

LQH1N/3N/4N Series



The chip coil LQH/LQN Series comprises subminiature chip inductors wound on a special ferrite core made possible by an automatic winding technique developed by Murata Electronics. These inductors have a high Q at high frequencies and low DC resistance, making them suited for enhancing the performance of electronic circuits in video, communications and audio equipment.

LQH1N

The sub-miniature dimensions (3.2 x 1.6 x 1.8mm) allow parallel mounting on 2.5mm centers. This series is suitable for portable audio-visual equipment.

LQH3N

High Q value makes the series suitable for circuits up to 100MHz in frequency. This series is excellent for video equipment.

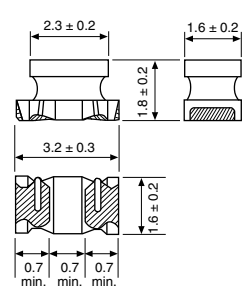
LQH(N)4N

This series is available with high inductance values and high current capacity. At 10 μ H, up to 450mA designs are possible, resulting in excellent performance when the series is used as a choke coil.

PART NUMBERING SYSTEM

| TYPE | SIZE | APPLICATION | INDUCTANCE CODE | TOLERANCE | ELECTRODE MATERIAL | UNMARKED |
|-------------------------------|---|----------------|---|---|------------------------|----------|
| LQH: Epoxy coating on winding | 1: 3.2 x 1.6mm (1206) 3: 3.2 x 2.5mm (1210) 4: 4.5 x 3.2mm (1812) | N: General Use | R22: 0.22 μ H 2R2: 2.2 μ H 220: 22 μ H 221: 220 μ H 102: 1000 μ H | J: \pm 5% K: \pm 10% M: \pm 20% | 04/34: Nickel & Solder | |

SPECIFICATIONS

| Dimensions: mm | Part Number | Inductance | | | Q | | DC Resistance (Ohms) | Self-resonant Frequency (MHz min.) | Allowable Current (mA) | Operating Temp. Range |
|---|------------------|--------------------------|---------------------------|-----------------------------|----------------------|-----------------------------|----------------------|------------------------------------|------------------------|-----------------------|
| | | Nominal Value (μ H) | Tolerance (%) | Measurement Frequency (MHz) | Nominal Value (min.) | Measurement Frequency (MHz) | | | | |
|  | *LQH1NR15M(K)04 | 0.15 | * \pm 20 (\pm 10) | 1 | 20 | 25 | 0.39 \pm 40% | 250 | 250 | -25°C ~ +85°C |
| | *LQH1NR22M(K)04 | 0.22 | | | | | 0.43 \pm 40% | 250 | 240 | |
| | *LQH1NR33M(K)04 | 0.33 | | | | | 0.45 \pm 40% | 250 | 230 | |
| | *LQH1NR47M(K)04 | 0.47 | | | | | 0.83 \pm 40% | 200 | 215 | |
| | *LQH1NR56M(K)04 | 0.56 | | | | | 0.61 \pm 40% | 180 | 200 | |
| | *LQH1NR68M(K)04 | 0.68 | | | | | 0.67 \pm 40% | 160 | 190 | |
| | *LQH1NR82M(K)04 | 0.82 | | | | | 0.73 \pm 40% | 120 | 185 | |
| | *LQH1N1R0M(K)04 | 1.0 | | | | | 0.49 \pm 30% | 100 | 175 | |
| | *LQH1N1R2M(K)04 | 1.2 | | | | | 0.9 \pm 30% | 90 | 165 | |
| | *LQH1N1R5(K.J)04 | 1.5 | | | | | 1.0 \pm 30% | 75 | 155 | |
| | *LQH1N1R8(K.J)04 | 1.8 | 1.6 \pm 30% | 60 | 150 | | | | | |
| | *LQH1N2R2(K.J)04 | 2.2 | 0.7 \pm 30% | 50 | 140 | | | | | |
| | *LQH1N2R7(K.J)04 | 2.7 | 0.55 \pm 30% | 43 | 135 | | | | | |
| | *LQH1N3R3(K.J)04 | 3.3 | 1.4 \pm 30% | 38 | 130 | | | | | |
| | *LQH1N3R9(K.J)04 | 3.9 | 1.5 \pm 30% | 35 | 125 | | | | | |
| | *LQH1N4R7(K.J)04 | 4.7 | 1.7 \pm 30% | 31 | 120 | | | | | |
| | *LQH1N5R6(K.J)04 | 5.6 | 1.8 \pm 30% | 28 | 115 | | | | | |
| | *LQH1N6R8(K.J)04 | 6.8 | 2.0 \pm 30% | 25 | 110 | | | | | |
| | *LQH1N8R2(K.J)04 | 8.2 | 2.2 \pm 30% | 23 | 105 | | | | | |
| | *LQH1N100K(J)04 | 10 | 2.5 \pm 30% | 20 | 100 | | | | | |
| | *LQH1N120K(J)04 | 12 | 2.7 \pm 30% | 18 | 95 | | | | | |
| | *LQH1N150K(J)04 | 15 | 3.0 \pm 30% | 16 | 90 | | | | | |
| | *LQH1N180K(J)04 | 18 | 3.4 \pm 30% | 15 | 85 | | | | | |
| | *LQH1N220K(J)04 | 22 | 3.1 \pm 30% | 14 | 85 | | | | | |
| | *LQH1N270K(J)04 | 27 | 3.4 \pm 30% | 13 | 85 | | | | | |
| | *LQH1N330K(J)04 | 33 | 3.8 \pm 30% | 12 | 80 | | | | | |
| | *LQH1N390K(J)04 | 39 | 7.2 \pm 30% | 11 | 55 | | | | | |
| | *LQH1N470K(J)04 | 47 | 8.0 \pm 30% | 10 | 55 | | | | | |
| | *LQH1N560K(J)04 | 56 | 8.9 \pm 30% | 9.0 | 50 | | | | | |
| | *LQH1N680K(J)04 | 68 | 9.9 \pm 30% | 8.5 | 50 | | | | | |
| *LQH1N820K(J)04 | 82 | 11 \pm 30% | 7.5 | 45 | | | | | | |
| *LQH1N101K(J)04 | 100 | 12 \pm 30% | 7.0 | 45 | | | | | | |

