# CT Series



Due to accurate wire winding technology, these chip inductors are designed for filtering, impedance matching, resonance and choke circuits for RF designer. Both standard series custom designs are available.

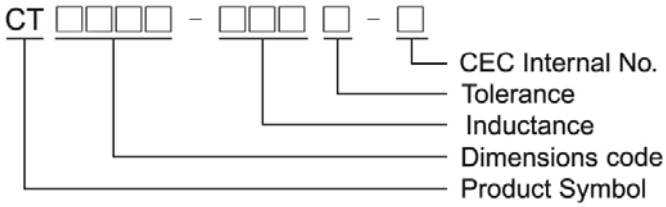
## Features

- RoHS compliant.
- Ceramic body and wire wound construction provide highest SRFs
- Exceptional Q values even at high frequencies
- Highest possible SRFs as well as excellent Q values
- The non-magnetic coil form assures utmost thermal stability, predictability and batch consistency

## Applications

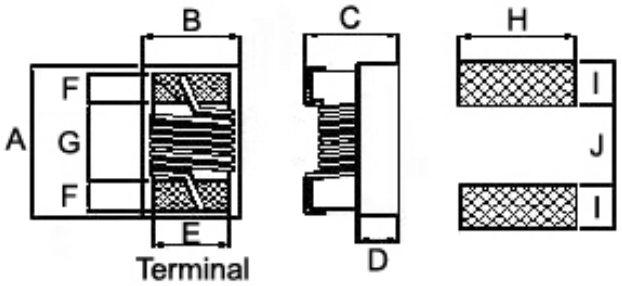
- RF products for cellular phone
- GPS receiver
- Base Station
- Repeater
- Wireless LAN/ mouse/ keyboard/ earphone
- Remote control
- Security system and other RF modules

## Product Identification

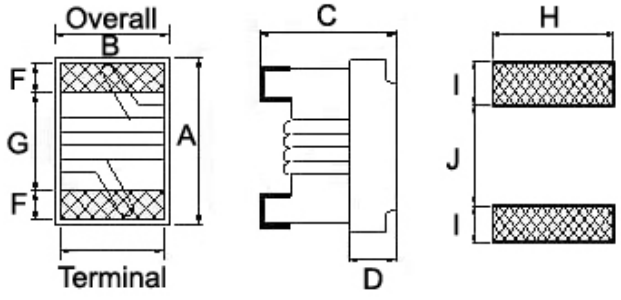



## Shape and Dimensions/ Recommended Pattern

**CT0603**




**CT0805**




Dimensions

| | | A | B | C | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CT0603** | mm | $1.6^{+0.2}_{-0.1}$ | 0.9±0.1 | 0.55±0.05 | 0.25 | 0.76 | 0.30 | 0.92 | 1.02 | 0.64 | 0.64 |

| | | A Max | B Max | C Max | D | E | F | G | H | I | J |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **CT0805** | inch | 0.093 | 0.068 | 0.039 | 0.020 | 0.050 | 0.020 | 0.040 | 0.070 | 0.040 | 0.030 |
| | mm | 2.35 | 1.73 | 1.10 | 0.51 | 1.27 | 0.51 | 1.02 | 1.78 | 1.02 | 0.76 |

