

Chip Coils for High Frequency Horizontal Wire Wound

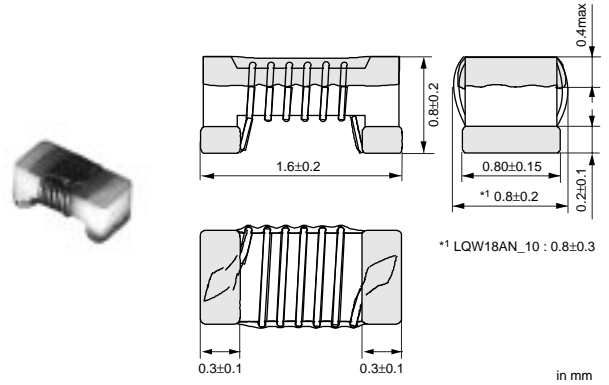


LQW18A_00 Series (0603 Size)

■ Features

1. Broad range of inductance (2.2nH to 470nH) with E24 step line up.
2. Horizontal wire wound structure enables tight inductance tolerance (+/-0.2nH, +/-2%). Stable circuit operation is possible.
3. The subminiature dimensions (1.6x0.8mm) allow high density mounting.
4. The high self resonant frequency realizes high Q value and stable inductance at high frequency.
5. Low DC resistance design is ideal for low loss, high output and low power consumption.
6. Resin-coated surface enables excellent mounting.

■ Dimension



■ Applications

1. High frequency circuits of mobile phones such as PA, ANT, VCO, SAW, etc.
2. Mobile phones such as GSM, CDMA, PDC, etc.
3. "Bluetooth"
4. W-LAN
5. High frequency circuits in general

■ Rated Value (□: packaging code)

| Part Number | Inductance | Test Frequency | Rated Current | Max. of DC resistance | Q (min.) | Test Frequency | Self Resonance Frequency (min.) |
|----------------|-------------|----------------|---------------|-----------------------|----------|----------------|---------------------------------|
| LQW18AN2N2D00□ | 2.2nH±0.5nH | 100MHz | 700mA | 0.049ohm | 16 | 250MHz | 6000MHz |
| LQW18AN3N6C00□ | 3.6nH±0.2nH | 100MHz | 850mA | 0.059ohm | 25 | 250MHz | 6000MHz |
| LQW18AN3N6D00□ | 3.6nH±0.5nH | 100MHz | 850mA | 0.059ohm | 25 | 250MHz | 6000MHz |
| LQW18AN3N9C00□ | 3.9nH±0.2nH | 100MHz | 850mA | 0.059ohm | 35 | 250MHz | 6000MHz |
| LQW18AN3N9D00□ | 3.9nH±0.5nH | 100MHz | 850mA | 0.059ohm | 35 | 250MHz | 6000MHz |
| LQW18AN4N3C00□ | 4.3nH±0.2nH | 100MHz | 850mA | 0.059ohm | 35 | 250MHz | 6000MHz |
| LQW18AN4N3D00□ | 4.3nH±0.5nH | 100MHz | 850mA | 0.059ohm | 35 | 250MHz | 6000MHz |
| LQW18AN4N7D00□ | 4.7nH±0.5nH | 100MHz | 850mA | 0.059ohm | 35 | 250MHz | 6000MHz |
| LQW18AN5N6C00□ | 5.6nH±0.2nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN5N6D00□ | 5.6nH±0.5nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN6N2C00□ | 6.2nH±0.2nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN6N2D00□ | 6.2nH±0.5nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN6N8C00□ | 6.8nH±0.2nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN6N8D00□ | 6.8nH±0.5nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN7N5D00□ | 7.5nH±0.5nH | 100MHz | 750mA | 0.082ohm | 35 | 250MHz | 6000MHz |
| LQW18AN8N2D00□ | 8.2nH±0.5nH | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN8N7D00□ | 8.7nH±0.5nH | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN9N1D00□ | 9.1nH±0.5nH | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN9N5D00□ | 9.5nH±0.5nH | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN10NG00□ | 10nH±2% | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN10NJ00□ | 10nH±5% | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN11NG00□ | 11nH±2% | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |
| LQW18AN11NJ00□ | 11nH±5% | 100MHz | 650mA | 0.11ohm | 35 | 250MHz | 6000MHz |

Operating Temperature Range: -55°C to +125°C Only for reflow soldering.

Continued on the following page.

Continued from the preceding page.

