

# SMD Inductors(Coils) For High Frequency(Multilayer)

Conformity to RoHS Directive

## MLG Series MLG0603Q Type\*

\* This product will be removed from the catalog at the end of March, 2011. Please consider our new MLG0603P series of products with equivalent characteristics.

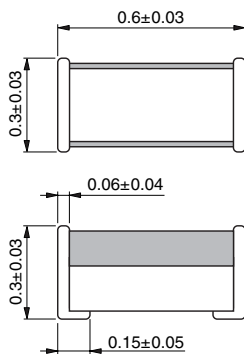
### FEATURES

- It serializes a product of inductance 0.2 to 100nH. In a product of 0.2 to 4.0nH, it realizes line up in a 0.1nH steps.
- By the most suitable design, Q is higher than competing in a conventional product MLG0603S type. In particular, Q in more than 800MHz largely improved.
- Advanced monolithic structure is formed using a multilayering and sintering process with ceramic and conductive materials for high-frequency.
- The products contain no lead and also support lead-free soldering.
- It is a product conforming to RoHS directive.

### APPLICATIONS

For high-frequency applications including mobile phones, high frequency modules (PA, VCO, FEM etc.), Bluetooth, W-LAN, UWB and tuners.

### SHAPES AND DIMENSIONS

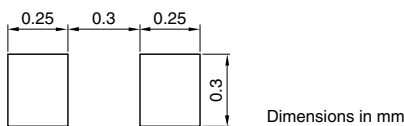


Weight: 0.2mg

Dimensions in mm

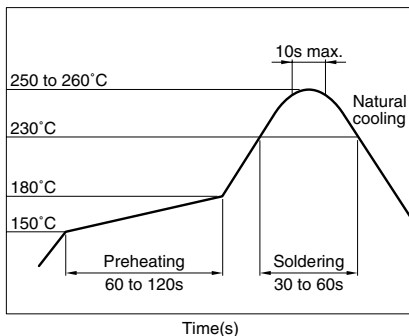


### RECOMMENDED PC BOARD PATTERN



Dimensions in mm

### RECOMMENDED SOLDERING CONDITION REFLOW SOLDERING



- Conformity to RoHS Directive: This means that, in conformity with EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

- Please contact our Sales office when your application are considered the following:

The device's failure or malfunction may directly endanger human life (e.g. application for automobile/aircraft/medical/nuclear power devices, etc.)

- All specifications are subject to change without notice.

### PRODUCT IDENTIFICATION

| MLG | 0603 | Q   | 2N2 | S   | T   |
|-----|------|-----|-----|-----|-----|
| (1) | (2)  | (3) | (4) | (5) | (6) |

(1) Series name

(2) Dimensions

|      |                 |
|------|-----------------|
| 0603 | 0.6×0.3mm (L×W) |
|------|-----------------|

(3) Material code

(4) Inductance value

|     |       |
|-----|-------|
| 2N2 | 2.2nH |
| 12N | 12nH  |

(5) Inductance tolerance

|   |        |
|---|--------|
| B | ±0.1nH |
| C | ±0.2nH |
| S | ±0.3nH |
| H | ±3%    |
| J | ±5%    |

(6) Packaging style

|   |               |
|---|---------------|
| T | Taping (reel) |
|---|---------------|

### SPECIFICATIONS

|                             |               |
|-----------------------------|---------------|
| Operating temperature range | −55 to +125°C |
| Storage temperature range   | −55 to +125°C |

### PACKAGING STYLE AND QUANTITIES

| Packaging style | Quantity          |
|-----------------|-------------------|
| Taping          | 15000 pieces/reel |

### HANDLING AND PRECAUTIONS

- Before soldering, be sure to preheat components.  
The preheating temperature should be set so that the temperature difference between the solder temperature and product temperature does not exceed 150°C.
- After mounting components onto the printed circuit board, do not apply stress through board bending or mishandling.
- When hand soldering, apply the soldering iron to the printed circuit board only. Temperature of the iron tip should not exceed 350°C. Soldering time should not exceed 3 seconds.

