

Wire Wound Chip Ferrite Inductor - WL-FS Series

Operating Temp. : -40°C~+85°C



FEATURES

- Small chip suitable for surface mounting
- Large inductance with ferrite material

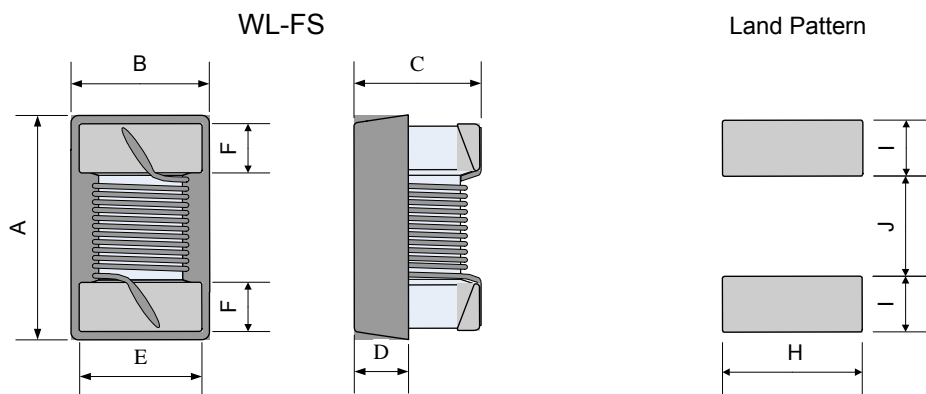
APPLICATIONS

- Mobile phones, video cameras and other electronic devices

PRODUCT IDENTIFICATION

| WL ① | 1005 ② | F ③ | S ④ | 18N ⑤ | J ⑥ | T ⑦ | F ⑧ | □□□ ⑨ | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--------------------------|--------|--------|--------------------------|---|---------------------|--------|-------------|--|-------------|--|---|---------------|--|---|---------|---|--------------|--|---|----------|---|--------------------|--|---------|---------------|-----|------|-----|-------|--|----------------------|--|---|-----|---|------|---|------|---|---------|--|---|-------------|---|-----------------------------------|--|---|--|---|-------------|--|-----|-------------|-----------------------------|--|
| <table border="1"> <tr><td colspan="2">Type</td></tr> <tr><td>WL</td><td>Wire Wound Chip Inductor</td></tr> </table> | Type | | WL | Wire Wound Chip Inductor | <table border="1"> <tr><td colspan="2">External Dimensions</td></tr> <tr><td colspan="2">1005 [0402]</td></tr> <tr><td colspan="2">1608 [0603]</td></tr> </table> | External Dimensions | | 1005 [0402] | | 1608 [0603] | | <table border="1"> <tr><td colspan="2">Material Code</td></tr> <tr><td>F</td><td>Ferrite</td></tr> </table> | Material Code | | F | Ferrite | <table border="1"> <tr><td colspan="2">Feature Type</td></tr> <tr><td>S</td><td>Standard</td></tr> </table> | Feature Type | | S | Standard | <table border="1"> <tr><td colspan="2">Nominal Inductance</td></tr> <tr><td>Example</td><td>Nominal Value</td></tr> <tr><td>18N</td><td>18nH</td></tr> <tr><td>R13</td><td>130nH</td></tr> </table> | Nominal Inductance | | Example | Nominal Value | 18N | 18nH | R13 | 130nH | <table border="1"> <tr><td colspan="2">Inductance Tolerance</td></tr> <tr><td>J</td><td>±5%</td></tr> <tr><td>K</td><td>±10%</td></tr> <tr><td>M</td><td>±20%</td></tr> </table> | Inductance Tolerance | | J | ±5% | K | ±10% | M | ±20% | <table border="1"> <tr><td colspan="2">Packing</td></tr> <tr><td>T</td><td>Tape & Reel</td></tr> </table> | Packing | | T | Tape & Reel | <table border="1"> <tr><td colspan="2">Hazardous Substance Free Products</td></tr> <tr><td colspan="2">F</td></tr> </table> | Hazardous Substance Free Products | | F | | <table border="1"> <tr><td colspan="2">Design Code</td></tr> <tr><td>□□□</td><td>Design Code</td></tr> <tr><td colspan="2">* Standard product is blank</td></tr> </table> | Design Code | | □□□ | Design Code | * Standard product is blank | |
| Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| WL | Wire Wound Chip Inductor | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| External Dimensions | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1005 [0402] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1608 [0603] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Material Code | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | Ferrite | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Feature Type | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| S | Standard | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Nominal Inductance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Example | Nominal Value | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18N | 18nH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| R13 | 130nH | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Inductance Tolerance | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| J | ±5% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| K | ±10% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| M | ±20% | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Packing | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| T | Tape & Reel | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Hazardous Substance Free Products | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| F | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Design Code | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| □□□ | Design Code | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| * Standard product is blank | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