3

| Part Number | Inductance | Test Frequency | Rated Current | Max. of DC resistance | Q (min.) | Test Frequency | Self Resonance Frequency (min.) |
|----------------|------------|----------------|---------------|-----------------------|----------|----------------|---------------------------------|
| LQW18AN12NG00□ | 12nH±2% | 100MHz | 600mA | 0.13ohm | 35 | 250MHz | 6000MHz |
| LQW18AN12NJ00□ | 12nH±5% | 100MHz | 600mA | 0.13ohm | 35 | 250MHz | 6000MHz |
| LQW18AN13NG00□ | 13nH±2% | 100MHz | 600mA | 0.13ohm | 35 | 250MHz | 6000MHz |
| LQW18AN13NJ00□ | 13nH±5% | 100MHz | 600mA | 0.13ohm | 35 | 250MHz | 6000MHz |
| LQW18AN15NG00□ | 15nH±2% | 100MHz | 600mA | 0.13ohm | 40 | 250MHz | 6000MHz |
| LQW18AN15NJ00□ | 15nH±5% | 100MHz | 600mA | 0.13ohm | 40 | 250MHz | 6000MHz |
| LQW18AN16NG00□ | 16nH±2% | 100MHz | 550mA | 0.16ohm | 40 | 250MHz | 5500MHz |
| LQW18AN16NJ00□ | 16nH±5% | 100MHz | 550mA | 0.16ohm | 40 | 250MHz | 5500MHz |
| LQW18AN18NG00□ | 18nH±2% | 100MHz | 550mA | 0.16ohm | 40 | 250MHz | 5500MHz |
| LQW18AN18NJ00□ | 18nH±5% | 100MHz | 550mA | 0.16ohm | 40 | 250MHz | 5500MHz |
| LQW18AN20NG00□ | 20nH±2% | 100MHz | 550mA | 0.16ohm | 40 | 250MHz | 4900MHz |
| LQW18AN20NJ00□ | 20nH±5% | 100MHz | 550mA | 0.16ohm | 40 | 250MHz | 4900MHz |
| LQW18AN22NG00□ | 22nH±2% | 100MHz | 500mA | 0.17ohm | 40 | 250MHz | 4600MHz |
| LQW18AN22NJ00□ | 22nH±5% | 100MHz | 500mA | 0.17ohm | 40 | 250MHz | 4600MHz |
| LQW18AN24NG00□ | 24nH±2% | 100MHz | 500mA | 0.21ohm | 40 | 250MHz | 3800MHz |
| LQW18AN24NJ00□ | 24nH±5% | 100MHz | 500mA | 0.21ohm | 40 | 250MHz | 3800MHz |
| LQW18AN27NG00□ | 27nH±2% | 100MHz | 440mA | 0.21ohm | 40 | 250MHz | 3700MHz |
| LQW18AN27NJ00□ | 27nH±5% | 100MHz | 440mA | 0.21ohm | 40 | 250MHz | 3700MHz |
| LQW18AN30NG00□ | 30nH±2% | 100MHz | 420mA | 0.23ohm | 40 | 250MHz | 3300MHz |
| LQW18AN30NJ00□ | 30nH±5% | 100MHz | 420mA | 0.23ohm | 40 | 250MHz | 3300MHz |
| LQW18AN33NG00□ | 33nH±2% | 100MHz | 420mA | 0.23ohm | 40 | 250MHz | 3200MHz |
| LQW18AN33NJ00□ | 33nH±5% | 100MHz | 420mA | 0.23ohm | 40 | 250MHz | 3200MHz |
| LQW18AN36NG00□ | 36nH±2% | 100MHz | 400mA | 0.26ohm | 40 | 250MHz | 2900MHz |
| LQW18AN36NJ00□ | 36nH±5% | 100MHz | 400mA | 0.26ohm | 40 | 250MHz | 2900MHz |