## ELECTRICAL CHARACTERISTICS

| Inductance<br>(nH) | Inductance<br>tolerance          | Q<br>min. | Test frequency<br>L, Q (MHz) | Self-resonant<br>frequency<br>(GHz) |       | DC resistance<br>( $\Omega$ ) |      | Rated current<br>(mA)max. | Part No.*     |
|--------------------|----------------------------------|-----------|------------------------------|-------------------------------------|-------|-------------------------------|------|---------------------------|---------------|
|                    |                                  |           |                              | min.                                | typ.  | max.                          | typ. |                           |               |
| 0.2                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 20 up | 0.10                          | 0.01 | 600                       | MLG0603Q0N2□T |
| 0.3                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 20 up | 0.10                          | 0.02 | 600                       | MLG0603Q0N3□T |
| 0.4                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 20 up | 0.10                          | 0.02 | 600                       | MLG0603Q0N4□T |
| 0.5                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 20 up | 0.10                          | 0.02 | 600                       | MLG0603Q0N5□T |
| 0.6                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 20 up | 0.10                          | 0.03 | 600                       | MLG0603Q0N6□T |
| 0.7                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 20 up | 0.10                          | 0.04 | 600                       | MLG0603Q0N7□T |
| 0.8                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 17.5  | 0.10                          | 0.03 | 600                       | MLG0603Q0N8□T |
| 0.9                | $\pm 0.1, \pm 0.2\text{nH}$      | —         | 100                          | 10.0                                | 16.3  | 0.10                          | 0.04 | 600                       | MLG0603Q0N9□T |
| 1.0                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 10.0                                | 14.2  | 0.10                          | 0.06 | 600                       | MLG0603Q1N0□T |
| 1.1                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 10.0                                | 14.9  | 0.15                          | 0.06 | 550                       | MLG0603Q1N1□T |
| 1.2                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 10.0                                | 14.7  | 0.15                          | 0.05 | 550                       | MLG0603Q1N2□T |
| 1.3                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 10.0                                | 13.6  | 0.15                          | 0.05 | 550                       | MLG0603Q1N3□T |
| 1.4                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 9.0                                 | 12.0  | 0.15                          | 0.06 | 550                       | MLG0603Q1N4□T |
| 1.5                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 9.0                                 | 10.7  | 0.20                          | 0.08 | 550                       | MLG0603Q1N5□T |
| 1.6                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 9.0                                 | 11.3  | 0.20                          | 0.08 | 500                       | MLG0603Q1N6□T |
| 1.7                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 8.5                                 | 10.0  | 0.20                          | 0.08 | 500                       | MLG0603Q1N7□T |
| 1.8                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 8.5                                 | 10.3  | 0.20                          | 0.09 | 500                       | MLG0603Q1N8□T |
| 1.9                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.5                                 | 8.9   | 0.20                          | 0.08 | 500                       | MLG0603Q1N9□T |
| 2.0                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.5                                 | 9.4   | 0.20                          | 0.09 | 500                       | MLG0603Q2N0□T |
| 2.1                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.5                                 | 8.8   | 0.20                          | 0.09 | 500                       | MLG0603Q2N1□T |
| 2.2                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.5                                 | 9.3   | 0.20                          | 0.08 | 500                       | MLG0603Q2N2□T |
| 2.3                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.5                                 | 10.0  | 0.30                          | 0.17 | 450                       | MLG0603Q2N3□T |
| 2.4                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.5                                 | 9.3   | 0.30                          | 0.14 | 450                       | MLG0603Q2N4□T |
| 2.5                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 7.0                                 | 9.1   | 0.30                          | 0.17 | 450                       | MLG0603Q2N5□T |
| 2.6                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.5                                 | 8.0   | 0.30                          | 0.13 | 450                       | MLG0603Q2N6□T |
| 2.7                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.5                                 | 7.7   | 0.30                          | 0.11 | 450                       | MLG0603Q2N7□T |
| 2.8                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.2                                 | 7.9   | 0.30                          | 0.14 | 300                       | MLG0603Q2N8□T |
