

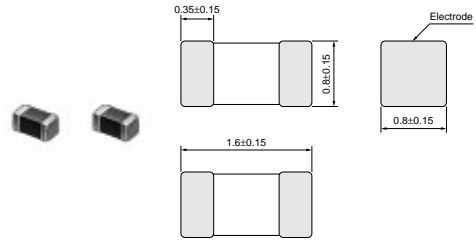
Chip Coils for General Use Monolithic Type



LQM18N Series (0603 Size)

LQM18N series consisting of magnetically shielded chip coils was developed by using original multilayer process technology and magnetic materials. Compact size is suitable for high density mounting. Shielded construction is not affected by interference from peripheral components.

Dimension



(in mm)

Features

1. Magnetically shielded structure provides excellent characteristics in crosstalk and magnetic coupling.
2. Compact size (1.6x0.8mm) and lightweight
3. The external electrodes with nickel barrier structure provide excellent solder heat resistance. Applicable soldering methods are both flow soldering and reflow soldering.

Applications

1. Resonance circuit, traps, filter circuits
2. RF choke in telecommunications equipment, cordless phones, radio equipment

Rated Value (□: packaging code)

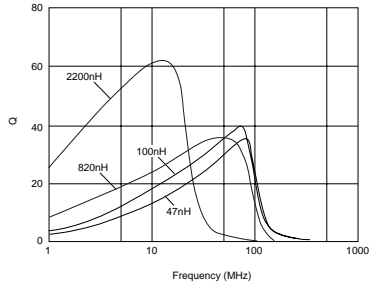
| Part Number | Inductance | Test Frequency | Rated Current | Max. of DC resistance | Q (min.) | Test Frequency | Self Resonance Frequency (min.) |
|----------------|------------|----------------|---------------|-----------------------|----------|----------------|---------------------------------|
| LQM18NN47NM00□ | 47nH±20% | 50MHz | 50mA | 0.30ohm | 10 | 50MHz | 260MHz |
| LQM18NN68NM00□ | 68nH±20% | 50MHz | 50mA | 0.30ohm | 10 | 50MHz | 250MHz |
| LQM18NN82NM00□ | 82nH±20% | 50MHz | 50mA | 0.30ohm | 10 | 50MHz | 245MHz |
| LQM18NNR10K00□ | 100nH±10% | 25MHz | 50mA | 0.50ohm | 15 | 25MHz | 240MHz |
| LQM18NNR12K00□ | 120nH±10% | 25MHz | 50mA | 0.50ohm | 15 | 25MHz | 205MHz |
| LQM18NNR15K00□ | 150nH±10% | 25MHz | 50mA | 0.60ohm | 15 | 25MHz | 180MHz |
| LQM18NNR18K00□ | 180nH±10% | 25MHz | 50mA | 0.60ohm | 15 | 25MHz | 165MHz |
| LQM18NNR22K00□ | 220nH±10% | 25MHz | 50mA | 0.80ohm | 15 | 25MHz | 150MHz |
| LQM18NNR27K00□ | 270nH±10% | 25MHz | 50mA | 0.80ohm | 15 | 25MHz | 136MHz |
| LQM18NNR33K00□ | 330nH±10% | 25MHz | 35mA | 0.85ohm | 15 | 25MHz | 125MHz |
| LQM18NNR39K00□ | 390nH±10% | 25MHz | 35mA | 1.00ohm | 15 | 25MHz | 110MHz |
| LQM18NNR47K00□ | 470nH±10% | 25MHz | 35mA | 1.35ohm | 15 | 25MHz | 105MHz |
| LQM18NNR56K00□ | 560nH±10% | 25MHz | 35mA | 1.55ohm | 15 | 25MHz | 95MHz |
| LQM18NNR68K00□ | 680nH±10% | 25MHz | 35mA | 1.70ohm | 15 | 25MHz | 90MHz |
| LQM18NNR82K00□ | 820nH±10% | 25MHz | 35mA | 2.10ohm | 15 | 25MHz | 85MHz |
| LQM18NN1R0K00□ | 1000nH±10% | 10MHz | 25mA | 0.60ohm | 35 | 10MHz | 75MHz |
| LQM18NN1R2K00□ | 1200nH±10% | 10MHz | 25mA | 0.80ohm | 35 | 10MHz | 65MHz |
| LQM18NN1R5K00□ | 1500nH±10% | 10MHz | 25mA | 0.80ohm | 35 | 10MHz | 60MHz |
| LQM18NN1R8K00□ | 1800nH±10% | 10MHz | 25mA | 0.95ohm | 35 | 10MHz | 55MHz |
| LQM18NN2R2K00□ | 2200nH±10% | 10MHz | 15mA | 1.15ohm | 35 | 10MHz | 50MHz |

