# **Data Sheet**

# LQH31MN\_03 Series 1206/3216 (inch/mm)





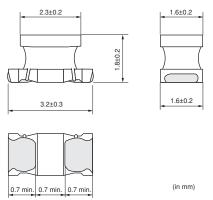








### Dimensions



## Packaging

| Code | Packaging              | Minimum Quantity |  |  |
|------|------------------------|------------------|--|--|
| L    | ø180mm Embossed Taping | 2000             |  |  |
| K    | ø330mm Embossed Taping | 7500             |  |  |

# ■ Rated Value (□: packaging code)

| Part Number    | Inductance  | Inductance<br>Test Frequency | Rated Current | DC Resistance | Q (min.) | Q Test Frequency | Self-Resonance<br>Frequency (min.) |
|----------------|-------------|------------------------------|---------------|---------------|----------|------------------|------------------------------------|
| LQH31MNR15K03□ | 0.15µH ±10% | 1MHz                         | 250mA         | 0.39Ω±40%     | 20       | 25.2MHz          | 250MHz                             |
| LQH31MNR22K03□ | 0.22µH ±10% | 1MHz                         | 240mA         | 0.43Ω±40%     | 20       | 25.2MHz          | 250MHz                             |
| LQH31MNR33K03□ | 0.33µH ±10% | 1MHz                         | 230mA         | 0.45Ω±40%     | 30       | 25.2MHz          | 250MHz                             |
| LQH31MNR47K03□ | 0.47µH ±10% | 1MHz                         | 215mA         | 0.83Ω±40%     | 30       | 25.2MHz          | 200MHz                             |
| LQH31MNR56K03□ | 0.56µH ±10% | 1MHz                         | 200mA         | 0.61 Ω ±40%   | 30       | 25.2MHz          | 180MHz                             |
| LQH31MNR68K03□ | 0.68µH ±10% | 1MHz                         | 190mA         | 0.67Ω±40%     | 30       | 25.2MHz          | 160MHz                             |
| LQH31MNR82K03□ | 0.82µH ±10% | 1MHz                         | 185mA         | 0.73Ω±40%     | 30       | 25.2MHz          | 120MHz                             |
| LQH31MN1R0K03□ | 1.0µH ±10%  | 1MHz                         | 175mA         | 0.49Ω±30%     | 35       | 10MHz            | 100MHz                             |
| LQH31MN1R2J03□ | 1.2µH ±5%   | 1MHz                         | 165mA         | 0.37Ω±30%     | 35       | 10MHz            | 90MHz                              |
| LQH31MN1R2K03□ | 1.2µH ±10%  | 1MHz                         | 165mA         | 0.9Ω±30%      | 35       | 10MHz            | 90MHz                              |
| LQH31MN1R5J03□ | 1.5µH ±5%   | 1MHz                         | 155mA         | 1.0Ω±30%      | 35       | 10MHz            | 75MHz                              |
| LQH31MN1R5K03□ | 1.5µH ±10%  | 1MHz                         | 155mA         | 1.0Ω±30%      | 35       | 10MHz            | 75MHz                              |
| LQH31MN1R8J03□ | 1.8µH ±5%   | 1MHz                         | 150mA         | 1.6Ω±30%      | 35       | 10MHz            | 60MHz                              |
| LQH31MN1R8K03□ | 1.8µH ±10%  | 1MHz                         | 150mA         | 1.6Ω±30%      | 35       | 10MHz            | 60MHz                              |
| LQH31MN2R2J03□ | 2.2µH ±5%   | 1MHz                         | 140mA         | 0.7Ω±30%      | 35       | 10MHz            | 50MHz                              |
| LQH31MN2R2K03□ | 2.2µH ±10%  | 1MHz                         | 140mA         | 0.7Ω±30%      | 35       | 10MHz            | 50MHz                              |
| LQH31MN2R7J03□ | 2.7µH ±5%   | 1MHz                         | 135mA         | 0.55Ω±30%     | 35       | 10MHz            | 43MHz                              |
| LQH31MN2R7K03□ | 2.7µH ±10%  | 1MHz                         | 135mA         | 0.55Ω±30%     | 35       | 10MHz            | 43MHz                              |
| LQH31MN3R3J03□ | 3.3µH ±5%   | 1MHz                         | 130mA         | 0.61Ω±30%     | 35       | 8MHz             | 38MHz                              |
| LQH31MN3R3K03□ | 3.3µH ±10%  | 1MHz                         | 130mA         | 0.61Ω±30%     | 35       | 8MHz             | 38MHz                              |
| LQH31MN3R9J03□ | 3.9µH ±5%   | 1MHz                         | 125mA         | 1.5Ω±30%      | 35       | 8MHz             | 35MHz                              |
| LQH31MN3R9K03□ | 3.9µH ±10%  | 1MHz                         | 125mA         | 1.5Ω±30%      | 35       | 8MHz             | 35MHz                              |
| LQH31MN4R7J03□ | 4.7µH ±5%   | 1MHz                         | 120mA         | 1.7Ω±30%      | 35       | 8MHz             | 31MHz                              |
| LQH31MN4R7K03□ | 4.7µH ±10%  | 1MHz                         | 120mA         | 1.7Ω±30%      | 35       | 8MHz             | 31MHz                              |
| LQH31MN5R6J03□ | 5.6µH ±5%   | 1MHz                         | 115mA         | 1.8Ω±30%      | 35       | 8MHz             | 28MHz                              |