| 2.9                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.2                                 | 7.6   | 0.30                          | 0.13 | 300                       | MLG0603Q2N9□T |
| 3.0                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.0                                 | 7.4   | 0.30                          | 0.12 | 300                       | MLG0603Q3N0□T |
| 3.1                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.0                                 | 7.2   | 0.30                          | 0.15 | 300                       | MLG0603Q3N1□T |
| 3.2                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 6.0                                 | 7.1   | 0.30                          | 0.15 | 300                       | MLG0603Q3N2□T |
| 3.3                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.1   | 0.30                          | 0.15 | 300                       | MLG0603Q3N3□T |
| 3.4                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.1   | 0.30                          | 0.15 | 300                       | MLG0603Q3N4□T |
| 3.5                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 6.8   | 0.35                          | 0.18 | 300                       | MLG0603Q3N5□T |
| 3.6                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.4   | 0.35                          | 0.20 | 300                       | MLG0603Q3N6□T |
| 3.7                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.4   | 0.40                          | 0.23 | 300                       | MLG0603Q3N7□T |
| 3.8                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.3   | 0.40                          | 0.23 | 300                       | MLG0603Q3N8□T |
| 3.9                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.3   | 0.40                          | 0.24 | 300                       | MLG0603Q3N9□T |
| 4.0                | $\pm 0.1, \pm 0.2, 0.3\text{nH}$ | 5         | 100                          | 5.8                                 | 7.1   | 0.40                          | 0.23 | 300                       | MLG0603Q4N0□T |
| 4.3                | $\pm 3\%, \pm 0.3\text{nH}$      | 5         | 100                          | 5.2                                 | 6.4   | 0.40                          | 0.21 | 300                       | MLG0603Q4N3□T |
| 4.7                | $\pm 3\%, \pm 0.3\text{nH}$      | 5         | 100                          | 5.2                                 | 6.9   | 0.45                          | 0.25 | 300                       | MLG0603Q4N7□T |
| 5.1                | $\pm 3\%, \pm 0.3\text{nH}$      | 5         | 100                          | 5.0                                 | 6.0   | 0.50                          | 0.30 | 250                       | MLG0603Q5N1□T |
| 5.6                | $\pm 3\%, \pm 0.3\text{nH}$      | 5         | 100                          | 4.2                                 | 5.5   | 0.50                          | 0.28 | 250                       | MLG0603Q5N6□T |
| 6.2                | $\pm 3\%, \pm 0.3\text{nH}$      | 5         | 100                          | 4.2                                 | 5.3   | 0.55                          | 0.32 | 250                       | MLG0603Q6N2□T |
| 6.8                | $\pm 3, \pm 5\%$                 | 5         | 100                          | 4.2                                 | 5.5   | 0.60                          | 0.34 | 250                       | MLG0603Q6N8□T |
| 7.5                | $\pm 3, \pm 5\%$                 | 5         | 100                          | 3.8                                 | 4.8   | 0.70                          | 0.36 | 220                       | MLG0603Q7N5□T |
| 8.2                | $\pm 3, \pm 5\%$                 | 5         | 100                          | 3.8                                 | 4.9   | 0.70                          | 0.44 | 220                       | MLG0603Q8N2□T |
| 9.1                | $\pm 3, \pm 5\%$                 | 5         | 100                          | 3.6                                 | 4.4   | 0.80                          | 0.49 | 200                       | MLG0603Q9N1□T |
| 10                 | $\pm 3, \pm 5\%$                 | 5         | 100                          | 3.6                                 | 4.7   | 0.80                          | 0.52 | 200                       | MLG0603Q10N□T |
| 11                 | $\pm 3, \pm 5\%$                 | 6         | 100                          | 3.6                                 | 4.5   | 0.80                          | 0.48 | 200                       | MLG0603Q11N□T |
| 12                 | $\pm 3, \pm 5\%$                 | 6         | 100                          | 3.0                                 | 3.8   | 1.00                          | 0.56 | 180                       | MLG0603Q12N□T |
| 13                 | $\pm 3, \pm 5\%$                 | 6         | 100                          | 3.0                                 | 3.9   | 1.00                          | 0.63 | 180                       | MLG0603Q13N□T |
| 15                 | $\pm 3, \pm 5\%$                 | 6         | 100                          | 3.0                                 | 3.8   | 1.10                          | 0.69 | 180                       | MLG0603Q15N□T |
| 16                 | $\pm 3, \pm 5\%$                 | 6         | 100                          | 2.8                                 | 3.6   | 1.10                          | 0.64 | 180                       | MLG0603Q16N□T |
| 18                 | $\pm 3, \pm 5\%$                 | 6         | 100                          | 2.5                                 | 3.3   | 1.20                          | 0.75 | 150                       | MLG0603Q18N□T |

