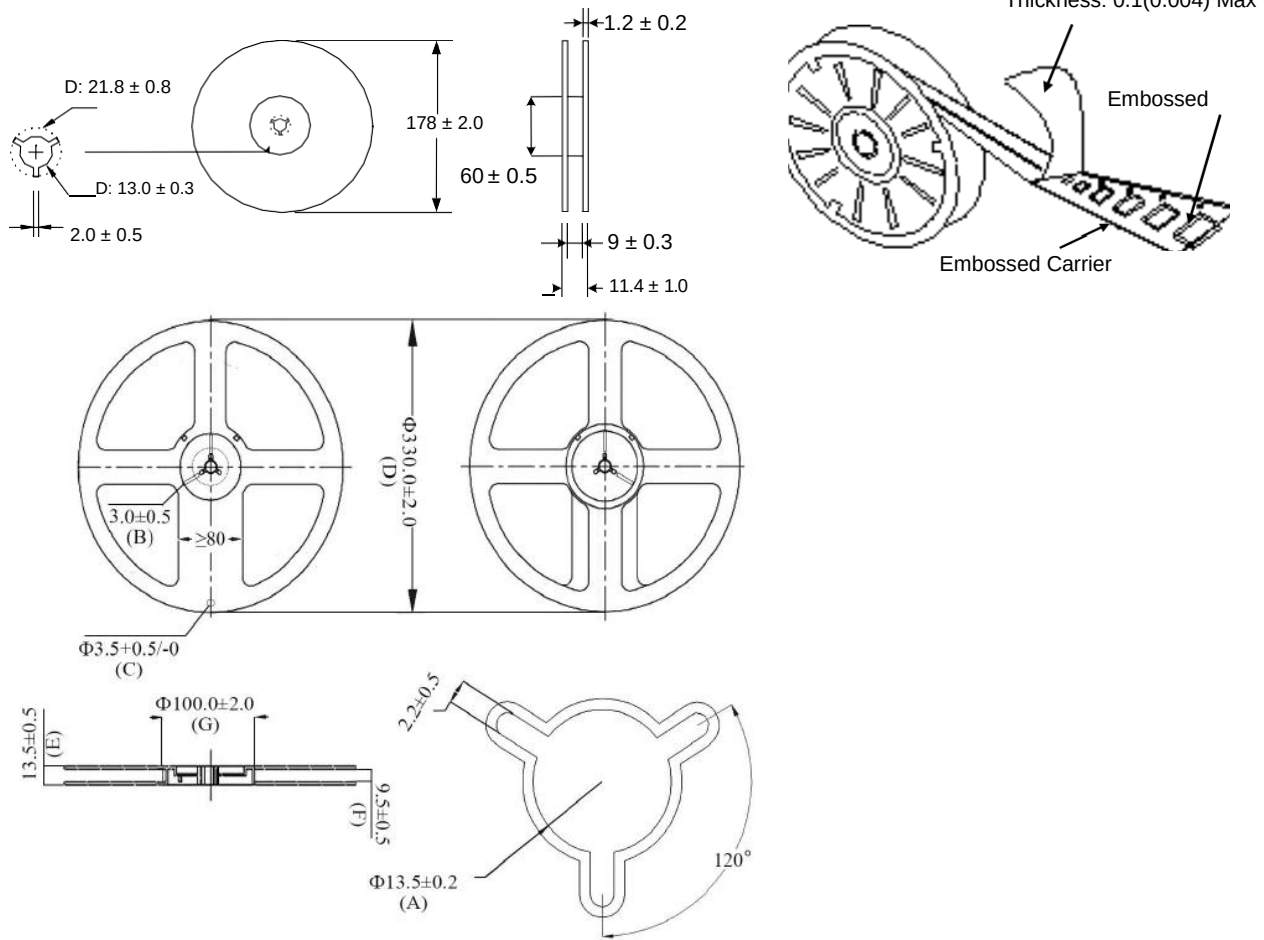
### Climatic Test

| Item                       | Requirement                                                                                                          | Item                                                                                                                                                                                                                                                                        |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------------|-------------|---|-------|----|---|------|----|---|-------|----|---|------|----|
| Temperature Characteristic | Appearance: No damage<br>L change: within ±10%<br>Q change: within ±20%                                              | -40℃~+125℃℃                                                                                                                                                                                                                                                                 |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| Humidity                   |                                                                                                                      | Temperature: 40±2℃℃<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℃℃<br>Time: 96±2 hrs<br>Inductors are tested after 1 hour at room temperature                                                                                                                                                                             |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| Thermal Shock              |                                                                                                                      | One cycle: <table><tr><td>Step</td><td>Temperature (℃℃)</td><td>Time (min.)</td></tr><tr><td>1</td><td>-25±3</td><td>30</td></tr><tr><td>2</td><td>25±2</td><td>15</td></tr><tr><td>3</td><td>125±3</td><td>30</td></tr><tr><td>4</td><td>25±2</td><td>15</td></tr></table> | Step        | Temperature (℃℃) | Time (min.) | 1 | -25±3 | 30 | 2 | 25±2 | 15 | 3 | 125±3 | 30 | 4 | 25±2 | 15 |
| Step                       |                                                                                                                      | Temperature (℃℃)                                                                                                                                                                                                                                                            | Time (min.) |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| 1                          | -25±3                                                                                                                | 30                                                                                                                                                                                                                                                                          |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| 2                          | 