## Electrical Characteristics

| Part Number | Inductance (nH) | Tolerance (±%) | Test Frequency (MHz) | Q Min | Test Frequency (MHz) | SRF (MHz) Min | RDC (Ω) Max | Irms (mA) Max |
|---|---|---|---|---|---|---|---|---|
| CT0603-1N0□-N | 1.0 | 10 | 250 | 13 | 250 | 16000 | 0.045 | 1600 |
| CT0603-1N2□-N | 1.2 | 10 | 250 | 12 | 250 | 16000 | 0.105 | 1100 |
| CT0603-2N0□-N | 2.0 | 5,10 | 250 | 21 | 250 | 12000 | 0.034 | 1900 |
| CT0603-2N2□-N | 2.2 | 5,10 | 250 | 21 | 250 | 10700 | 0.046 | 1600 |
| CT0603-2N3□-N | 2.3 | 5,10 | 250 | 25 | 250 | 11000 | 0.046 | 1600 |
| CT0603-2N5□-N | 2.5 | 5,10 | 250 | 20 | 250 | 11000 | 0.060 | 1300 |
| CT0603-3N0□-N | 3 | 5,10 | 250 | 25 | 250 | 10700 | 0.039 | 1600 |
| CT0603-3N3□-N | 3.3 | 3,5 | 250 | 26 | 250 | 7000 | 0.039 | 1600 |
| CT0603-3N6□-N | 3.6 | 3,5 | 250 | 28 | 250 | 7000 | 0.044 | 1600 |
| CT0603-3N9□-N | 3.9 | 3,5 | 250 | 26 | 250 | 6300 | 0.050 | 1400 |
| CT0603-4N3□-N | 4.3 | 3,5 | 250 | 22 | 250 | 6300 | 0.076 | 1300 |
| CT0603-4N7□-N | 4.7 | 3,5 | 250 | 22 | 250 | 5600 | 0.120 | 960 |
| CT0603-5N1□-N | 5.1 | 3,5 | 250 | 24 | 250 | 5500 | 0.050 | 1400 |
| CT0603-5N6□-N | 5.6 | 3,5 | 250 | 27 | 250 | 5050 | 0.058 | 1300 |
| CT0603-6N8□-N | 6.8 | 3,5 | 250 | 24 | 250 | 4500 | 0.080 | 1200 |
| CT0603-7N2□-N | 7.2 | 3,5 | 250 | 29 | 250 | 4500 | 0.047 | 1500 |
| CT0603-8N2□-N | 8.2 | 3,5 | 250 | 27 | 250 | 4250 | 0.075 | 1300 |
| CT0603-9N5□-N | 9.5 | 3,5 | 250 | 27 | 250 | 3950 | 0.092 | 1100 |
| CT0603-10N□-N | 10 | 2,5 | 250 | 27 | 250 | 3950 | 0.075 | 1300 |
| CT0603-11N□-N | 11 | 2,5 | 250 | 26 | 250 | 4000 | 0.110 | 1000 |
| CT0603-12N□-N | 12 | 2,5 | 250 | 28 | 250 | 3500 | 0.130 | 920 |
| CT0603-15N□-N | 15 | 2,5 | 250 | 26 | 250 | 3300 | 0.145 | 800 |
| CT0603-16N□-N | 16 | 2,5 | 250 | 26 | 250 | 3100 | 0.175 | 760 |
| CT0603-18N□-N | 18 | 2,5 | 250 | 26 | 250 | 2950 | 0.200 | 720 |
| CT0603-20N□-N | 20 | 2,5 | 250 | 28 | 250 | 2900 | 0.175 | 760 |
| CT0603-22N□-N | 22 | 2,5 | 250 | 28 | 250 | 2750 | 0.220 | 700 |
| CT0603-24N□-N | 24 | 2,5 | 250 | 29 | 250 | 2700 | 0.240 | 680 |
| CT0603-27N□-N | 27 | 2,5 | 250 | 27 | 250 | 2550 | 0.270 | 670 |
| CT0603-30N□-N | 30 | 2,5 | 250 | 27 | 250 | 2450 | 0.330 | 600 |
| CT0603-33N□-N | 33 | 2,5 | 250 | 27 | 250 | 2200 | 0.330 | 600 |
| CT0603-36N□-N | 36 | 2,5 | 250 | 28 | 250 | 2300 | 0.335 | 600 |
| CT0603-39N□-N | 39 | 2,5 | 250 | 28 | 250 | 2250 | 0.400 | 570 |
| CT0603-43N□-N | 43 | 2,5 | 250 | 27 | 250 | 2100 | 0.440 | 530 |
| CT0603-47N□-N | 47 | 2,5 | 250 | 27 | 250 | 1900 | 0.540 | 470 |
| CT0603-51N□-N | 51 | 2,5 | 250 | 26 | 250 | 1850 | 0.570 | 440 |
| CT0603-56N□-N | 56 | 2,5 | 250 | 26 | 250 | 1750 | 0.700 | 420 |

**Note: When ordering, please specify tolerance code. Tolerance : G=±2% , H=±3% , J=±5% , K=±10%**

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Irms for a 15℃ temperature rise from 25℃ ambient with current
- Measure Equipment：
  L & Q：Agilent E4991A+Agilent HP16197A
  SRF：Agilent/HP8753D/Agilent E4991A
  RDC: HP4338B or CHEN HWA 502
  Irms：HP4284A+HP42841A/HP4285A+HP42841A

Please be sure to request approval specifications that provide further details of the products. Kindly note that the content of these specifications are subject to change or may be discontinued without advance notice. Please contact our sales department before ordering.