Class of Magnetic Shield: No magnetic shield

Operating Temperature Range (Self-temperature rise is not included): -40~85°C

Continued on the following page.



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| Part Number    | Inductance | Inductance<br>Test Frequency | Rated Current | DC Resistance | Q (min.) | Q Test Frequency | Self-Resonance<br>Frequency (min.) |
|----------------|------------|------------------------------|---------------|---------------|----------|------------------|------------------------------------|
| LQH31MN5R6K03□ | 5.6µH ±10% | 1MHz                         | 115mA         | 1.8Ω±30%      | 35       | 8MHz             | 28MHz                              |
| LQH31MN6R8J03□ | 6.8µH ±5%  | 1MHz                         | 110mA         | 2.0Ω±30%      | 35       | 8MHz             | 25MHz                              |
| LQH31MN6R8K03□ | 6.8µH ±10% | 1MHz                         | 110mA         | 2.0Ω±30%      | 35       | 8MHz             | 25MHz                              |
| LQH31MN8R2J03□ | 8.2µH ±5%  | 1MHz                         | 105mA         | 2.2Ω±30%      | 35       | 8MHz             | 23MHz                              |
| LQH31MN8R2K03□ | 8.2µH ±10% | 1MHz                         | 105mA         | 2.2Ω±30%      | 35       | 8MHz             | 23MHz                              |
| LQH31MN100J03□ | 10μH ±5%   | 1MHz                         | 100mA         | 2.5Ω±30%      | 35       | 5MHz             | 20MHz                              |
| LQH31MN100K03□ | 10μH ±10%  | 1MHz                         | 100mA         | 2.5Ω±30%      | 35       | 5MHz             | 20MHz                              |
| LQH31MN120J03□ | 12µH ±5%   | 1MHz                         | 95mA          | 2.7Ω±30%      | 35       | 5MHz             | 18MHz                              |
| LQH31MN120K03□ | 12µH ±10%  | 1MHz                         | 95mA          | 2.7Ω±30%      | 35       | 5MHz             | 18MHz                              |
| LQH31MN150J03□ | 15µH ±5%   | 1MHz                         | 90mA          | 3.0Ω±30%      | 35       | 5MHz             | 16MHz                              |
| LQH31MN150K03□ | 15µH ±10%  | 1MHz                         | 90mA          | 3.0Ω±30%      | 35       | 5MHz             | 16MHz                              |
| LQH31MN180J03□ | 18µH ±5%   | 1MHz                         | 85mA          | 3.4Ω±30%      | 35       | 5MHz             | 15MHz                              |
| LQH31MN180K03□ | 18µH ±10%  | 1MHz                         | 85mA          | 3.4Ω±30%      | 35       | 5MHz             | 15MHz                              |
| LQH31MN220J03□ | 22µH ±5%   | 1MHz                         | 85mA          | 3.1Ω±30%      | 40       | 2.5MHz           | 14MHz                              |
| LQH31MN220K03□ | 22μH ±10%  | 1MHz                         | 85mA          | 3.1Ω±30%      | 40       | 2.5MHz           | 14MHz                              |
| LQH31MN270J03□ | 27µH ±5%   | 1MHz                         | 85mA          | 3.4Ω±30%      | 40       | 2.5MHz           | 13MHz                              |
| LQH31MN270K03□ | 27μH ±10%  | 1MHz                         | 85mA          | 3.4Ω±30%      | 40       | 2.5MHz           | 13MHz                              |
| LQH31MN330J03□ | 33µH ±5%   | 1MHz                         | 80mA          | 3.8Ω±30%      | 40       | 2.5MHz           | 12MHz                              |