SHAPE AND DIMENSIONS



Unit: mm

| Series | A | B | C | D Typ. | E | F | H Typ. | I Typ. | J Typ. |
|--------------|---------|----------|----------|--------|----------|---------|--------|--------|--------|
| WL1005FS | 1.1±0.1 | 0.60±0.1 | 0.55±0.1 | 0.25 | 0.5±0.1 | 0.2±0.1 | 0.65 | 0.35 | 0.50 |
| WL1005FS-M01 | 1.1±0.1 | 0.60±0.1 | 0.55±0.1 | 0.25 | 0.5±0.1 | 0.2±0.1 | 0.65 | 0.35 | 0.50 |
| WL1608FS | 1.7±0.2 | 0.95±0.2 | 0.8±0.2 | 0.38 | 0.76±0.1 | 0.3±0.1 | 1.02 | 0.64 | 0.64 |
| WL1608FS-M01 | 1.7±0.2 | 0.95±0.2 | 0.8±0.2 | 0.38 | 0.76±0.1 | 0.3±0.1 | 1.02 | 0.64 | 0.64 |

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Specifications subject to change without notice. Please check our website for latest information. Revised 2018/04/10

Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 Tel: 0086-755-29832660 Fax: 0086-755-82269029 E-Mail: sunlord@sunlordinc.com

SPECIFICATIONS

WL1005FS TYPE

| Part Number | Inductance | Tolerance | L Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|----------------|------------|-----------|--------------|--------------------|--------------------|------------------------------|
| Units | nH | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Freq. | DCR | I _r | S.R.F |
| WL1005FS20N□TF | 20 | J,K,M | 7.9 | 0.050 | 1600 | 2600 |
| WL1005FS22N□TF | 22 | J,K,M | 7.9 | 0.065 | 1300 | 2500 |
| WL1005FS33N□TF | 33 | J,K,M | 7.9 | 0.060 | 1400 | 2300 |
| WL1005FS36N□TF | 36 | J,K,M | 7.9 | 0.075 | 1300 | 2300 |
| WL1005FS39N□TF | 39 | J,K,M | 7.9 | 0.115 | 830 | 2200 |
| WL1005FS51N□TF | 51 | J,K,M | 7.9 | 0.070 | 1100 | 1930 |
| WL1005FS56N□TF | 56 | J,K,M | 7.9 | 0.095 | 1000 | 1900 |
| WL1005FS72N□TF | 72 | J,K,M | 7.9 | 0.100 | 1000 | 1650 |
| WL1005FS78N□TF | 78 | J,K,M | 7.9 | 0.130 | 970 | 1600 |
| WL1005FSR10□TF | 100 | J,K,M | 7.9 | 0.160 | 900 | 1400 |
| WL1005FSR14□TF | 140 | J,K,M | 7.9 | 0.260 | 630 | 1220 |
| WL1005FSR18□TF | 180 | J,K,M | 7.9 | 0.280 | 560 | 1150 |
| WL1005FSR20□TF | 200 | J,K,M | 7.9 | 0.440 | 400 | 1000 |
| WL1005FSR22□TF | 220 | J,K,M | 7.9 | 0.530 | 380 | 1150 |
| WL1005FSR25□TF | 250 | J,K,M | 7.9 | 0.450 | 520 | 900 |
| WL1005FSR27□TF | 270 | J,K,M | 7.9 | 0.550 | 360 | 860 |
| WL1005FSR30□TF | 300 | J,K,M | 7.9 | 0.410 | 420 | 860 |
| WL1005FSR33□TF | 330 | J,K,M | 7.9 | 0.560 | 350 | 820 |
| WL1005FSR36□TF | 360 | J,K,M | 7.9 | 0.575 | 360 | 810 |
| WL1005FSR39□TF | 390 | J,K,M | 7.9 | 0.750 | 300 | 760 |
| WL1005FSR42□TF | 420 | J,K,M | 7.9 | 0.700 | 340 | 700 |
| WL1005FSR47□TF | 470 | J,K,M | 7.9 | 0.730 | 310 | 650 |
| WL1005FSR56□TF | 560 | J,K,M | 7.9 | 0.920 | 200 | 600 |

