



# Chip Inductors – 0805HT (2012)

At just 0.035" high, these are one of our lowest profile surface mount inductors. Their wire wound ceramic design provides tight tolerances, exceptional Q and high SRF values.

Coilcraft **Designer's Kit C321** contains samples of all 5% parts shown as stocked. To order, contact Coilcraft or visit <http://order.coilcraft.com> to purchase on-line.

| Part number <sup>1</sup> | Inductance <sup>2</sup><br>(nH) | Percent tolerance <sup>3</sup> | Q min <sup>4</sup> | SRF min <sup>5</sup><br>(MHz) | DCR max <sup>6</sup><br>(Ohms) | Irms <sup>7</sup><br>(mA) | Color Code |
|--------------------------|---------------------------------|--------------------------------|--------------------|-------------------------------|--------------------------------|---------------------------|------------|
| 0805HT-1N8TJE_           | 1.8 @ 250 MHz                   | <b>5</b>                       | 55 @ 1500 MHz      | 9400                          | 0.030                          | 800                       | Black      |
| 0805HT-2N0TJE_           | 2.0 @ 250 MHz                   | <b>5</b>                       | 55 @ 1500 MHz      | 11500                         | 0.018                          | 800                       | Violet     |
| 0805HT-3N9TJE_           | 3.9 @ 250 MHz                   | <b>5</b>                       | 50 @ 1000 MHz      | 6100                          | 0.055                          | 800                       | Brown      |
| 0805HT-4N3TJE_           | 4.3 @ 250 MHz                   | <b>5</b>                       | 80 @ 1000 MHz      | 6364                          | 0.030                          | 800                       | White      |
| 0805HT-4N7TJE_           | 4.7 @ 250 MHz                   | <b>5</b>                       | 50 @ 1000 MHz      | 5500                          | 0.060                          | 800                       | Red        |
| 0805HT-5N1TJE_           | 5.1 @ 250 MHz                   | <b>5</b>                       | 45 @ 1000 MHz      | 6100                          | 0.069                          | 800                       | Blue       |
| 0805HT-5N6TJE_           | 5.6 @ 250 MHz                   | <b>5</b>                       | 45 @ 1000 MHz      | 5800                          | 0.091                          | 800                       | Gray       |
| 0805HT-6N8TJE_           | 6.8 @ 250 MHz                   | <b>5</b>                       | 50 @ 1000 MHz      | 4800                          | 0.080                          | 800                       | Orange     |
| 0805HT-7N5TJE_           | 7.5 @ 250 MHz                   | <b>5</b>                       | 47 @ 1000 MHz      | 4600                          | 0.082                          | 800                       | Black      |
| 0805HT-8N2TJE_           | 8.2 @ 250 MHz                   | <b>5</b>                       | 50 @ 1000 MHz      | 4800                          | 0.080                          | 800                       | Yellow     |
| 0805HT-9N1TJE_           | 9.1 @ 250 MHz                   | <b>5</b>                       | 54 @ 1000 MHz      | 3900                          | 0.105                          | 800                       | Red        |
| 0805HT-10NT_E_           | 10 @ 250 MHz                    | <b>5,2</b>                     | 55 @ 750 MHz       | 3300                          | 0.080                          | 800                       | Green      |
| 0805HT-12NT_E_           | 12 @ 250 MHz                    | <b>5,2</b>                     | 55 @ 750 MHz       | 3800                          | 0.10                           | 800                       | Blue       |
| 0805HT-15NT_E_           | 15 @ 250 MHz                    | <b>5,2</b>                     | 50 @ 500 MHz       | 2950                          | 0.10                           | 800                       | Violet     |
| 0805HT-18NT_E_           | 18 @ 250 MHz                    | <b>5,2</b>                     | 50 @ 500 MHz       | 3100                          | 0.13                           | 800                       | Gray       |
| 0805HT-20NT_E_           | 20 @ 250 MHz                    | <b>5,2</b>                     | 50 @ 500 MHz       | 2700                          | 0.17                           | 800                       | Yellow     |
| 0805HT-22NT_E_           | 22 @ 250 MHz                    | <b>5,2</b>                     | 50 @ 500 MHz       | 2900                          | 0.15                           | 800                       | White      |
| 0805HT-27NT_E_           | 27 @ 250 MHz                    | <b>5,2</b>                     | 50 @ 500 MHz       | 2450                          | 0.19                           | 700                       | Black      |
| 0805HT-33NT_E_           | 33 @ 250 MHz                    | <b>5,2</b>                     | 55 @ 500 MHz       | 2350                          | 0.19                           | 600                       | Brown      |
| 0805HT-39NT_E_           | 39 @ 250 MHz                    | <b>5,2,1</b>                   | 55 @ 500 MHz       | 2200                          | 0.27                           | 600                       | Red        |
| 0805HT-47NT_E_           | 47 @ 200 MHz                    | <b>5,2,1</b>                   | 50 @ 500 MHz       | 2000                          | 0.30                           | 600                       | Orange     |
| 0805HT-56NT_E_           | 56 @ 200 MHz                    | <b>5,2,1</b>                   | 50 @ 500 MHz       | 1850                          | 0.39                           | 500                       | Yellow     |
| 0805HT-68NT_E_           | 68 @ 200 MHz                    | <b>5,2,1</b>                   | 50 @ 500 MHz       | 1500                          | 0.40                           | 500                       | Green      |
| 0805HT-82NT_E_           | 82 @ 150 MHz                    | <b>5,2,1</b>                   | 50 @ 500 MHz       | 1500                          | 0.44                           | 500                       | Blue       |
| 0805HT-R10T_E_           | 100 @ 150 MHz                   | <b>5,2</b>                     | 50 @ 500 MHz       | 1200                          | 0.64                           | 400                       | Violet     |
| 0805HT-R12T_E_           | 120 @ 150 MHz                   | <b>5,2</b>                     | 40 @ 250 MHz       | 1150                          | 0.68                           | 300                       | Gray       |
| 0805HT-R15T_E_           | 150 @ 150 MHz                   | <b>5,2</b>                     | 40 @ 250 MHz       | 1050                          | 0.80                           | 300                       | White      |
| 0805HT-R18T_E_           | 180 @ 150 MHz                   | <b>5,2</b>                     | 40 @ 250 MHz       | 830                           | 0.86                           | 300                       | Black      |
| 0805HT-R22T_E_           | 220 @ 150 MHz                   | <b>5,2</b>                     | 39 @ 150 MHz       | 820                           | 1.29                           | 200                       | Orange     |
| 0805HT-R27T_E_           | 270 @ 150 MHz                   | <b>5,2</b>                     | 33 @ 150 MHz       | 790                           | 1.40                           | 200                       | Yellow     |
| 0805HT-R33T_E_           | 330 @ 150 MHz                   | <b>5,2</b>                     | 32 @ 150 MHz       | 730                           | 1.93                           | 200                       | Green      |
| 0805HT-R39T_E_           | 390 @ 100 MHz                   | <b>5,2</b>                     | 30 @ 150 MHz       | 675                           | 2.80                           | 200                       | Blue       |
| 0805HT-R47T_E_           | 470 @ 100 MHz                   | <b>5,2</b>                     | 30 @ 150 MHz       | 610                           | 3.10                           | 200                       | Violet     |
| 0805HT-R50T_E_           | 500 @ 50 MHz                    | <b>5,2</b>                     | 20 @ 50 MHz        | 585                           | 3.20                           | 200                       | Gray       |