## Electrical Characteristics

| Part Number | Inductance (nH) | Tolerance (±%) | Test Frequency (MHz) | Q Min | Test Frequency (MHz) | SRF (MHz) Min | RDC (Ω) Max | Irms (mA) Max | Color |
|---|---|---|---|---|---|---|---|---|---|
| CT0805-1N8□-S | 1.8 | 10 | 250 | 55 | 1500 | 9400 | 0.03 | 800 | Black |
| CT0805-3N9□-S | 3.9 | 10 | 250 | 50 | 1000 | 6100 | 0.06 | 800 | Brown |
| CT0805-4N7□-S | 4.7 | 10 / 5 | 250 | 50 | 1000 | 5500 | 0.06 | 800 | Red |
| CT0805-6N8□-S | 6.8 | 10 / 5 | 250 | 50 | 1000 | 5500 | 0.08 | 800 | Orange |
| CT0805-8N2□-S | 8.2 | 10 / 5 | 250 | 50 | 1000 | 4800 | 0.08 | 800 | Yellow |
| CT0805-10N□-S | 10 | 10 / 5 / 2 | 250 | 55 | 750 | 3300 | 0.08 | 800 | Green |
| CT0805-12N□-S | 12 | 10 / 5 / 2 | 250 | 55 | 750 | 3800 | 0.10 | 800 | Blue |
| CT0805-15N□-S | 15 | 10 / 5 / 2 | 250 | 50 | 500 | 2950 | 0.10 | 800 | Violet |
| CT0805-18N□-S | 18 | 10 / 5 / 2 | 250 | 50 | 500 | 3100 | 0.13 | 800 | Gray |
| CT0805-22N□-S | 22 | 10 / 5 / 2 | 250 | 50 | 500 | 2900 | 0.15 | 800 | White |
| CT0805-27N□-S | 27 | 10 / 5 / 2 | 250 | 50 | 500 | 2450 | 0.23 | 600 | Black |
| CT0805-33N□-S | 33 | 10 / 5 / 2 | 250 | 55 | 500 | 2350 | 0.28 | 600 | Brown |
| CT0805-39N□-S | 39 | 10 / 5 / 2 | 250 | 55 | 500 | 2200 | 0.33 | 600 | Red |
| CT0805-47N□-S | 47 | 10 / 5 / 2 | 200 | 50 | 500 | 2000 | 0.39 | 600 | Orange |
| CT0805-56N□-S | 56 | 10 / 5 / 2 | 200 | 50 | 500 | 1850 | 0.39 | 500 | Yellow |
| CT0805-68N□-S | 68 | 10 / 5 / 2 | 200 | 50 | 500 | 1500 | 0.40 | 500 | Green |
| CT0805-82N□-S | 82 | 10 / 5 / 2 | 150 | 50 | 500 | 1500 | 0.44 | 500 | Blue |
| CT0805-R10□-S | 100 | 10 / 5 / 2 | 150 | 50 | 500 | 1200 | 0.64 | 400 | Violet |
| CT0805-R12□-S | 120 | 10 / 5 / 2 | 150 | 40 | 250 | 1150 | 0.68 | 300 | Gray |
| CT0805-R15□-S | 150 | 10 / 5 / 2 | 150 | 40 | 250 | 1050 | 0.80 | 300 | White |
| CT0805-R18□-S | 180 | 10 / 5 / 2 | 150 | 40 | 250 | 950 | 0.90 | 300 | Black |
| CT0805-R22□-S | 220 | 10 / 5 / 2 | 150 | 40 | 250 | 900 | 0.98 | 300 | Brown |
| CT0805-R27□-S | 270 | 10 / 5 / 2 | 150 | 40 | 250 | 850 | 1.30 | 300 | Red |
| CT0805-R33□-S | 330 | 10 / 5 / 2 | 100 | 40 | 250 | 800 | 1.45 | 300 | Orange |
| CT0805-R39□-S | 390 | 10 / 5 / 2 | 100 | 35 | 250 | 700 | 1.60 | 300 | Yellow |
| CT0805-R47□-S | 470 | 10 / 5 / 2 | 50 | 25 | 100 | 600 | 1.80 | 300 | Green |
| CT0805-R56□-S | 560 | 10 / 5 / 2 | 25 | 18 | 50 | 550 | 1.90 | 300 | Blue |
| CT0805-R62□-S | 620 | 10 / 5 / 2 | 25 | 18 | 50 | 450 | 2.00 | 300 | Violet |
| CT0805-R68□-S | 680 | 10 / 5 / 2 | 25 | 18 | 50 | 420 | 2.10 | 300 | Gray |
| CT0805-R75□-S | 750 | 10 / 5 / 2 | 25 | 18 | 50 | 400 | 2.20 | 300 | White |
| CT0805-R82□-S | 820 | 10 / 5 / 2 | 25 | 18 | 50 | 400 | 2.50 | 300 | Black |
| CT0805-1R0□-S | 1000 | 10 / 5 | 25 | 17 | 50 | 330 | 3.10 | 300 | Brown |