* Available as standard through authorized Murata Electronics Distributors.

SPECIFICATIONS

| Dimensions: mm | Part Number | Inductance | | | Q | | DC Resistance (Ohms) max. | Self-resonant Frequency (MHz min.) | Allowable Current (mA) | Operating Temp. Range |
|-----------------|-----------------|--------------------|---------------|-----------------------------|----------------------|-----------------------|---------------------------|------------------------------------|------------------------|-----------------------|
| | | Nominal Value (μH) | Tolerance (%) | Measurement Frequency (MHz) | Nominal Value (min.) | Measurement Frequency | | | | |
| | *LQH3NR10M34 | 0.10 | *±20 | 1 | 20 | 25.2MHz | 0.25 | 200 | 700 | -25°C ~ +85°C |
| | *LQH3NR18M34 | 0.18 | | | | | 0.25 | 200 | 650 | |
| | *LQH3NR27M34 | 0.27 | | | | | 0.25 | 200 | 600 | |
| | *LQH3NR39M34 | 0.39 | | | | | 0.25 | 200 | 530 | |
| | *LQH3NR56M34 | 0.56 | | | | | 0.25 | 160 | 530 | |
| | *LQH3NR68M34 | 0.68 | | | | | 0.25 | 160 | 470 | |
| | *LQH3NR82M34 | 0.82 | | | | | 0.25 | 120 | 450 | |
| | *LQH3N1R0M34 | 1.0 | | | | | 0.5 | 100 | 445 | |
| | *LQH3N1R2M34 | 1.2 | | | | | 0.6 | 100 | 425 | |
| | *LQH3N1R5K(M)34 | 1.5 | | | | | 0.6 | 75 | 400 | |
| | *LQH3N1R8K(M)34 | 1.8 | 0.7 | 60 | 390 | | | | | |
| | *LQH3N2R2K(M)34 | 2.2 | 0.8 | 50 | 370 | | | | | |
| | *LQH3N2R7K(M)34 | 2.7 | 0.9 | 43 | 320 | | | | | |
| | *LQH3N3R3K(M)34 | 3.3 | 1.0 | 38 | 300 | | | | | |
| | *LQH3N3R9K(M)34 | 3.9 | 1.1 | 35 | 290 | | | | | |
| | *LQH3N4R7K(M)34 | 4.7 | 1.2 | 31 | 270 | | | | | |
| | *LQH3N5R6K(M)34 | 5.6 | 1.3 | 28 | 250 | | | | | |
| | *LQH3N6R8K(M)34 | 6.8 | 1.5 | 25 | 240 | | | | | |