25±2                                                                                                                 | 15                                                                                                                                                                                                                                                                          |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| 3                          | 125±3                                                                                                                | 30                                                                                                                                                                                                                                                                          |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| 4                          | 25±2                                                                                                                 | 15                                                                                                                                                                                                                                                                          |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| High Temperature Storage   | Total: 5 cycles<br>Temperature: 125±2℃℃<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℃℃<br>Time: 1000±12 hrs<br>Load: Allowed DC current                                                                                                                                                                                                        |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |
| Damp Heat with Load        |                                                                                                                      | Temperature: 40±2℃℃<br>Relative Humidity: 90~95%<br>Time: 1000±12 hrs<br>Load: Allowed DC current                                                                                                                                                                           |             |                  |             |   |       |    |   |      |    |   |       |    |   |      |    |

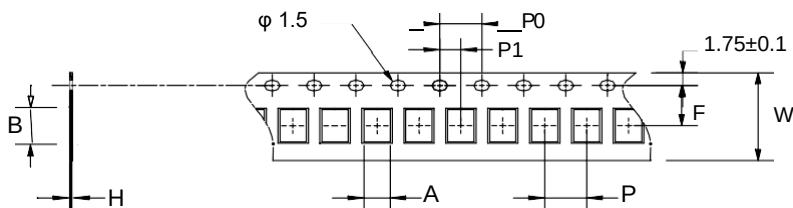
■ Storage Temperature: 15~28°C; Humidity <80%RH

## ■ Packaging

### Reel Dimensions & Packaging Quantity



### Paper Tape specification and Packaging Quantity

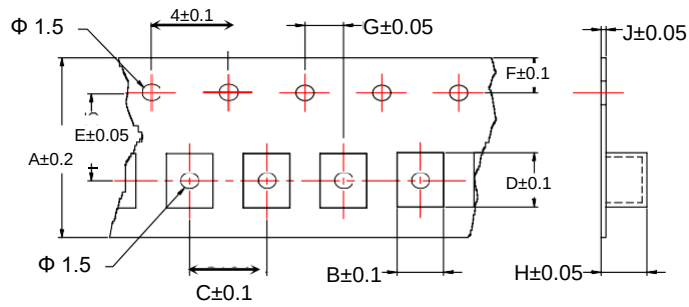


Unit: mm

| Type | A    | B    | H    | F    | P    | P <sub>0</sub> | P <sub>1</sub> | W    | Reel (EA)    |
|------|------|------|------|------|------|----------------|----------------|------|--------------|
| WL02 | 0.81 | 1.23 | 0.73 | 3.50 | 2.00 | 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 | 4,000/10,000 |



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 | 2,000     |
| WL05 (H) | 8 | 1.85 | 4 | 2.30 | 3.5 | 1.75 | 2 | 1.45 | 0.23 | 2,000     |
| WL08     | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 2.00 | 0.23 | 2,000     |
| WL08 (H) | 8 | 2.70 | 4 | 2.80 | 3.5 | 1.75 | 2 | 2.00 | 0.23 | 2,000     |