**Note: When ordering, please specify tolerance code. Tolerance : G=±2% , J=±5% , K=±10%**

- Operating temperature range - 40℃ ~ 125℃(Including self - temperature rise)
- Irms for a 15℃ temperature rise from 25℃ ambient with current
- Measure Equipment：

  L & Q：Agilent E4991A+Agilent HP16197A

  SRF：Agilent/HP8753D/Agilent E4991A

  RDC: HP4338B or CHEN HWA 502

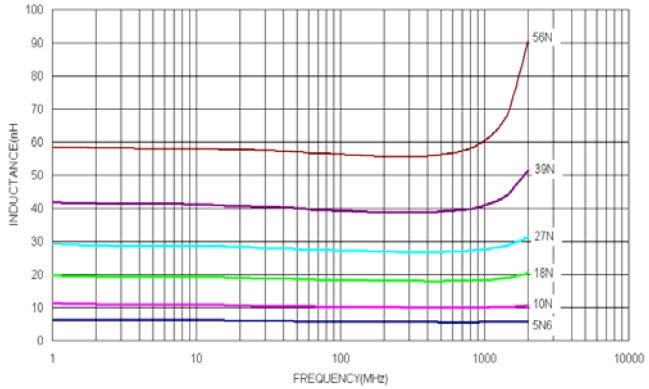
  Irms：HP4284A+HP42841A/HP4285A+HP42841A

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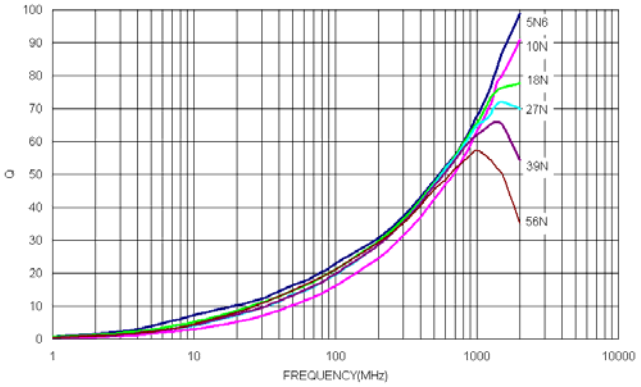
**Test Instruments**：Agilent E4991A Material/Impedance Analyzer