| LQW18AN39NG00□ | 39nH±2% | 100MHz | 400mA | 0.26ohm | 40 | 250MHz | 2800MHz |
| LQW18AN39NJ00□ | 39nH±5% | 100MHz | 400mA | 0.26ohm | 40 | 250MHz | 2800MHz |
| LQW18AN43NG00□ | 43nH±2% | 100MHz | 380mA | 0.29ohm | 40 | 200MHz | 2700MHz |
| LQW18AN43NJ00□ | 43nH±5% | 100MHz | 380mA | 0.29ohm | 40 | 200MHz | 2700MHz |
| LQW18AN47NG00□ | 47nH±2% | 100MHz | 380mA | 0.29ohm | 38 | 200MHz | 2600MHz |
| LQW18AN47NJ00□ | 47nH±5% | 100MHz | 380mA | 0.29ohm | 38 | 200MHz | 2600MHz |
| LQW18AN51NG00□ | 51nH±2% | 100MHz | 370mA | 0.33ohm | 38 | 200MHz | 2500MHz |
| LQW18AN51NJ00□ | 51nH±5% | 100MHz | 370mA | 0.33ohm | 38 | 200MHz | 2500MHz |
| LQW18AN56NG00□ | 56nH±2% | 100MHz | 360mA | 0.35ohm | 38 | 200MHz | 2400MHz |
| LQW18AN56NJ00□ | 56nH±5% | 100MHz | 360mA | 0.35ohm | 38 | 200MHz | 2400MHz |
| LQW18AN62NG00□ | 62nH±2% | 100MHz | 280mA | 0.51ohm | 38 | 200MHz | 2300MHz |
| LQW18AN62NJ00□ | 62nH±5% | 100MHz | 280mA | 0.51ohm | 38 | 200MHz | 2300MHz |
| LQW18AN68NG00□ | 68nH±2% | 100MHz | 340mA | 0.38ohm | 38 | 200MHz | 2200MHz |
| LQW18AN68NJ00□ | 68nH±5% | 100MHz | 340mA | 0.38ohm | 38 | 200MHz | 2200MHz |
| LQW18AN72NG00□ | 72nH±2% | 100MHz | 270mA | 0.56ohm | 34 | 150MHz | 2100MHz |
| LQW18AN72NJ00□ | 72nH±5% | 100MHz | 270mA | 0.56ohm | 34 | 150MHz | 2100MHz |
| LQW18AN75NG00□ | 75nH±2% | 100MHz | 270mA | 0.56ohm | 34 | 150MHz | 2050MHz |
| LQW18AN75NJ00□ | 75nH±5% | 100MHz | 270mA | 0.56ohm | 34 | 150MHz | 2050MHz |
| LQW18AN82NG00□ | 82nH±2% | 100MHz | 250mA | 0.60ohm | 34 | 150MHz | 2000MHz |
| LQW18AN82NJ00□ | 82nH±5% | 100MHz | 250mA | 0.60ohm | 34 | 150MHz | 2000MHz |
| LQW18AN91NG00□ | 91nH±2% | 100MHz | 230mA | 0.64ohm | 34 | 150MHz | 1900MHz |
| LQW18AN91NJ00□ | 91nH±5% | 100MHz | 230mA | 0.64ohm | 34 | 150MHz | 1900MHz |
| LQW18ANR10G00□ | 100nH±2% | 100MHz | 220mA | 0.68ohm | 34 | 150MHz | 1800MHz |
| LQW18ANR10J00□ | 100nH±5% | 100MHz | 220mA | 0.68ohm | 34 | 150MHz | 1800MHz |
| LQW18ANR11G00□ | 110nH±2% | 100MHz | 200mA | 1.2ohm | 32 | 150MHz | 1700MHz |
| LQW18ANR11J00□ | 110nH±5% | 100MHz | 200mA | 1.2ohm | 32 | 150MHz | 1700MHz |
| LQW18ANR12G00□ | 120nH±2% | 100MHz | 180mA | 1.3ohm | 32 | 150MHz | 1600MHz |

