

CHIP COIL



Miniature Chip Coil **LQH1C/LQH3C/LQH4C** Series for Power Line Choke

Miniature Chip Coil for Power Line Choke Has High Current Capacity, Low DC Resistance, Large Inductance

The LQH1C, LQH3C and LQH4C series consist of miniature chip coils with low DC resistance, high current capacity, and high impedance characteristics. These features are made possible by the development of Murata's innovative automatic winding techniques. They are excellent for use as choke coils in DC power supply circuits.

FEATURES

1. The LQH1C, LQH3C and LQH4C series have an open magnetic structure. The series have a combined inductance range of 0.12μH to 560μH and are applicable in a wide variety of applications.
2. The series exhibit low voltage drops and small variations in inductance with respect to temperature rise and DC current level. This makes them excellent for use as power supply line choke coils.
3. The series has excellent solder heat resistance. Both flow and reflow soldering methods can be employed.

● LQH1C

Miniature size (3.2×1.6×1.8mm) allows parallel mounting at 2.5mm pitch. Despite their small size, at 0.12μH these coils have a maximum current rating of 970mA.

● LQH3C

The low DC resistance means high current and high inductance.

For inductance ranging from 0.15μH to 10μH, LQH3C coils have very low DC resistance.

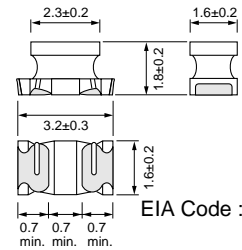
● LQH4C

The LQH4C has miniature size 4.5mm×3.2mm and realized low height 2.8mm max.



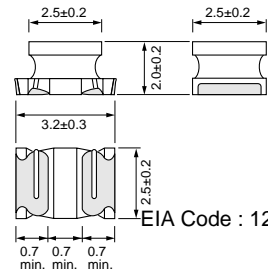
DIMENSIONS

LQH1C Type



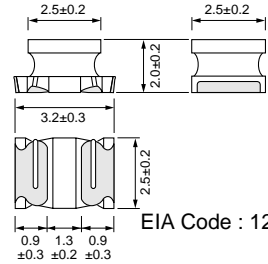
EIA Code : 1206

LQH3C xx24 Series



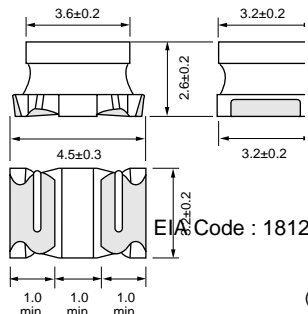
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LQH3C xx34 Series



EIA Code : 1210

LQH4C Type



EIA Code : 1812

(in mm)

■SPECIFICATIONS

LQH1C

| Part Number | Inductance | | | DC Resistance (Ω) | Self-resonant Frequency (MHz) | | Allowable Current (mA) | Operating Temp. Range |
|-------------|--------------------|---------------|----------------|-------------------|-------------------------------|------|------------------------|-----------------------|
| | Nominal Value (μH) | Tolerance (%) | Test Frequency | | Typ. | Min. | | |
| LQH1CR12M04 | 0.12 | ±20 | 1MHz | 0.08±40% | 900 | 250 | 970 | -25 to +85°C |
| LQH1CR22M04 | 0.22 | | | 0.10±40% | 570 | | 850 | |
| LQH1CR47M04 | 0.47 | | | 0.15±40% | 310 | 180 | 700 | |
| LQH1C1R0M04 | 1.0 | | | 0.28±30% | 190 | 100 | 510 | |
| LQH1C2R2M04 | 2.2 | | | 0.41±30% | 110 | 50 | 430 | |
| LQH1C4R7M04 | 4.7 | | | 0.65±30% | 67 | 31 | 340 | |
| LQH1C100K04 | 10 | ±10 | 1MHz | 1.3 ±30% | 42 | 20 | 230 | |
| LQH1C220K04 | 22 | | | 3.0 ±30% | 26 | 14 | 160 | |
| LQH1C470K04 | 47 | | | 8.0 ±30% | 18 | 10 | 100 | |
| LQH1C101K04 | 100 | | | 12.0 ±30% | 12 | 7 | 80 | |

LQH3C

| Part Number | Inductance | | | DC Resistance (Ω) | Self-resonant Frequency (MHz) | | Allowable Current (mA) | Operating Temp. Range |
|--------------|--------------------|---------------|----------------|-------------------|-------------------------------|------|------------------------|-----------------------|
| | Nominal Value (μH) | Tolerance (%) | Test Frequency | | Typ. | Min. | | |
| LQH3CR15M24* | 0.15 | ±20 | 1MHz | 0.028±30% | 680 | 400 | 1450 | -25 to +85°C |
| LQH3CR27M24* | 0.27 | | | 0.034±30% | 490 | 250 | 1250 | |
| LQH3CR47M24* | 0.47 | | | 0.042±30% | 370 | 150 | 1100 | |
| LQH3C1R0M24* | 1.0 | | | 0.060±30% | 200 | 100 | 1000 | |
| LQH3C2R2M24* | 2.2 | | | 0.097±30% | 120 | 64 | 790 | |
| LQH3C4R7M24* | 4.7 | | | 0.15 ±30% | 77 | 43 | 650 | |
| LQH3C100K24* | 10 | ±10 | 1MHz | 0.30 ±30% | 50 | 26 | 450 | |
| LQH3C1R0M34 | 1.0 | ±20 | | 0.09 ±30% | 150 | 96 | 800 | |
| LQH3C2R2M34 | 2.2 | | | 0.13 ±30% | 100 | 64 | 600 | |
| LQH3C4R7M34 | 4.7 | | | 0.20 ±30% | 66 | 43 | 450 | |
| LQH3C100K34 | 10 | ±10 | | 0.44 ±30% | 40 | 26 | 300 | |
| LQH3C220K34 | 22 | | | 0.71 ±30% | 27 | 19 | 250 | |
| LQH3C470K34 | 47 | | | 1.3 ±30% | 19 | 15 | 170 | |
| LQH3C101K34 | 100 | | | 3.5 ±30% | 13 | 10 | 100 | |
| LQH3C221K34 | 220 | | | 8.4 ±30% | 8.5 | 6.8 | 70 | |
| LQH3C331K34 | 330 | | | 10.0 ±30% | 7.0 | 5.6 | 60 | |
| LQH3C391K34 | 390 | 1kHz | | 17.0 ±30% | 6.6 | 5.0 | | |
| LQH3C471K34 | 470 | | | 19.0 ±30% | 6.2 | | | |
| LQH3C561K34 | 560 | 22.0 ±30% | 5.7 | | | | | |