\* □: Please specify inductance tolerance, B ( $\pm 0.1\text{nH}$ ), C ( $\pm 0.2\text{nH}$ ), S ( $\pm 0.3\text{nH}$ ), H ( $\pm 3\%$ ) or J ( $\pm 5\%$ ).

## • Test equipment

Inductance Q : HP4291A+16197A, or equivalent

SRF: HP8720C, or equivalent

Rdc: YOKOGAWA TYPE7561, or equivalent

## ELECTRICAL CHARACTERISTICS

| Inductance<br>(nH) | Inductance<br>tolerance | Q<br>min. | Test frequency<br>L, Q (MHz) | Self-resonant<br>frequency<br>(GHz) |      | DC resistance<br>( $\Omega$ ) |      | Rated current<br>(mA)max. | Part No.*     |
|--------------------|-------------------------|-----------|------------------------------|-------------------------------------|------|-------------------------------|------|---------------------------|---------------|
|                    |                         |           |                              | min.                                | typ. | max.                          | typ. |                           |               |
| 20                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 2.3                                 | 3    | 1.20                          | 0.80 | 150                       | MLG0603Q20N□T |
| 22                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 2.2                                 | 2.9  | 1.20                          | 0.83 | 150                       | MLG0603Q22N□T |
| 24                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 2.1                                 | 2.7  | 1.30                          | 0.90 | 150                       | MLG0603Q24N□T |
| 27                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 2                                   | 2.6  | 1.50                          | 0.96 | 100                       | MLG0603Q27N□T |
| 30                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.8                                 | 2.4  | 1.50                          | 1.06 | 100                       | MLG0603Q30N□T |
| 33                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.7                                 | 2.4  | 1.70                          | 2.40 | 100                       | MLG0603Q33N□T |
| 36                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.6                                 | 2.2  | 1.80                          | 1.21 | 80                        | MLG0603Q36N□T |
| 39                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.5                                 | 1.9  | 2.50                          | 1.80 | 80                        | MLG0603Q39N□T |
| 43                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.4                                 | 1.8  | 2.70                          | 1.94 | 80                        | MLG0603Q43N□T |
| 47                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.3                                 | 1.7  | 2.70                          | 1.88 | 80                        | MLG0603Q47N□T |
| 51                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.3                                 | 1.6  | 2.80                          | 2.04 | 60                        | MLG0603Q51N□T |
| 56                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.2                                 | 1.5  | 3.20                          | 2.27 | 60                        | MLG0603Q56N□T |
| 62                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.1                                 | 1.4  | 3.30                          | 2.38 | 60                        | MLG0603Q62N□T |
| 68                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.1                                 | 1.4  | 3.50                          | 2.53 | 60                        | MLG0603Q68N□T |
| 75                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1.05                                | 1.3  | 3.80                          | 2.70 | 60                        | MLG0603Q75N□T |
| 82                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 1                                   | 1.3  | 4.00                          | 2.93 | 60                        | MLG0603Q82N□T |
| 91                 | $\pm 3, \pm 5\%$        | 6         | 100                          | 0.9                                 | 1.2  | 4.30                          | 3.01 | 60                        | MLG0603Q91N□T |
| 100                | $\pm 3, \pm 5\%$        | 6         | 100                          | 0.85                                | 1.1  | 4.50                          | 3.16 | 60                        | MLG0603QR10□T |

\* □: Please specify inductance tolerance, B ( $\pm 0.1$ nH), C ( $\pm 0.2$ nH), S ( $\pm 0.3$ nH), H ( $\pm 3\%$ ) or J ( $\pm 5\%$ ).