| | *LQH3N8R2K(M)34 | 8.2 | 1.6 | 23 | 225 | | | | | |
| | *LQH3N100J(K)34 | 10 | 1.8 | 20 | 190 | | | | | |
| | *LQH3N120J(K)34 | 12 | 2.0 | 18 | 180 | | | | | |
| | *LQH3N150J(K)34 | 15 | 2.2 | 16 | 170 | | | | | |
| | *LQH3N180J(K)34 | 18 | 2.5 | 15 | 165 | | | | | |
| | *LQH3N220J(K)34 | 22 | 2.8 | 14 | 150 | | | | | |
| | *LQH3N270J(K)34 | 27 | 3.1 | 13 | 125 | | | | | |
| | *LQH3N330J(K)34 | 33 | 3.5 | 12 | 115 | | | | | |
| | *LQH3N390J(K)34 | 39 | 3.9 | 11 | 110 | | | | | |
| | *LQH3N470J(K)34 | 47 | 4.3 | 11 | 100 | | | | | |
| | *LQH3N560J(K)34 | 56 | 4.9 | 10 | 85 | | | | | |
| | *LQH3N680J(K)34 | 68 | 5.5 | 9.0 | 80 | | | | | |
| | *LQH3N820J(K)34 | 82 | 6.2 | 8.5 | 70 | | | | | |
| | *LQH3N101J(K)34 | 100 | 7.0 | 8.0 | 80 | | | | | |
| | *LQH3N121J(K)34 | 120 | 8.0 | 7.5 | 75 | | | | | |
| | *LQH3N151J(K)34 | 150 | 9.3 | 7.0 | 70 | | | | | |
| | *LQH3N181J(K)34 | 180 | 10.2 | 6.0 | 65 | | | | | |
| | *LQH3N221J(K)34 | 220 | 11.8 | 5.5 | 65 | | | | | |
| | *LQH3N271J(K)34 | 270 | 12.5 | 5.0 | 65 | | | | | |
| | *LQH3N331J(K)34 | 330 | 13.0 | 5.0 | 65 | | | | | |
| | *LQH3N391J(K)34 | 390 | 22.0 | 5.0 | 50 | | | | | |
| | *LQH3N471J(K)34 | 470 | 25.0 | 5.0 | 45 | | | | | |
| *LQH3N561J(K)34 | 560 | 28.0 | 5.0 | 40 | | | | | | |
| | | | (±20) | | 20 | | | | | |
| | | | *±10 | | 35 | 1MHz | | | | |
| | | | (±10) | | 40 | 796kHz | | | | |
| | | | *±5 | | 50 | | | | | |
| | | | | 1kHz | | | | | | |

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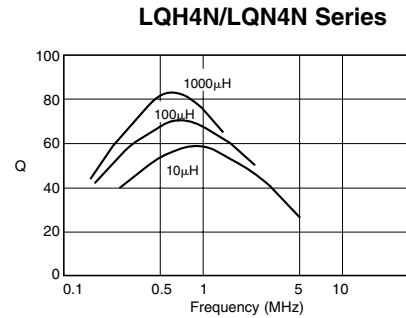
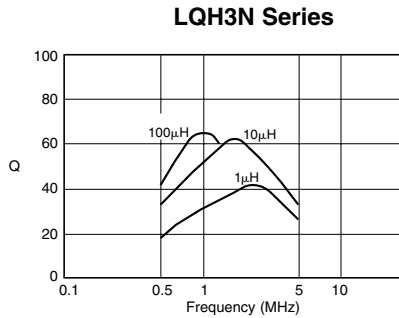
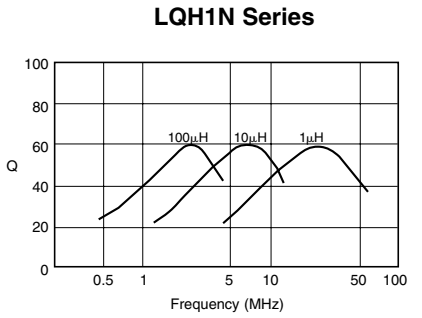
SPECIFICATIONS