| LQH31MN330K03□ | 33μH ±10%  | 1MHz                         | 80mA          | 3.8Ω±30%      | 40       | 2.5MHz           | 12MHz                              |
| LQH31MN390J03□ | 39µH ±5%   | 1MHz                         | 55mA          | 7.2Ω±30%      | 40       | 2.5MHz           | 11MHz                              |
| LQH31MN390K03□ | 39μH ±10%  | 1MHz                         | 55mA          | 7.2Ω±30%      | 40       | 2.5MHz           | 11MHz                              |
| LQH31MN470J03□ | 47µH ±5%   | 1MHz                         | 55mA          | 8.0Ω±30%      | 40       | 2.5MHz           | 10MHz                              |
| LQH31MN470K03□ | 47μH ±10%  | 1MHz                         | 55mA          | 8.0Ω±30%      | 40       | 2.5MHz           | 10MHz                              |
| LQH31MN560J03□ | 56µH ±5%   | 1MHz                         | 50mA          | 8.9Ω±30%      | 40       | 2.5MHz           | 9.0MHz                             |
| LQH31MN560K03□ | 56μH ±10%  | 1MHz                         | 50mA          | 8.9Ω±30%      | 40       | 2.5MHz           | 9.0MHz                             |
| LQH31MN680J03□ | 68µH ±5%   | 1MHz                         | 50mA          | 9.9Ω±30%      | 40       | 2.5MHz           | 8.5MHz                             |
| LQH31MN680K03□ | 68μH ±10%  | 1MHz                         | 50mA          | 9.9Ω±30%      | 40       | 2.5MHz           | 8.5MHz                             |
| LQH31MN820J03□ | 82µH ±5%   | 1MHz                         | 45mA          | 11.0Ω±30%     | 40       | 2.5MHz           | 7.5MHz                             |
| LQH31MN820K03□ | 82μH ±10%  | 1MHz                         | 45mA          | 11.0Ω±30%     | 40       | 2.5MHz           | 7.5MHz                             |
| LQH31MN101J03□ | 100µH ±5%  | 1MHz                         | 45mA          | 12.0Ω±30%     | 40       | 2.5MHz           | 7.0MHz                             |
| LQH31MN101K03□ | 100µH ±10% | 1MHz                         | 45mA          | 12.0Ω±30%     | 40       | 2.5MHz           | 7.0MHz                             |

Class of Magnetic Shield: No magnetic shield

Operating Temperature Range (Self-temperature rise is not included): -40  $\sim$  85  $^{\circ}$ C

### ■ Notice (Rating)

When applied rated current to the products, self temperature rise shall be limited to 20°C max. and inductance will be within ±10% of initial inductance value.

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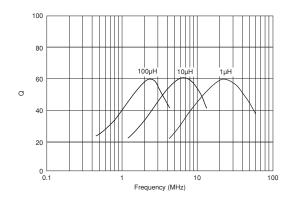
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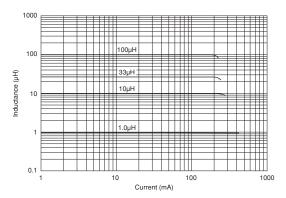
inductors (Colls) for General Circuits

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# ■ Q-Frequency Characteristics (Typ.)



# ■ Inductance-Current Characteristics (Typ.)



### ■ ①Caution/Notice

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Do not use products beyond the rated current as this may create excessive heat.

### Notice

**Data Sheet** 

Solderability of Tin plating termination chip might be deteriorated when low temperature soldering profile where peak solder temperature is below the Tin melting point is used. Please confirm the solderability of Tin plating termination chip before use.

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### Mote

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