## CT0603

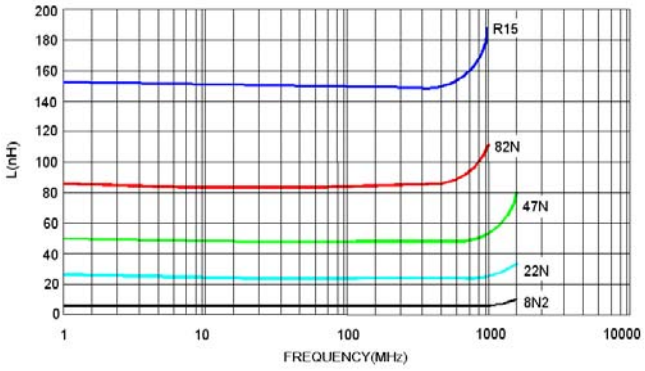
*Typical L vs. Frequency*

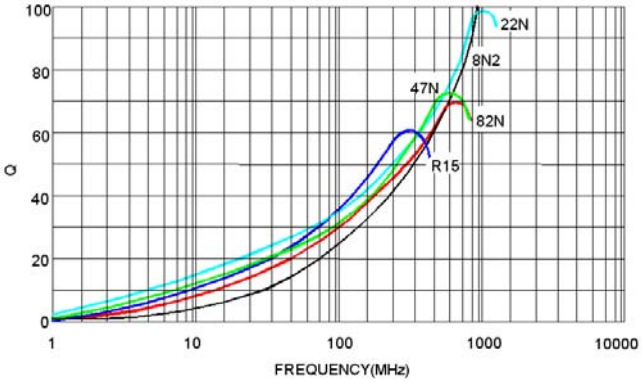



*Typical Q vs. Frequency*




## CT0805



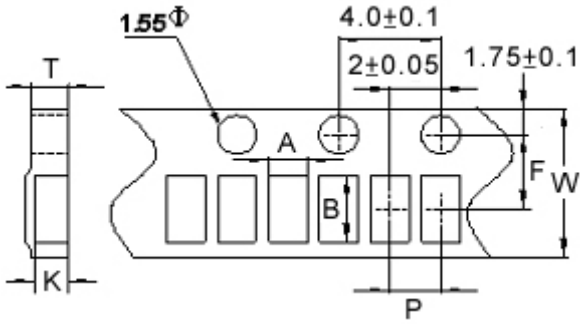

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## Packaging Specifications

**Tape Dimensions**

**Figure 1**




**Tape Material**

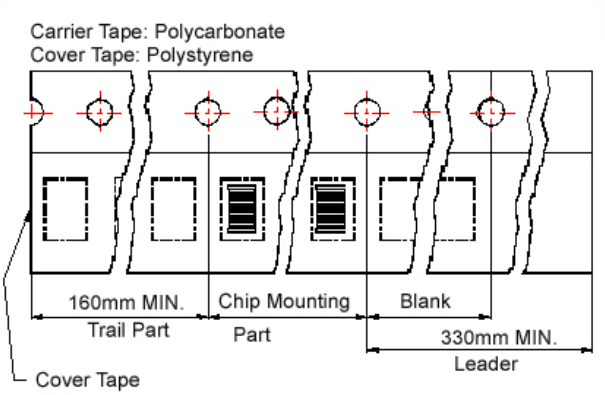
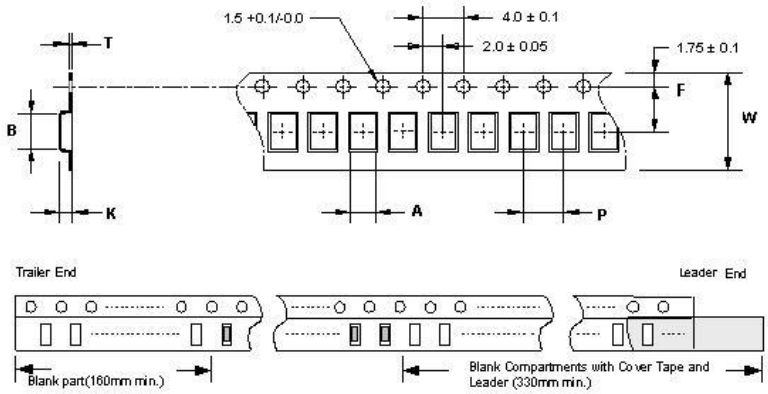
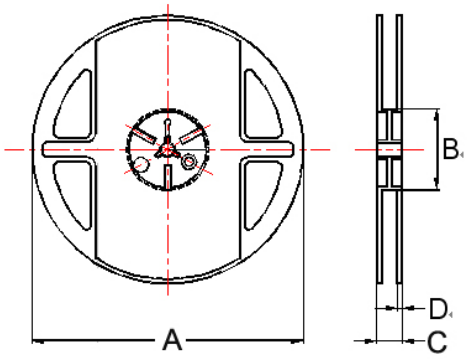



**Figure 2**




**Reel Dimensions**




## Dimensions in mm

| TYPE | Fig. | Tape Dimensions | | | | | | | Reel Dimensions | | | | Quantity |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | B | T | W | P | F | K | A | B | C | D | PCS / Reel |
| CT0603 | 1 | 1.05 | 1.80 | 0.75 | 8 | 4 | 3.5 | 0.60 | 178 | 60 | 12 | 1.5 | 4000 |
| CT0805 | 2 | 1.85 | 2.45 | 0.23 | 8 | 4 | 3.5 | 1.10 | 178 | 60 | 12 | 1.5 | 2000 |