| Dimensions: mm | Part Number | Inductance | | | Q | | DC Resistance (Ohms) max. | Self-resonant Frequency (MHz min.) | Allowable Current (mA) | Operating Temp. Range |
|-----------------|-----------------|--------------------|---------------|-----------------------|----------------------|-----------------------|---------------------------|------------------------------------|------------------------|-----------------------|
| | | Nominal Value (μH) | Tolerance (%) | Measurement Frequency | Nominal Value (min.) | Measurement Frequency | | | | |
| | LQH4N1R0M04 | 1.0 | *±20 | 1MHz | 20 | 1MHz | 0.20 | 120 | 500 | -25°C ~ +85°C |
| | LQH4N1R2M04 | 1.2 | | | | | 100 | | | |
| | LQH4N1R5M04 | 1.5 | | | | | 85 | | | |
| | LQH4N1R8M04 | 1.8 | | | | | 75 | | | |
| | LQH4N2R2M04 | 2.2 | | | | | 62 | | | |
| | LQH4N2R7M04 | 2.7 | | | | | 53 | | | |
| | LQH4N3R3M04 | 3.3 | | | | | 47 | | | |
| | LQH4N3R9M04 | 3.9 | | | | | 41 | | | |
| | LQH4N4R7M(K)04 | 4.7 | | | | | 38 | | | |
| | LQH4N5R6M(K)04 | 5.6 | | | | | 33 | | | |
| | LQH4N6R8M(K)04 | 6.8 | 31 | | 450 | | | | | |
| | LQH4N8R2M(K)04 | 8.2 | 27 | | | | | | | |
| | *LQH4N100K(J)04 | 10 | 23 | | 400 | | | | | |
| | *LQH4N120K(J)04 | 12 | 21 | | 380 | | | | | |
| | *LQH4N150K(J)04 | 15 | 19 | | 360 | | | | | |
| | *LQH4N180K(J)04 | 18 | 17 | | 340 | | | | | |
| | *LQH4N220K(J)04 | 22 | 15 | | 320 | | | | | |
| | *LQH4N270K(J)04 | 27 | 14 | | 300 | | | | | |
| | *LQH4N330K(J)04 | 33 | 12 | | 270 | | | | | |
| | *LQH4N390K(J)04 | 39 | 11 | | 240 | | | | | |
| | *LQH4N470K(J)04 | 47 | 10 | 220 | | | | | | |
| | *LQH4N560K(J)04 | 56 | 9.3 | 200 | | | | | | |
| | *LQH4N680K(J)04 | 68 | 8.4 | 180 | | | | | | |
| | *LQH4N820K(J)04 | 82 | 7.5 | 170 | | | | | | |
| | *LQH4N101K(J)04 | 100 | 6.8 | 160 | | | | | | |
| | *LQH4N121K(J)04 | 120 | 6.2 | 150 | | | | | | |
| | *LQH4N151K(J)04 | 150 | 5.5 | 130 | | | | | | |
| | *LQH4N181K(J)04 | 180 | 5.0 | 120 | | | | | | |
| | *LQH4N221K(J)04 | 220 | 4.5 | 110 | | | | | | |
| | *LQH4N271K(J)04 | 270 | 4.0 | 100 | | | | | | |
| | *LQH4N331K(J)04 | 330 | 3.6 | 95 | | | | | | |
| | *LQH4N391K(J)04 | 390 | 3.3 | 90 | | | | | | |
| | *LQH4N471K(J)04 | 470 | 3.0 | 80 | | | | | | |
| | *LQH4N561K(J)04 | 560 | 2.7 | 70 | | | | | | |
| | *LQH4N681K(J)04 | 680 | 2.5 | 65 | | | | | | |
| | *LQH4N821K(J)04 | 820 | 2.2 | 60 | | | | | | |
| | *LQH4N102K(J)04 | 1000 | 2.0 | 50 | | | | | | |
| | *LQH4N122K(J)04 | 1200 | 1.8 | 45 | | | | | | |
| | *LQH4N152K(J)04 | 1500 | 1.6 | 40 | | | | | | |
| | *LQN4N182K(J)04 | 1800 | 1.5 | 35 | | | | | | |
| *LQN4N222K(J)04 | 2200 | 1.3 | 30 | | | | | | | |

