



RF Inductors

## Ceramic Inductors



High frequency multi-layer chip inductors feature a monolithic body made of low loss ceramic and high conductivity metal electrodes to achieve optimal high frequency performance.

These RF chip inductors are compact in size and feature lead-free tin plated nickel barrier terminations and tape and reel packaging which makes them ideal for small size/high volume wireless applications.

### Applications:

- CELL/PCS Modules
- Wireless LAN
- Broadband Components
- RFID
- RF Transceivers
- RoHS Compliant (Standard, "V" Code)
- Sn/Pb Terminations Optional ("T" Code)

### Product Range Summary

| EIA SIZE (mm) | RANGE        | Q FACTOR (Min.) | SRF (Typ.)       | TEMPERATURE     |
|---------------|--------------|-----------------|------------------|-----------------|
| 0201 (0603)   | 0.6 - 39 nH  | 4 (100 MHz)     | >21 GHz (1.0 nH) | -55°C to +100°C |
| 0402 (1005)   | 1.0 - 120 nH | 8 (100 MHz)     | >21 GHz (1.0 nH) | -55°C to +100°C |
| 0603 (1608)   | 1.0 - 220 nH | 12 (100 MHz)    | >23 GHz (1.0 nH) | -55°C to +100°C |



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### Types of Markings



### Mechanical Characteristics

| Size      | 0201 (0603)  |               | 0402 (1005)  |              | 0603 (1608)  |              | Characteristics |
|-----------|--------------|---------------|--------------|--------------|--------------|--------------|-----------------|
|           | Inches       | mm            | Inches       | mm           | Inches       | mm           |                 |
| Length    | .024 ± .001" | (0.6 ± .03)   | .039 ± .004" | (1.00 ± .10) | .063 ± .006" | (1.60 ± .15) |                 |
| Width     | .012 ± .001" | (0.3 ± .03)   | .020 ± .004" | (0.50 ± .10) | .031 ± .008" | (0.80 ± .15) |                 |
| Thickness | .012 ± .001" | (0.3 ± .03)   | .020 ± .004" | (0.50 ± .10) | .031 ± .008" | (0.80 ± .15) |                 |
| End Band  | .006 ± .002" | (0.15 ± 0.05) | .009 ± .004" | (0.23 ± .10) | .012 ± .004" | (0.30 ± .20) |                 |

### HOW TO ORDER

| LRC                                  | 0201                 | B                                      | J            | 10N          | GV                                       | 001                           | B                                                                                                   |
|--------------------------------------|----------------------|----------------------------------------|--------------|--------------|------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------|
| Subfamily                            | Size                 | Type                                   | Tolerance    | Value        | Termination                              | Product Specifier             | Packaging                                                                                           |
| LRC = Inductor<br>RF Ceramic<br>Chip | 0201<br>0402<br>0603 | B = Polarity Half-Marked<br>(all 0201) | C = ± 0.2 nH | See<br>Table | GV = Ni/Sn<br>(RoHS)<br><br>NT = Ni/SnPb | 001 = Default<br>Catalog Item | B = Bulk (all sizes)<br>T = 7" Reel Paper Tape<br>R = 13" Reel Paper Tape<br>W = Waffle Pack (0603) |
|                                      |                      |                                        | S = ± 0.3 nH |              |                                          |                               |                                                                                                     |
|                                      |                      | C = 0402 & 0603<br>(see "Marking")     | J = ± 5%     |              |                                          |                               |                                                                                                     |
|                                      |                      |                                        | K = ± 10%    |              |                                          |                               |                                                                                                     |

Example: LRC0201BJ10NGV001B is Ceramic Inductor, 0201, 10nH±5%, 250mA, Ni/Sn (RoHS), Polarity Half-Marked, Bulk



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Inductance Range / Electrical