WL1005FS-M01 TYPE

| Part Number | Inductance | Tolerance | L Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-----------|--------------|--------------------|--------------------|------------------------------|
| Units | nH | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Freq. | DCR | I _r | S.R.F |
| WL1005FS18N□TFM01 | 18 | J,K,M | 100 | 0.046 | 1400 | 3000 |
| WL1005FS20N□TFM01 | 20 | J,K,M | 100 | 0.028 | 2200 | 3000 |
| WL1005FS33N□TFM01 | 33 | J,K,M | 100 | 0.065 | 1300 | 1800 |
| WL1005FS34N□TFM01 | 34 | J,K,M | 100 | 0.036 | 1800 | 2500 |
| WL1005FS48N□TFM01 | 48 | J,K,M | 100 | 0.078 | 1100 | 1400 |
| WL1005FS53N□TFM01 | 53 | J,K,M | 100 | 0.060 | 1300 | 2000 |
| WL1005FS68N□TFM01 | 68 | J,K,M | 100 | 0.120 | 820 | 1300 |
| WL1005FS70N□TFM01 | 70 | J,K,M | 100 | 0.120 | 820 | 1300 |
| WL1005FS77N□TFM01 | 77 | J,K,M | 100 | 0.090 | 1100 | 2000 |
| WL1005FS96N□TFM01 | 96 | J,K,M | 100 | 0.160 | 730 | 1100 |
| WL1005FSR11□TFM01 | 110 | J,K,M | 100 | 0.144 | 850 | 1500 |
| WL1005FSR13□TFM01 | 130 | J,K,M | 100 | 0.230 | 640 | 1000 |
| WL1005FSR14□TFM01 | 140 | J,K,M | 100 | 0.216 | 650 | 1000 |
| WL1005FSR16□TFM01 | 160 | J,K,M | 100 | 0.330 | 480 | 900 |
| WL1005FSR18□TFM01 | 180 | J,K,M | 100 | 0.312 | 560 | 1000 |

SPECIFICATIONS

WL1005FS-M01 TYPE

| Part Number | Inductance | Tolerance | L Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-----------|--------------|--------------------|--------------------|------------------------------|
| Units | nH | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Freq. | DCR | Ir | S.R.F |
| WL1005FSR20□TFM01 | 200 | J,K,M | 100 | 0.470 | 390 | 800 |
| WL1005FSR22□TFM01 | 220 | J,K,M | 100 | 0.470 | 450 | 1100 |
| WL1005FSR27□TFM01 | 270 | J,K,M | 100 | 0.520 | 420 | 730 |
| WL1005FSR33□TFM01 | 330 | J,K,M | 100 | 0.560 | 390 | 520 |
| WL1005FSR39□TFM01 | 390 | J,K,M | 100 | 0.620 | 370 | 350 |
| WL1005FSR42□TFM01 | 420 | J,K,M | 10 | 0.620 | 370 | 320 |
| WL1005FSR47□TFM01 | 470 | J,K,M | 10 | 0.660 | 350 | 380 |
| WL1005FSR56□TFM01 | 560 | K,M | 10 | 0.710 | 300 | 300 |