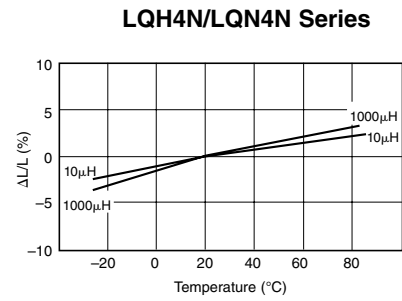
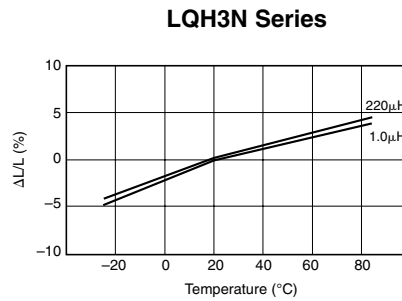
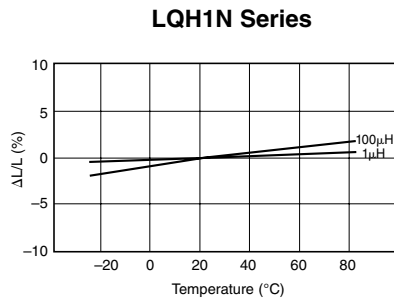
*Available as standard through authorized Murata Electronics Distributors.

TYPICAL ELECTRICAL CHARACTERISTICS

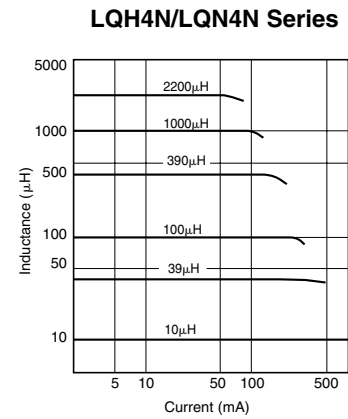
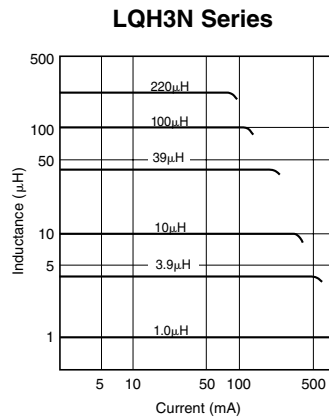
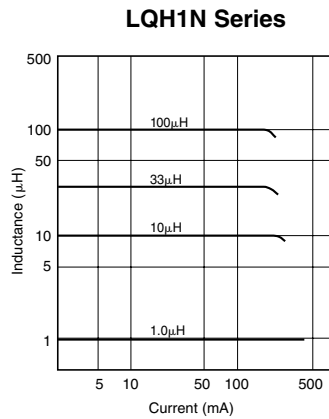
Q-FREQUENCY CHARACTERISTICS



INDUCTANCE-TEMPERATURE CHARACTERISTICS

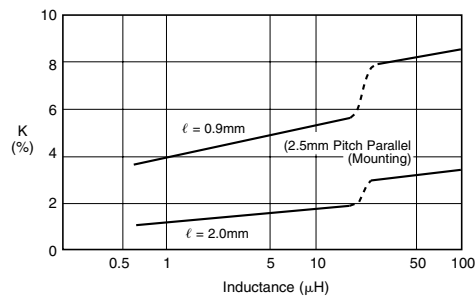


INDUCTANCE-CURRENT CHARACTERISTICS



COUPLING FACTOR

LQH1N Series



SURFACE MOUNT INDUCTORS