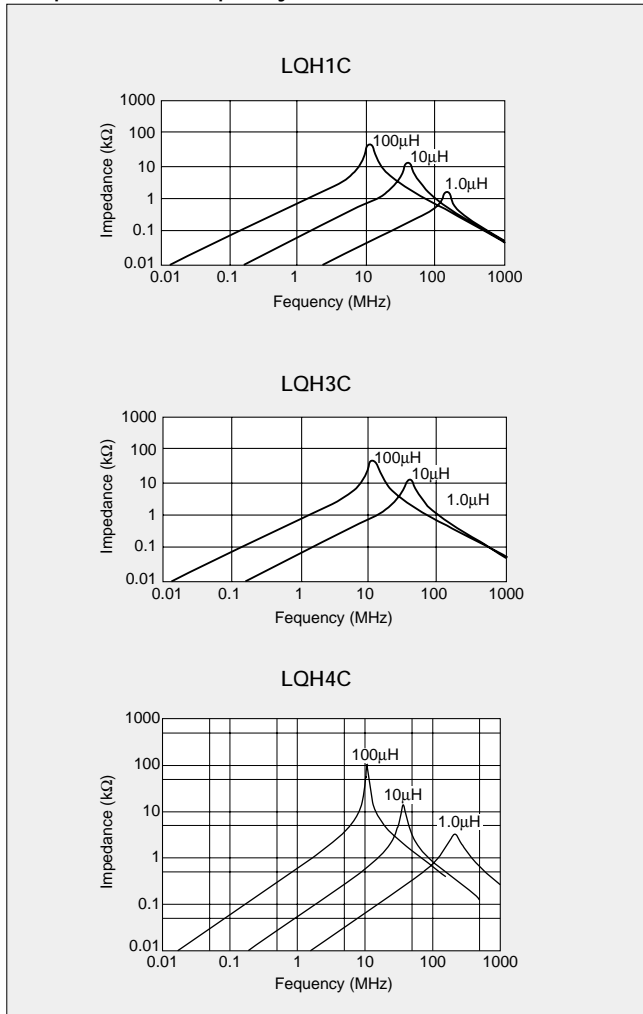
*Low DC Resistance type.

LQH4C

| Part Number | Inductance | | | DC Resistance (Ω max.) | Self-resonant Frequency (MHz) | Allowable Current (mA) | Operating Temp. Range |
|-------------|--------------------|---------------|----------------|------------------------|-------------------------------|------------------------|-----------------------|
| | Nominal Value (μH) | Tolerance (%) | Test Frequency | | | | |
| LQH4C1R0M04 | 1.0 | ±20 | 1MHz | 0.08 | 100 | 1080 | -25 to +85°C |
| LQH4C1R5M04 | 1.5 | | | 0.09 | 85 | 1000 | |
| LQH4C2R2M04 | 2.2 | | | 0.11 | 60 | 900 | |
| LQH4C3R3M04 | 3.3 | | | 0.13 | 47 | 800 | |
| LQH4C4R7M04 | 4.7 | | | 0.15 | 35 | 750 | |
| LQH4C6R8M04 | 6.8 | | | 0.20 | 30 | 720 | |
| LQH4C100K04 | 10 | ±10 | | 0.24 | 23 | 650 | |
| LQH4C150K04 | 15 | | | 0.32 | 20 | 570 | |
| LQH4C220K04 | 22 | | | 0.6 | 15 | 420 | |
| LQH4C330K04 | 33 | | | 1.0 | 12 | 310 | |
| LQH4C470K04 | 47 | | | 1.1 | 10 | 280 | |
| LQH4C680K04 | 68 | | | 1.7 | 8.4 | 220 | |
| LQH4C101K04 | 100 | | 2.2 | 6.8 | 190 | | |
| LQH4C151K04 | 150 | | 3.5 | 5.5 | 130 | | |
| LQH4C221K04 | 220 | | 4.0 | 4.5 | 110 | | |
| LQH4C331K04 | 330 | | 6.8 | 3.6 | 100 | | |
| LQH4C471K04 | 470 | | 8.5 | 3.0 | 90 | | |

■ TYPICAL ELECTRICAL CHARACTERISTICS

● Impedance - Frequency Characteristics



● Direct Current Characteristics