• Test equipment

Inductance Q : HP4291A+16197A, or equivalent

SRF: HP8720C, or equivalent

Rdc: YOKOGAWA TYPE7561, or equivalent

## L, Q vs. FREQUENCY CHARACTERISTICS

| Part No.    | Inductance(nH)typ. |        |        |        |        | Q typ. |        |        |        |        |
|-------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | 500MHz             | 800MHz | 1.8GHz | 2.0GHz | 2.4GHz | 500MHz | 800MHz | 1.8GHz | 2.0GHz | 2.4GHz |
| MLG0603Q0N2 | 0.2                | 0.2    | 0.2    | 0.2    | 0.2    | 27     | 30     | 47     | 48     | 56     |
| MLG0603Q0N3 | 0.3                | 0.3    | 0.3    | 0.3    | 0.3    | 17     | 22     | 36     | 37     | 42     |
| MLG0603Q0N4 | 0.4                | 0.4    | 0.4    | 0.4    | 0.4    | 17     | 22     | 34     | 35     | 39     |
| MLG0603Q0N5 | 0.5                | 0.5    | 0.45   | 0.45   | 0.45   | 15     | 20     | 31     | 33     | 37     |
| MLG0603Q0N6 | 0.6                | 0.6    | 0.5    | 0.5    | 0.5    | 17     | 22     | 34     | 36     | 39     |
| MLG0603Q0N7 | 0.7                | 0.6    | 0.6    | 0.6    | 0.6    | 17     | 22     | 35     | 36     | 41     |
| MLG0603Q0N8 | 0.7                | 0.7    | 0.7    | 0.7    | 0.7    | 17     | 23     | 36     | 37     | 42     |
| MLG0603Q0N9 | 0.8                | 0.8    | 0.8    | 0.8    | 0.8    | 18     | 23     | 36     | 38     | 42     |
| MLG0603Q1N0 | 0.9                | 0.9    | 0.9    | 0.9    | 0.9    | 18     | 23     | 36     | 38     | 43     |
| MLG0603Q1N1 | 1.0                | 1.0    | 1.0    | 1.0    | 1.0    | 16     | 20     | 32     | 34     | 38     |
| MLG0603Q1N2 | 1.1                | 1.1    | 1.1    | 1.1    | 1.1    | 17     | 21     | 33     | 34     | 39     |
| MLG0603Q1N3 | 1.2                | 1.2    | 1.2    | 1.2    | 1.2    | 17     | 21     | 33     | 35     | 39     |
| MLG0603Q1N4 | 1.3                | 1.3    | 1.3    | 1.3    | 1.3    | 17     | 22     | 34     | 36     | 41     |
| MLG0603Q1N5 | 1.4                | 1.4    | 1.4    | 1.4    | 1.4    | 17     | 21     | 33     | 35     | 39     |
| MLG0603Q1N6 | 1.5                | 1.5    | 1.5    | 1.5    | 1.5    | 18     | 23     | 36     | 38     | 42     |
| MLG0603Q1N7 | 1.6                | 1.6    | 1.6    | 1.6    | 1.6    | 19     | 24     | 38     | 40     | 45     |
| MLG0603Q1N8 | 1.7                | 1.7    | 1.7    | 1.7    | 1.7    | 18     | 23     | 35     | 37     | 41     |
| MLG0603Q1N9 | 1.8                | 1.8    | 1.8    | 1.8    | 1.8    | 20     | 25     | 40     | 42     | 47     |
| MLG0603Q2N0 | 1.9                | 1.9    | 1.9    | 1.9    | 1.9    | 18     | 23     | 36     | 38     | 42     |
| MLG0603Q2N1 | 2.0                | 2.0    | 2.0    | 2.0    | 2.1    | 19     | 24     | 37     | 39     | 43     |
| MLG0603Q2N2 | 2.0                | 2.0    | 2.1    | 2.1    | 2.1    | 16     | 20     | 31     | 33     | 36     |
| MLG0603Q2N3 | 2.2                | 2.2    | 2.2    | 2.2    | 2.3    | 17     | 23     | 36     | 37     | 42     |
| MLG0603Q2N4 | 2.3                | 2.3    | 2.3    | 2.3    | 2.4    | 18     | 23     | 36     | 38     | 42     |
| MLG0603Q2N5 | 2.4                | 2.4    | 2.4    | 2.4    | 2.5    | 18     | 23     | 35     | 37     | 40     |
| MLG0603Q2N6 | 2.5                | 2.4    | 2.5    | 2.5    | 2.6    | 18     | 23     | 35     | 37     | 40     |
| MLG0603Q2N7 | 2.5                | 2.5    | 2.6    | 2.6    | 2.7    | 17     | 22     | 33     | 34     | 38     |
| MLG0603Q2N8 | 2.6                | 2.6    | 2.7    | 2.7    | 2.8    | 19     | 24     | 36     | 37     | 41     |
| MLG0603Q2N9 | 2.7                | 2.7    | 2.8    | 2.9    | 3.0    | 19     | 24     | 36     | 37     | 40     |
| MLG0603Q3N0 | 2.8                | 2.8    | 2.9    | 3.0    | 3.1    | 19     | 24     | 35     | 36     | 39     |
| MLG0603Q3N1 | 2.9                | 2.9    | 3.0    | 3.1    | 3.2    | 18     | 23     | 34     | 36     | 38     |
| MLG0603Q3N2 | 3.0                | 3.0    | 3.1    | 3.2    | 3.3    | 18     | 23     | 34     | 35     | 38     |
| MLG0603Q3N3 | 3.1                | 3.1    | 3.2    | 3.3    | 3.4    | 18     | 23     | 34     | 35     | 38     |
| MLG0603Q3N4 | 3.2                | 3.2    | 3.3    | 3.4    | 3.5    | 18     | 23     | 33     | 35     | 37     |
| MLG0603Q3N5 | 3.3                | 3.3    | 3.4    | 3.5    | 3.6    | 17     | 22     | 32     | 33     | 36     |
| MLG0603Q3N6 | 3.4                | 3.4    | 3.5    | 3.6    | 3.7    | 16     | 21     | 32     | 34     | 37     |
| MLG0603Q3N7 | 3.5                | 3.5    | 3.6    | 3.7    | 3.8    | 18     | 23     | 34     | 35     | 38     |
| MLG0603Q3N8 | 3.6                | 3.6    | 3.7    | 3.8    | 3.9    | 17     | 23     | 34     | 35     | 38     |
| MLG0603Q3N9 | 3.7                | 3.7    | 3.8    | 3.9    | 4.0    | 17     | 22     | 33     | 35     | 38     |