Operating Temperature Range: -55°C to +125°C Only for reflow soldering.

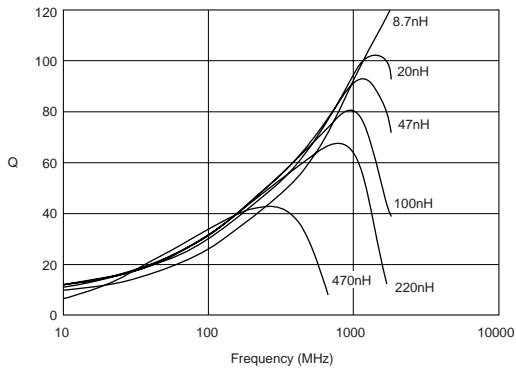
Continued on the following page. ↗

Continued from the preceding page.

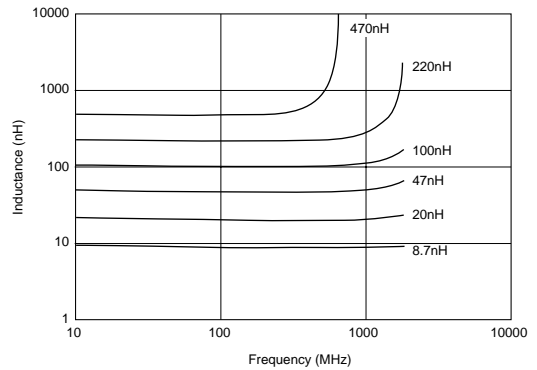
| Part Number | Inductance | Test Frequency | Rated Current | Max. of DC resistance | Q (min.) | Test Frequency | Self Resonance Frequency (min.) |
|----------------|------------|----------------|---------------|-----------------------|----------|----------------|---------------------------------|
| LQW18ANR12J00□ | 120nH±5% | 100MHz | 180mA | 1.3ohm | 32 | 150MHz | 1600MHz |
| LQW18ANR13G00□ | 130nH±2% | 100MHz | 170mA | 1.4ohm | 32 | 150MHz | 1450MHz |
| LQW18ANR13J00□ | 130nH±5% | 100MHz | 170mA | 1.4ohm | 32 | 150MHz | 1450MHz |
| LQW18ANR15G00□ | 150nH±2% | 100MHz | 160mA | 1.5ohm | 32 | 150MHz | 1400MHz |
| LQW18ANR15J00□ | 150nH±5% | 100MHz | 160mA | 1.5ohm | 32 | 150MHz | 1400MHz |
| LQW18ANR16G00□ | 160nH±2% | 100MHz | 150mA | 2.1ohm | 32 | 150MHz | 1350MHz |
| LQW18ANR16J00□ | 160nH±5% | 100MHz | 150mA | 2.1ohm | 32 | 150MHz | 1350MHz |
| LQW18ANR18G00□ | 180nH±2% | 100MHz | 140mA | 2.2ohm | 25 | 100MHz | 1300MHz |
| LQW18ANR18J00□ | 180nH±5% | 100MHz | 140mA | 2.2ohm | 25 | 100MHz | 1300MHz |
| LQW18ANR20G00□ | 200nH±2% | 100MHz | 120mA | 2.4ohm | 25 | 100MHz | 1250MHz |
| LQW18ANR20J00□ | 200nH±5% | 100MHz | 120mA | 2.4ohm | 25 | 100MHz | 1250MHz |
| LQW18ANR22G00□ | 220nH±2% | 100MHz | 120mA | 2.5ohm | 25 | 100MHz | 1200MHz |
| LQW18ANR22J00□ | 220nH±5% | 100MHz | 120mA | 2.5ohm | 25 | 100MHz | 1200MHz |
| LQW18ANR27G00□ | 270nH±2% | 100MHz | 110mA | 3.4ohm | 30 | 100MHz | 960MHz |
| LQW18ANR27J00□ | 270nH±5% | 100MHz | 110mA | 3.4ohm | 30 | 100MHz | 960MHz |
| LQW18ANR33G00□ | 330nH±2% | 100MHz | 85mA | 5.5ohm | 30 | 100MHz | 800MHz |
| LQW18ANR33J00□ | 330nH±5% | 100MHz | 85mA | 5.5ohm | 30 | 100MHz | 800MHz |
| LQW18ANR39G00□ | 390nH±2% | 100MHz | 80mA | 6.2ohm | 30 | 100MHz | 800MHz |
| LQW18ANR39J00□ | 390nH±5% | 100MHz | 80mA | 6.2ohm | 30 | 100MHz | 800MHz |
| LQW18ANR47G00□ | 470nH±2% | 100MHz | 75mA | 7.0ohm | 30 | 100MHz | 700MHz |
| LQW18ANR47J00□ | 470nH±5% | 100MHz | 75mA | 7.0ohm | 30 | 100MHz | 700MHz |

Operating Temperature Range: -55°C to +125°C Only for reflow soldering.

■ Q - Frequency Characteristics (Typ.)



■ Inductance - Frequency Characteristics (Typ.)



Chip Coils for High Frequency Horizontal Wire Wound



LQW18A_10 Series (High Q/Low DC Resistance Type) (0603 Size)

3

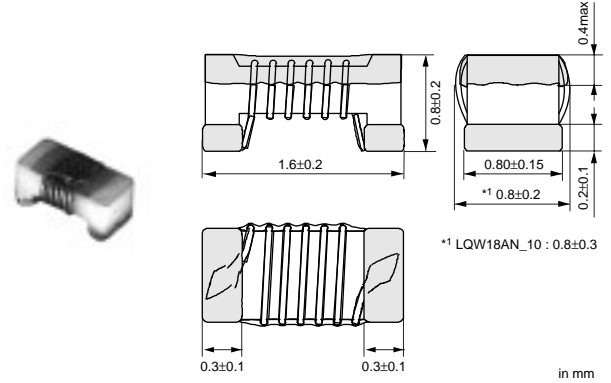
■ Features

DC Resistance is about 50% less than current type.
 Q is about 10% higher, and allowable current is about 20% higher than current type. Tight inductance tolerance is available.