Operating Temperature Range: -40°C to +85°C

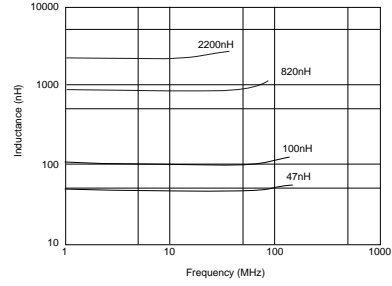
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■ Q - Frequency Characteristics (Typ.)



■ Inductance - Frequency Characteristics (Typ.)



● Part Numbering

Chip Coils (SMD)

(Part Number)

| | | | | | | | | | |
|----|---|----|---|---|-----|---|---|---|---|
| LQ | H | 32 | M | N | 331 | K | 2 | 3 | L |
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | ⑩ |

① Product ID

| Product ID | |
|------------|------------|
| LQ | Chip Coils |

② Structure

| Code | Structure |
|------|---------------------------------|
| G | Monolithic Type (Air-core Coil) |
| H | Wire Wound Type (Ferrite Core) |
| M | Monolithic Type (Ferrite Core) |
| P | Film Type |
| W | Wire Wound Type (Air-core Coil) |

③ Dimensions (L×W)

| Code | Dimensions (L×W) | EIA |
|------|------------------|-------|
| 02 | 0.4×0.2mm | 01005 |
| 03 | 0.6×0.3mm | 0201 |
| 04 | 0.8×0.4mm | 03015 |
| 15 | 1.0×0.5mm | 0402 |
| 18 | 1.6×0.8mm | 0603 |
| 21 | 2.0×1.25mm | 0805 |
| 2B | 2.0×1.5mm | 0805 |
| 2M | 2.0×1.6mm | 0806 |
| 3N | 3.0×3.0mm | 1212 |
| 31 | 3.2×1.6mm | 1206 |
| 32 | 3.2×2.5mm | 1210 |
| 43 | 4.5×3.2mm | 1812 |
| 55 | 5.7×5.0mm | 2220 |
| 66 | 6.3×6.3mm | 2525 |

④ Applications and Characteristics

| Code | Series | Applications and Characteristics |
|------|---------|---|
| H | LQG | Monolithic Air-core for Resonant Circuit |
| D | LQM | for Choke (Low-current DC Power Supplies) |
| F | LQM | for Choke (DC Power Supplies) |
| M | LQP | Film Type |
| T | LQP | Film Type (Low DC Resistance Type) |
| A | LQW | High Q Type (UHF-SHF) |
| H | LQW | High Q Type (VHF-UHF) |
| N | LQH | for Resonant Circuit |
| M | LQH | for Resonant Circuit (Coating Type) |
| D | LQH | for Choke |
| C | LQH | for Choke (Coating Type) |
| S | LQH | for Choke (Magnetically Shielded Type) |
| H | LQH | for High-frequency Resonant Circuit |
| P | LQM/LQH | for Power Line |

⑤ Category

| Code | Category |
|------|---------------|
| N | Standard Type |
| S | |

⑥ Inductance

Expressed by three-digit alphanumerics. The unit is micro-henry (μH). The first and second figures are significant digits, and the third figure expresses the number of zeros which follow the two figures. If there is a decimal point, it is expressed by the capital letter "R". In this case, all figures are significant digits. If inductance is less than 0.1μH, the inductance code is expressed by a combination of two figures and the capital letter "N", and the unit of inductance is nano-henry (nH).