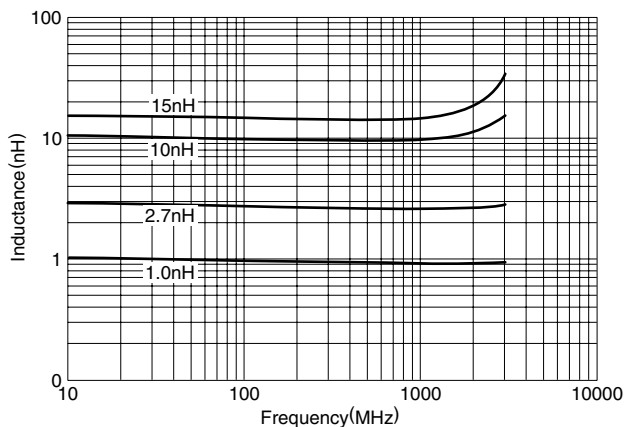
• All specifications are subject to change without notice.

## L, Q vs. FREQUENCY CHARACTERISTICS

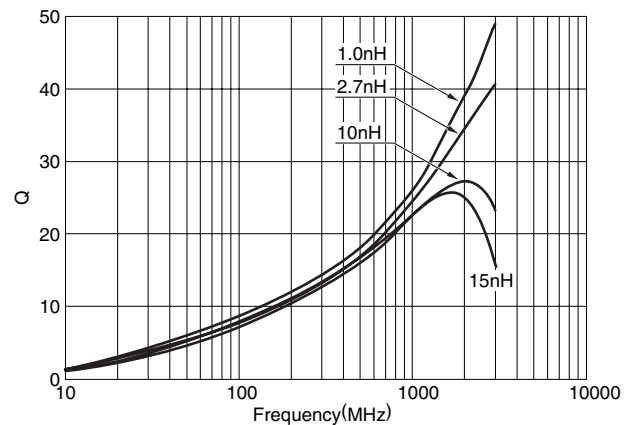
| Part No.    | Inductance(nH)typ. |        |        |        |        | Q typ. |        |        |        |        |
|-------------|--------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
|             | 500MHz             | 800MHz | 1.8GHz | 2.0GHz | 2.4GHz | 500MHz | 800MHz | 1.8GHz | 2.0GHz | 2.4GHz |
| MLG0603Q4N0 | 3.8                | 3.8    | 4.0    | 4.0    | 4.2    | 18     | 23     | 34     | 35     | 38     |
| MLG0603Q4N3 | 4.1                | 4.1    | 4.3    | 4.4    | 4.6    | 17     | 22     | 32     | 33     | 36     |
| MLG0603Q4N7 | 4.4                | 4.4    | 4.6    | 4.7    | 4.9    | 16     | 21     | 32     | 33     | 36     |
| MLG0603Q5N1 | 4.9                | 4.9    | 5.1    | 5.3    | 5.5    | 17     | 22     | 32     | 33     | 36     |
| MLG0603Q5N6 | 5.3                | 5.4    | 5.7    | 5.9    | 6.2    | 18     | 23     | 32     | 33     | 35     |
| MLG0603Q6N2 | 5.9                | 5.9    | 6.4    | 6.6    | 7.1    | 17     | 22     | 31     | 31     | 33     |
| MLG0603Q6N8 | 6.4                | 6.4    | 6.9    | 7.1    | 7.6    | 17     | 21     | 30     | 31     | 33     |
| MLG0603Q7N5 | 7.1                | 7.2    | 8.1    | 8.5    | 9.4    | 17     | 22     | 29     | 30     | 30     |
| MLG0603Q8N2 | 7.8                | 7.8    | 8.5    | 8.8    | 9.5    | 16     | 20     | 28     | 28     | 29     |
| MLG0603Q9N1 | 8.7                | 8.8    | 9.9    | 10.4   | 11.5   | 17     | 21     | 27     | 27     | 27     |
| MLG0603Q10N | 9.5                | 9.6    | 10.8   | 11.3   | 12.5   | 16     | 21     | 27     | 28     | 28     |
| MLG0603Q11N | 10.4               | 10.5   | 12.2   | 12.9   | 14.8   | 15     | 18     | 24     | 24     | 24     |
| MLG0603Q12N | 11.5               | 11.7   | 14.3   | 15.5   | 18.8   | 16     | 20     | 24     | 23     | 21     |
| MLG0603Q13N | 12.3               | 12.5   | 15.1   | 16.4   | 19.7   | 15     | 19     | 24     | 24     | 22     |
| MLG0603Q15N | 14.4               | 14.6   | 17.4   | 18.8   | 22.2   | 17     | 21     | 26     | 26     | 24     |