## Characteristics

| Inductor Value |      | EIA Size  | 0201   | 0402            | 0603            |
|----------------|------|-----------|--------|-----------------|-----------------|
| Inductance     |      | Tolerance |        |                 |                 |
| nH             | Code |           |        |                 |                 |
| 0.6            | 0N6  | C, S      | 300 mA |                 |                 |
| 0.7            | 0N7  |           | 300 mA |                 |                 |
| 0.8            | 0N8  |           | 300 mA |                 |                 |
| 0.9            | 0N9  |           | 300 mA |                 |                 |
| 1.0            | 1N0  |           | 300 mA | 300 mA          | 300 mA (S only) |
| 1.2            | 1N2  |           | 300 mA | 300 mA (S only) | 300 mA (S only) |
| 1.3            | 1N3  |           | 300 mA |                 |                 |
| 1.5            | 1N5  |           | 300 mA | 300 mA (S only) | 300 mA (S only) |
| 1.8            | 1N8  |           | 300 mA | 300 mA (S only) | 300 mA (S only) |
| 1.9            | 1N9  |           | 300 mA | 300 mA (S only) |                 |
| 2.0            | 2N0  |           | 300 mA | 300 mA (S only) |                 |
| 2.2            | 2N2  |           | 300 mA | 300 mA (S only) | 300 mA (S only) |
| 2.3            | 2N3  |           | 300 mA |                 |                 |
| 2.4            | 2N4  |           | 300 mA | 300 mA (S only) |                 |
| 2.5            | 2N5  |           | 300 mA |                 |                 |
| 2.7            | 2N7  |           | 300 mA | 300 mA (S only) | 300 mA (S only) |
| 3.0            | 3N0  |           | 300 mA | 300 mA (S only) |                 |
| 3.3            | 3N3  | K, S      | 300 mA | 300 mA          | 300 mA          |
| 3.6            | 3N6  |           | 300 mA | 300 mA          |                 |
| 3.7            | 3N7  |           | 300 mA |                 |                 |
| 3.9            | 3N9  |           | 300 mA | 300 mA          | 300 mA          |
| 4.3            | 4N3  |           |        | 300 mA          |                 |
| 4.7            | 4N7  |           | 300 mA | 300 mA          | 300 mA          |
| 5.1            | 5N1  |           | 300 mA | 300 mA          |                 |
| 5.6            | 5N6  |           | 300 mA | 300 mA          | 300 mA          |
| 6.2            | 6N2  | J, K      |        | 300 mA          |                 |
| 6.8            | 6N8  |           | 250 mA | 250 mA          | 300 mA          |
| 7.5            | 7N5  |           |        | 250 mA          |                 |
| 8.2            | 8N2  |           | 250 mA | 250 mA          | 300 mA          |
| 10             | 10N  |           |        | 250 mA          | 300 mA          |
| 12             | 12N  |           | 250 mA | 250 mA          | 300 mA          |
| 13             | 13N  |           | 250 mA | 250 mA          |                 |
| 15             | 15N  |           | 250 mA | 250 mA          | 300 mA          |
| 18             | 18N  |           | 200 mA | 200 mA          | 300 mA          |
| 22             | 22N  |           | 200 mA | 200 mA          | 300 mA          |
| 23             | 23N  |           |        | 200 mA          |                 |
| 27             | 27N  |           | 200 mA | 200 mA          | 300 mA          |
| 33             | 33N  |           | 200 mA | 200 mA          | 300 mA          |
| 39             | 39N  |           | 200 mA | 150 mA          | 300 mA          |
| 43             | 43N  |           |        | 150 mA          |                 |
| 47             | 47N  |           |        | 150 mA          | 300 mA          |
| 56             | 56N  |           |        | 150 mA          | 300 mA          |
| 68             | 68N  |           |        | 100 mA          | 300 mA          |
| 82             | 82N  |           |        | 100 mA          | 300 mA          |
| 100            | R10  |           |        | 100 mA          | 300 mA          |
| 120            | R12  |           |        | 100 mA          | 300 mA          |
| 150            | R15  |           |        |                 | 300 mA          |
| 180            | R18  |           |        |                 | 300 mA          |
| 220            | R22  |           |        |                 | 300 mA          |
| 270            | R27  |           |        |                 |                 |
| 330            | R33  |           |        |                 |                 |
| 390            | R39  |           |        |                 |                 |
| 420            | R42  |           |        |                 |                 |
| 560            | R56  |           |        |                 |                 |
| 680            | R68  |           |        |                 |                 |