The capital letter "N" indicates the unit of "nH", and also expresses a decimal point. In this case, all figures are significant digits.

⑦ Inductance Tolerance

| Code | Inductance Tolerance |
|------|----------------------|
| B | ±0.1nH |
| C | ±0.2nH |
| D | ±0.5nH |
| G | ±2% |
| H | ±3% |
| J | ±5% |
| K | ±10% |
| M | ±20% |
| N | ±30% |
| S | ±0.3nH |
| W | ±0.05nH |

⑧ Features (Except LQH3NP/LQM21P/LQM31P_C0)

| Code | Features | Series |
|------|------------------------------|------------------------|
| 0 | Standard Type | LQG/LQP/LQW/LQM*/LQH*2 |
| 1 | High-Q/ Low DC Resistance | LQW15A/18A/2BH |
| | Standard Type | LQM21N |
| 2 | Standard Type | LQH32C/32M |
| 3 | Low DC Resistance | LQH32C |
| 5 | Low Profile Type | LQH2MC/32C |
| 7 | Large Current Type | LQM21F |

*1 : Except LQM21N Series

*2 : Except LQH32 Series

⑨ Features (LQH3NP/LQM21P/LQM31P_C0 Only)

| Code | Dimensions (T) |
|------|----------------|
| C | 0.5mm |
| G | 0.9mm |

⑩ Electrode

•Lead (Pb) Free

| Code | Electrode | Series |
|------|-----------|------------------------------------|
| 0 | Sn | LQG18H/LQP03T/LQW□□A/LQM/LQH3NP |
| 2 | | LQG15H/LQP02T/LQP15T/LQP□□M/LQH2MC |
| 3 | LF Solder | LQW□□H/LQH (Except LQH2MC) |
| 4 | Au | LQP03T |

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(Part Number)

| | | | | | | | | | |
|----|---|----|---|---|-----|---|---|---|---|
| LQ | H | 32 | M | N | 331 | K | 2 | 3 | L |
| ① | ② | ③ | ④ | ⑤ | ⑥ | ⑦ | ⑧ | ⑨ | ⑩ |

ⓐPackaging

| Code | Packaging | Series |
|----------|-------------------------------|---|
| K | Embossed Taping (ø330mm Reel) | LQH^{*1} /LQW□□H/LQM31F/LQM21^{*2} |
| L | Embossed Taping (ø180mm Reel) | LQH/LQW□□H/LQM31F/LQM21^{*2} /LQM31P |
| B | Bulk | LQH2MC/LQW/LQG/LQM/LQP |
| J | Paper Taping (ø330mm Reel) | LQW15A/LQW18A/LQG/LQM18/LQM21^{*3} /LQP^{*5} |
| D | Paper Taping (ø180mm Reel) | LQW□□A/LQG/LQM18/LQM21^{*4} /LQP |

^{*1} Except LQH2MC/LQH3NP/LOH43C
^{*2} LQM21D(22 - 47μH)/LQM21F(4.7 - 47μH)/LOM21N(2.7 - 4.7μH) only.
^{*3} LQM21D(1.0 - 10μH)/LQM21F(1.0 - 2.2μH)/LOM21N(0.1 - 2.2μH) only.
^{*4} LQM21D(1.0 - 10μH)/LQM21F(1.0 - 2.2μH)/LOM21N(0.1 - 2.2μH)/LOM21P only.
^{*5} Except LQP15T