WL1608FS TYPE

| Part Number | Inductance | Tolerance | L Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|----------------|------------|-----------|--------------|--------------------|--------------------|------------------------------|
| Units | nH | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Freq. | DCR | Ir | S.R.F |
| WL1608FS47N□TF | 47 | K,M | 7.9 | 0.06 | 1200 | 2350 |
| WL1608FS51N□TF | 51 | J,K,M | 7.9 | 0.07 | 1050 | 2300 |
| WL1608FSR10□TF | 100 | K,M | 7.9 | 0.11 | 850 | 1370 |
| WL1608FSR12□TF | 120 | J,K,M | 7.9 | 0.18 | 670 | 1340 |
| WL1608FSR15□TF | 150 | J,K,M | 7.9 | 0.12 | 820 | 1260 |
| WL1608FSR18□TF | 180 | J,K,M | 7.9 | 0.19 | 670 | 1060 |
| WL1608FSR20□TF | 200 | J,K,M | 7.9 | 0.14 | 740 | 1030 |
| WL1608FSR22□TF | 220 | J,K,M | 7.9 | 0.20 | 650 | 850 |
| WL1608FSR24□TF | 240 | J,K,M | 7.9 | 0.17 | 690 | 800 |
| WL1608FSR25□TF | 250 | J,K,M | 7.9 | 0.17 | 690 | 910 |
| WL1608FSR27□TF | 270 | J,K,M | 7.9 | 0.24 | 630 | 780 |
| WL1608FSR33□TF | 330 | J,K,M | 7.9 | 0.29 | 510 | 730 |
| WL1608FSR39□TF | 390 | J,K,M | 7.9 | 0.33 | 490 | 750 |
| WL1608FSR47□TF | 470 | K,M | 7.9 | 0.37 | 470 | 670 |
| WL1608FSR50□TF | 500 | J,K,M | 7.9 | 0.45 | 410 | 610 |
| WL1608FSR56□TF | 560 | J,K,M | 7.9 | 0.51 | 380 | 590 |
| WL1608FSR62□TF | 620 | J,K,M | 7.9 | 0.48 | 390 | 570 |
| WL1608FSR65□TF | 650 | J,K,M | 7.9 | 0.61 | 350 | 550 |
| WL1608FSR68□TF | 680 | J,K,M | 7.9 | 0.77 | 310 | 520 |
| WL1608FSR78□TF | 780 | J,K,M | 7.9 | 0.83 | 300 | 480 |
| WL1608FSR82□TF | 820 | J,K,M | 7.9 | 0.88 | 290 | 500 |
| WL1608FS1R0□TF | 1000 | J,K,M | 7.9 | 0.94 | 280 | 410 |
| WL1608FS1R2□TF | 1200 | J,K,M | 7.9 | 1.10 | 260 | 370 |
| WL1608FS1R5□TF | 1500 | J,K,M | 7.9 | 1.30 | 240 | 340 |
| WL1608FS1R8□TF | 1800 | J,K,M | 7.9 | 1.40 | 230 | 190 |
| WL1608FS2R2□TF | 2200 | J,K,M | 7.9 | 1.50 | 220 | 120 |
| WL1608FS2R7□TF | 2700 | J,K,M | 7.9 | 1.60 | 210 | 70 |
| WL1608FS3R3□TF | 3300 | J,K,M | 7.9 | 1.80 | 200 | 60 |
| WL1608FS3R9□TF | 3900 | J,K,M | 7.9 | 1.90 | 190 | 50 |
| WL1608FS4R7□TF | 4700 | J,K,M | 7.9 | 2.70 | 160 | 50 |
| WL1608FS5R6□TF | 5600 | J,K,M | 7.9 | 3.00 | 150 | 40 |
| WL1608FS6R8□TF | 6800 | J,K,M | 7.9 | 4.00 | 130 | 40 |



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Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 Tel: 0086-755-29832660 Fax: 0086-755-82269029 E-Mail: sunlord@sunlordinc.com

SPECIFICATIONS

WL1608FS TYPE

| Part Number | Inductance | Tolerance | L Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|----------------|------------|-----------|--------------|--------------------|--------------------|------------------------------|
| Units | nH | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Freq. | DCR | Ir | S.R.F |
| WL1608FS7R8□TF | 7800 | J,K,M | 7.9 | 4.40 | 120 | 40 |
| WL1608FS8R2□TF | 8200 | J,K,M | 7.9 | 4.50 | 110 | 40 |
| WL1608FS100□TF | 10000 | J,K,M | 2.5 | 5.00 | 100 | 30 |
| WL1608FS150□TF | 15000 | J,K,M | 2.5 | 9.50 | 90 | 20 |
| WL1608FS180□TF | 18000 | J,K,M | 2.5 | 10.40 | 80 | 20 |
| WL1608FS220□TF | 22000 | J,K,M | 2.5 | 11.40 | 70 | 20 |