**REVISION HISTORY**

| REVISION   | DATE          | CHANGE NOTIFICATION | DESCRIPTION                                                                                                                                                                                             |
|------------|---------------|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version C2 | July 31,2014  | -                   | - Revises WL05 C size 1.52 -- >1.6                                                                                                                                                                      |
| Version C3 | Nov 07,2014   | -                   | - Increase WL08 (S) and WL02 (H) specification content                                                                                                                                                  |
| Version C4 | Apr 30, 2015  | -                   | - Standard Electrical Specifications updated                                                                                                                                                            |
| Version C5 | Jul 15, 2016  | -                   | - Increase WL03 (Q) specification content<br>- Remove Material Description<br>- Features increase AEC-Q200 Compliance (Standard Type)<br>- Modify Storage Temperature<br>- Increase Soldering Condition |
| Version C6 | Dec 23, 2016  | -                   | - Revises WL05 C size 1.6 -- >1.52                                                                                                                                                                      |
| Version C7 | Jul 10, 2018  | -                   | - Revises WL06 Dimensions specification<br>A size 3.45 -- >3.56, B size 1.90 -- >2.16<br>C size 1.40 -- >1.52, D&F size 0.50 -- >0.51<br>E size 1.60 -- >1.62, J size 1.78 -- >1.80                     |
| Version C8 | Nov 01, 2018  | PCN-180801          | - Delete 0603/ 0805/ 1008 Color Code                                                                                                                                                                    |
| Version D1 | Oct 22, 2019  | -                   | - Increase WL05 specification content                                                                                                                                                                   |
| Version D2 | July 24, 2020 | -                   | - Increase WL05 specification content                                                                                                                                                                   |
| Version D3 | Aug 17, 2020  | -                   | - Increase WL05 specification content                                                                                                                                                                   |
| Version D4 | Dec 28, 2020  | -                   | - Increase WL05 specification content                                                                                                                                                                   |
| Version D5 | Apr 11, 2022  | -                   | - Increase WL08 (S) specification content<br>-Delete WL06 specification content                                                                                                                         |
| Version D6 | Apr 21, 2022  | -                   | - Increase WL02 specification content                                                                                                                                                                   |
| Version D7 | May 13, 2022  | -                   | - Increase WL02 specification content                                                                                                                                                                   |
| Version D8 | Jun 22, 2022  | -                   | - Increase WL08 ( H ) specification content                                                                                                                                                             |
| Version E1 | Jun 27, 2022  | -                   | - Increase WL03 ( Q ) specification content                                                                                                                                                             |
| Version E2 | Aug 30, 2022  | -                   | - Increase WL02 specification content<br>- Increase WL08 specification content                                                                                                                          |
| Version E3 | Sep 6, 2022   | -                   | - Increase WL05 specification content                                                                                                                                                                   |
| Version E4 | Oct 14, 2022  | -                   | - Increase WL03 ( Q ) specification content                                                                                                                                                             |
| Version E5 | Mar 2, 2023   | -                   | - Increase WL02 specification content                                                                                                                                                                   |
| Version E6 | Mar 24, 2023  | -                   | - Increase WL02 specification content                                                                                                                                                                   |
| Version E7 | May 29, 2023  | -                   | - Increase WL03 specification content                                                                                                                                                                   |
| Version E8 | May 31, 2023  | -                   | - Increase WL02 ( H ) specification content                                                                                                                                                             |

## 【WL Series】

### SMD Wire Wound Chip Inductor

|            |              |   |                                                                                                                                                           |
|------------|--------------|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version F1 | Jun 25, 2023 | - | - Increase WL03 size package content                                                                                                                      |
| Version F2 | Jul 25, 2023 | - | - Increase WL03 specification content                                                                                                                     |
| Version F3 | Aug 3, 2023  | - | - Increase WL02 specification content                                                                                                                     |
| Version F4 | Oct 16, 2023 | - | - Increase WL02 specification content                                                                                                                     |
| Version F5 | Nov 17, 2023 | - | - Increase WL03 specification content                                                                                                                     |
| Version F6 | Nov 22, 2023 | - | - Delete Inductance Tolerance H                                                                                                                           |
| Version F7 | Jan 12, 2024 | - | - Increase WL02 specification content                                                                                                                     |
| Version F8 | Feb 2, 2024  | - | - Increase WL08 (Q) specification content                                                                                                                 |
| Version G1 | Feb 21, 2024 | - | - Increase WL05/WL08 (Q) specification content                                                                                                            |
| Version G2 | Mar 12, 2024 | - | - Increase WL03 specification content                                                                                                                     |
| Version G3 | May 30, 2024 | - | - Increase WL02 specification content                                                                                                                     |
| Version G4 | Jun 20, 2024 | - | - Increase WL05 ( H ) specification content                                                                                                               |
| Version G5 | Sep 20, 2024 | - | - Modify WL03Q technical parameters<br>5.6nH 250MHZ Q 48-- >41<br>900MHZ Q 87-- >72<br>1.7GHZ Q 456-- >95<br>7.5nH 900MHZ Q 81-- >61<br>1.7GHZ Q 12-- >72 |
| Version G6 | Sep 30, 2024 | - | - Increase WL02 ( H ) specification content                                                                                                               |
| Version G7 | Dec 4, 2024  | - | - Increase WL02 specification content                                                                                                                     |
| Version G8 | Jan 20, 2025 | - | - Increase WL02 ( H ) specification content                                                                                                               |
| Version H1 | Jun 4, 2025  | - | - Increase WL02 specification content                                                                                                                     |