■ Applications

Mobile phone and Base station etc.
 W-CDMA, GSM, N-CDMA, PDC
 Higher Q -- Matching circuit for antenna, SAWFIL
 Lower Rdc -- Choke coil for IF, RF circuit like PA
 Equipment with high frequency circuits
 (Wireless LAN etc.)

■ Dimension

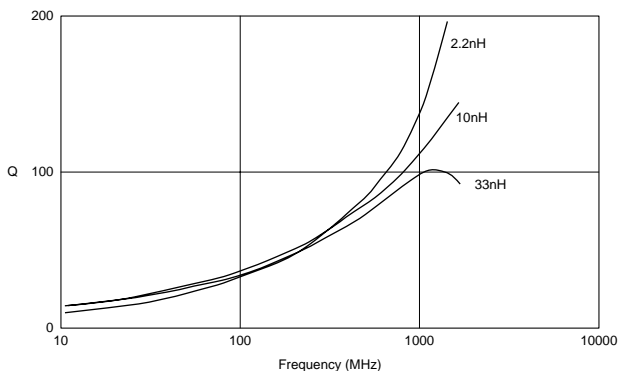


■ Rated Value (□: packaging code)

| Part Number | Inductance | Test Frequency | Rated Current | Max. of DC resistance | Q (min.) | Test Frequency | Self Resonance Frequency (min.) |
|----------------|-------------|----------------|---------------|-----------------------|----------|----------------|---------------------------------|
| LQW18AN2N2D10□ | 2.2nH±0.5nH | 100MHz | 1400mA | 0.018ohm | 25 | 250MHz | 18000MHz |
| LQW18AN3N9C10□ | 3.9nH±0.2nH | 100MHz | 1000mA | 0.032ohm | 38 | 250MHz | 11000MHz |
| LQW18AN3N9D10□ | 3.9nH±0.5nH | 100MHz | 1000mA | 0.032ohm | 38 | 250MHz | 11000MHz |
| LQW18AN5N6D10□ | 5.6nH±0.5nH | 100MHz | 900mA | 0.045ohm | 38 | 250MHz | 10000MHz |
| LQW18AN6N8C10□ | 6.8nH±0.2nH | 100MHz | 900mA | 0.045ohm | 38 | 250MHz | 7000MHz |
| LQW18AN6N8D10□ | 6.8nH±0.5nH | 100MHz | 900mA | 0.045ohm | 38 | 250MHz | 7000MHz |
| LQW18AN8N2D10□ | 8.2nH±0.5nH | 100MHz | 800mA | 0.058ohm | 38 | 250MHz | 7000MHz |
| LQW18AN10NG10□ | 10nH±2% | 100MHz | 800mA | 0.058ohm | 38 | 250MHz | 5000MHz |
| LQW18AN10NJ10□ | 10nH±5% | 100MHz | 800mA | 0.058ohm | 38 | 250MHz | 5000MHz |
| LQW18AN12NG10□ | 12nH±2% | 100MHz | 750mA | 0.071ohm | 38 | 250MHz | 5000MHz |
| LQW18AN12NJ10□ | 12nH±5% | 100MHz | 750mA | 0.071ohm | 38 | 250MHz | 5000MHz |
| LQW18AN15NJ10□ | 15nH±5% | 100MHz | 700mA | 0.085ohm | 42 | 250MHz | 4500MHz |
| LQW18AN18NG10□ | 18nH±2% | 100MHz | 700mA | 0.085ohm | 42 | 250MHz | 3500MHz |
| LQW18AN18NJ10□ | 18nH±5% | 100MHz | 700mA | 0.085ohm | 42 | 250MHz | 3500MHz |
| LQW18AN22NG10□ | 22nH±2% | 100MHz | 640mA | 0.099ohm | 42 | 250MHz | 3200MHz |
| LQW18AN22NJ10□ | 22nH±5% | 100MHz | 640mA | 0.099ohm | 42 | 250MHz | 3200MHz |
| LQW18AN27NG10□ | 27nH±2% | 100MHz | 590mA | 0.116ohm | 42 | 250MHz | 2800MHz |
| LQW18AN27NJ10□ | 27nH±5% | 100MHz | 590mA | 0.116ohm | 42 | 250MHz | 2800MHz |
| LQW18AN33NJ10□ | 33nH±5% | 100MHz | 550mA | 0.132ohm | 42 | 250MHz | 2500MHz |

Operating Temperature Range: -55°C to +125°C

■ Q - Frequency Characteristics (Typ.)



■ Inductance - Frequency Characteristics (Typ.)