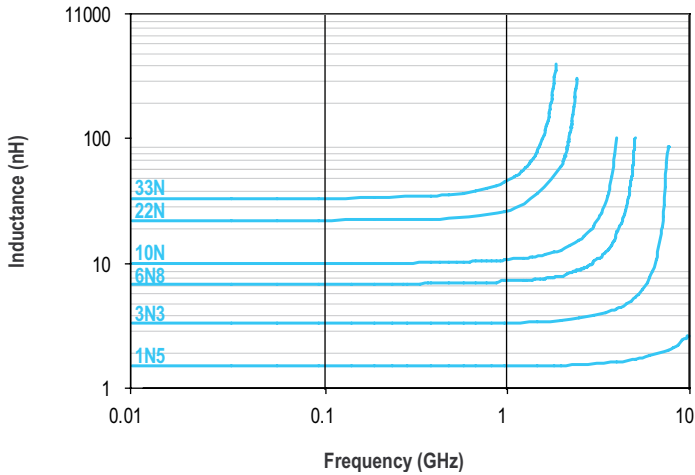


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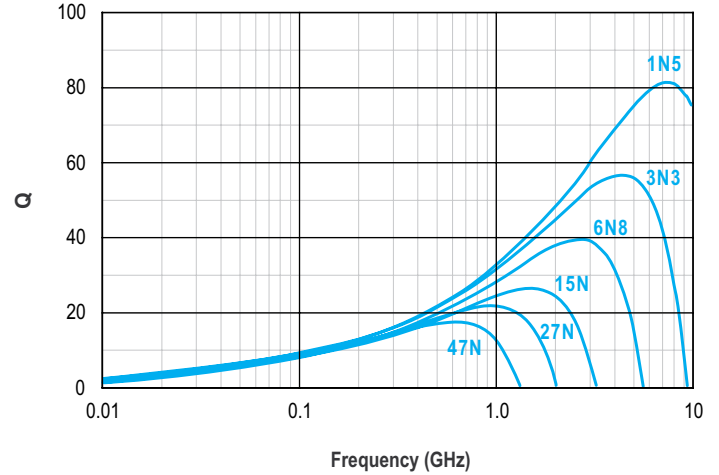
RF Characteristics

"Typical"

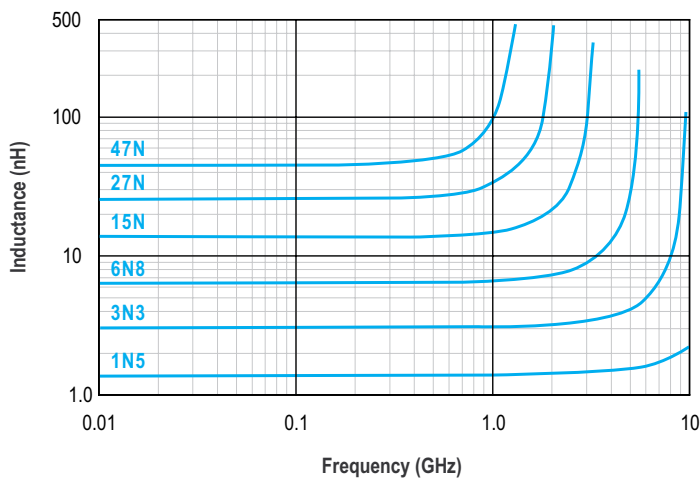
INDUCTANCE VS FREQUENCY: SIZE 0201



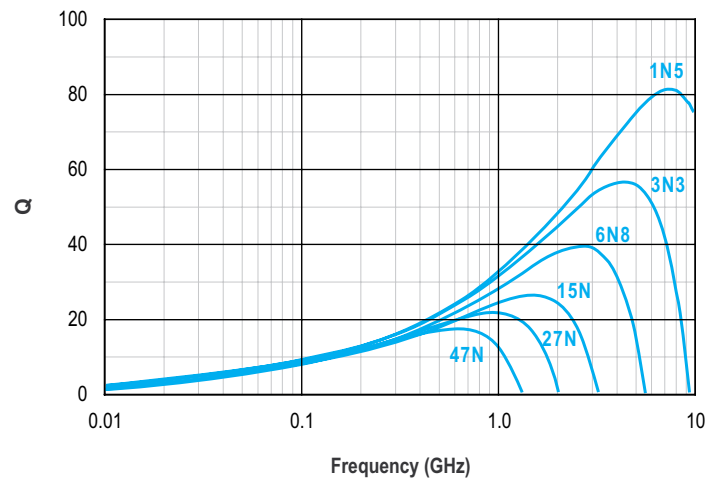
Q VS FREQUENCY: SIZE 0201



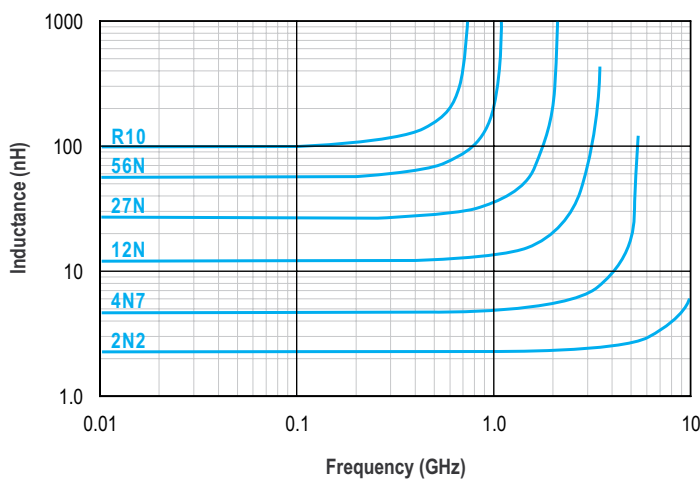
INDUCTANCE VS FREQUENCY: SIZE 0402



Q VS FREQUENCY: SIZE 0402



INDUCTANCE VS FREQUENCY: SIZE 0603



Q VS FREQUENCY: SIZE 0603