| MLG0603Q16N | 15.2               | 15.6   | 19.8   | 22.0   | 28.2   | 15     | 19     | 22     | 22     | 19     |
| MLG0603Q18N | 17.2               | 17.6   | 23.4   | 26.4   | 35.8   | 15     | 18     | 21     | 20     | 17     |
| MLG0603Q20N | 19.1               | 19.7   | 27.7   | 32.4   | 49.3   | 14     | 17     | 18     | 16     | 12     |
| MLG0603Q22N | 21.0               | 21.8   | 31.6   | 37.6   | 61.9   | 14     | 17     | 18     | 16     | 11     |
| MLG0603Q24N | 23.0               | 24.1   | 38.1   | 48.0   | 104.7  | 14     | 16     | 15     | 13     | 6      |
| MLG0603Q27N | 26.0               | 27.3   | 44.9   | 58.4   | 168.9  | 14     | 17     | 15     | 12     | 5      |
| MLG0603Q30N | 29.0               | 30.7   | 57.1   | 81.7   |        | 14     | 17     | 13     | 10     | 2      |
| MLG0603Q33N | 32.1               | 34.2   | 68.9   | 107.2  |        | 15     | 17     | 12     | 8      |        |
| MLG0603Q36N | 35.1               | 37.9   | 90.9   | 175.3  |        | 14     | 16     | 9      | 5      |        |
| MLG0603Q39N | 38.8               | 43.3   | 248.9  |        |        | 14     | 15     | 3      |        |        |
| MLG0603Q43N | 43.0               | 48.6   | 345.5  |        |        | 14     | 15     | 1      |        |        |
| MLG0603Q47N | 47.2               | 53.8   |        |        |        | 14     | 14     | 1      |        |        |
| MLG0603Q51N | 51.6               | 60.0   |        |        |        | 13     | 13     |        |        |        |
| MLG0603Q56N | 58.1               | 70.9   |        |        |        | 13     | 13     |        |        |        |
| MLG0603Q62N | 64.8               | 81.5   |        |        |        | 13     | 12     |        |        |        |
| MLG0603Q68N | 71.8               | 91.8   |        |        |        | 13     | 12     |        |        |        |
| MLG0603Q75N | 80.4               | 107.5  |        |        |        | 13     | 11     |        |        |        |
| MLG0603Q82N | 89.1               | 123.8  |        |        |        | 12     | 10     |        |        |        |
| MLG0603Q91N | 101.9              | 156.4  |        |        |        | 11     | 9      |        |        |        |
| MLG0603QR10 | 115.1              | 192.3  |        |        |        | 11     | 8      |        |        |        |