WL1608FS-M01 TYPE

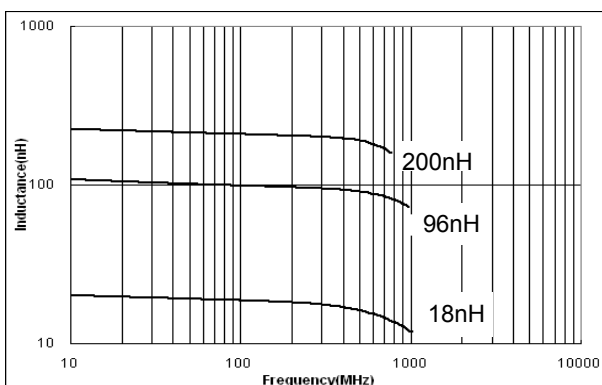
| Part Number | Inductance | Tolerance | L Test Freq. | Max. DC Resistance | Max. Rated Current | Min. Self-resonant Frequency |
|-------------------|------------|-----------|--------------|--------------------|--------------------|------------------------------|
| Units | nH | - | MHz | Ω | mA | MHz |
| Symbol | L | - | Freq. | DCR | Ir | S.R.F |
| WL1608FS4N9□TFM01 | 4.9 | D,K,M | 10 | 0.015 | 2600 | 2300 |
| WL1608FS15N□TFM01 | 15 | J,K,M | 10 | 0.025 | 2200 | 2000 |
| WL1608FS33N□TFM01 | 33 | J,K,M | 10 | 0.035 | 1700 | 1800 |
| WL1608FS55N□TFM01 | 55 | J,K,M | 10 | 0.045 | 1500 | 1600 |
| WL1608FS85N□TFM01 | 85 | J,K,M | 10 | 0.060 | 1400 | 1380 |
| WL1608FSR10□TFM01 | 100 | K,M | 10 | 0.100 | 1000 | 1260 |
| WL1608FSR12□TFM01 | 120 | J,K,M | 10 | 0.085 | 1100 | 1200 |
| WL1608FSR16□TFM01 | 160 | J,K,M | 10 | 0.100 | 1000 | 900 |
| WL1608FSR21□TFM01 | 210 | J,K,M | 10 | 0.150 | 800 | 720 |
| WL1608FSR27□TFM01 | 270 | J,K,M | 10 | 0.160 | 750 | 660 |
| WL1608FSR33□TFM01 | 330 | J,K,M | 10 | 0.250 | 630 | 600 |
| WL1608FSR39□TFM01 | 390 | J,K,M | 10 | 0.280 | 620 | 570 |
| WL1608FSR47□TFM01 | 470 | J,K,M | 10 | 0.450 | 500 | 555 |
| WL1608FSR56□TFM01 | 560 | J,K,M | 10 | 0.480 | 450 | 540 |
| WL1608FSR65□TFM01 | 650 | J,K,M | 10 | 0.520 | 430 | 510 |

※□: Please specify the inductance tolerance code (D=±0.5nH, J=±5%, K=±10%, M=±20%).

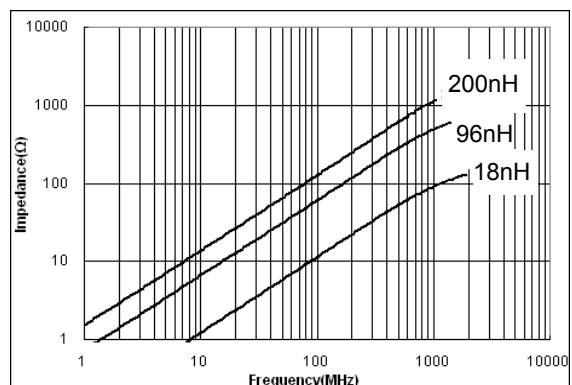
TYPICAL ELECTRICAL CHARACTERISTICS

WL1005FS TYPE

Inductance vs. Frequency Characteristics



Impedance vs. Frequency Characteristics



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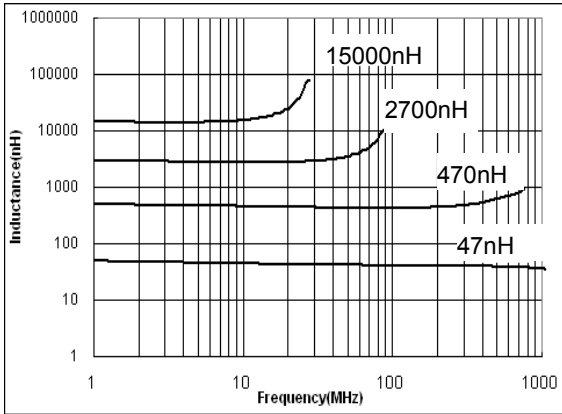
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Sunlord Industrial Park, Dafuyuan Industrial Zone, Guanlan, Shenzhen, China 518110 Tel: 0086-755-29832660 Fax: 0086-755-82269029 E-Mail: sunlord@sunlordinc.com

TYPICAL ELECTRICAL CHARACTERISTICS

WL1608FS TYPE

Inductance vs. Frequency Characteristics



Impedance vs. Frequency Characteristics