## TYPICAL ELECTRICAL CHARACTERISTICS

### INDUCTANCE vs. FREQUENCY CHARACTERISTICS



### Q vs. FREQUENCY CHARACTERISTICS



• All specifications are subject to change without notice.

Technical drawing of the 1000mm diameter wheel of a 1000mm x 1000mm x 100mm castor. The drawing includes a front view and a side view.

**Front View Dimensions:**

- Overall diameter:  $\varnothing 180 \pm 2.0$
- Central hole diameter:  $\varnothing 13 \pm 0.2$
- Hub diameter:  $\varnothing 21 \pm 0.8$
- Distance from center to start of spokes:  $2.0 \pm 0.5$
- Hub thickness: 1.0

**Side View Dimensions:**

- Overall height: 14.4 max.
- Central hole diameter:  $\varnothing 60$  min.
- Distance from base to center of hole:  $8.4^{+2.0}_{-0.0}$

Dimensions in mm

Technical drawing of a multi-hole metal strip, showing two views: a side view (top) and a front view (bottom).

**Side View (Top):**

- Sprocket hole:** Indicated by an arrow pointing to one of the circular holes.
- Cavity:** Indicated by an arrow pointing to the rectangular cutouts.
- Dimensions:**
  - Overall width:  $1.75 \pm 0.1$
  - Distance from top edge to center of sprocket hole:  $1.5 \pm 0.1$
  - Distance from center of sprocket hole to center of cavity:  $4.0 \pm 0.1$
  - Distance from center of cavity to center of sprocket hole:  $2.0 \pm 0.05$
  - Distance from center of sprocket hole to center of cavity:  $2.0 \pm 0.05$
  - Distance from center of cavity to center of sprocket hole:  $2.0 \pm 0.05$
  - Distance from center of sprocket hole to center of cavity:  $0.68 \pm 0.05$
  - Distance from center of sprocket hole to center of cavity:  $0.38 \pm 0.05$
  - Distance from center of sprocket hole to center of cavity:  $0.5 \text{ max.}$
  - Distance from center of sprocket hole to center of cavity:  $8.0 \pm 0.3$
  - Distance from center of sprocket hole to center of cavity:  $3.5 \pm 0.05$

**Front View (Bottom):**

- Dimensions:**
  - Overall length:  $160 \text{ min.}$
  - Distance from left edge to center of sprocket hole:  $160 \text{ min.}$
  - Distance from center of sprocket hole to center of cavity:  $200 \text{ min.}$
  - Distance from center of cavity to center of sprocket hole:  $200 \text{ min.}$
  - Distance from center of sprocket hole to center of cavity:  $300 \text{ min.}$
- Labels:**
  - Taping:** Indicated by an arrow pointing to the sprocket hole.
  - Drawing direction:** Indicated by an arrow pointing to the right.

**Dimensions in mm**

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