1. When ordering, specify **tolerance, termination** and **packaging** codes:

**0805HT-R22TGEC**

**Termination:** **E** = Halogen free component. RoHS compliant silver-palladium-platinum-glass frit terminations.

**L** = RoHS compliant, not halogen-free. Silver-palladium-platinum-glass frit terminations.  
Special order: **T** = RoHS tin-silver-copper (95.5/4/0.5) or **S** = non-RoHS tin-lead (63/37).

**Tolerance:** **F** = 1% **G** = 2% **J** = 5%  
(Table shows stock tolerances in bold.)

**Packaging:** **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (2000 parts per full reel).

**B** = Less than full reel. In tape, but not machine ready. To have a leader and trailer added (\$25 charge), use code letter C instead.

**D** = 13" machine-ready reel. EIA-481 embossed plastic tape. Factory order only, not stocked (7500 parts per full reel).

2. Inductance measured using a Coilcraft SMD-A fixture in an Agilent/HP 4286A impedance analyzer with Coilcraft-provided correlation pieces.

3. Tolerances in bold are stocked for immediate shipment.

4. Q measured using an Agilent/HP 4291A with an Agilent/HP 16193 test fixture and on an Agilent/HP 8753D with a Coilcraft SMD-D test fixture.

5. SRF measured using an Agilent/HP 8720D network analyzer and a Coilcraft SMD-D test fixture.

6. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF858 test fixture.

7. Current that causes a 15°C temperature rise from 25°C ambient. This information is for reference only and does not represent absolute maximum ratings.

8. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



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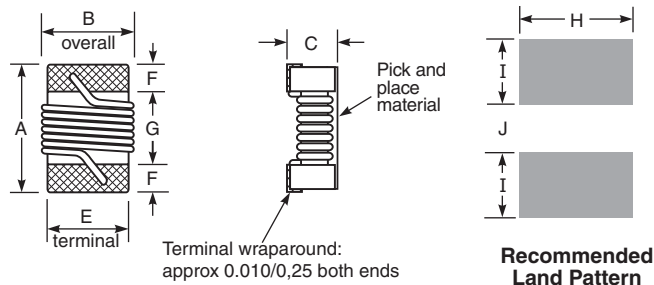
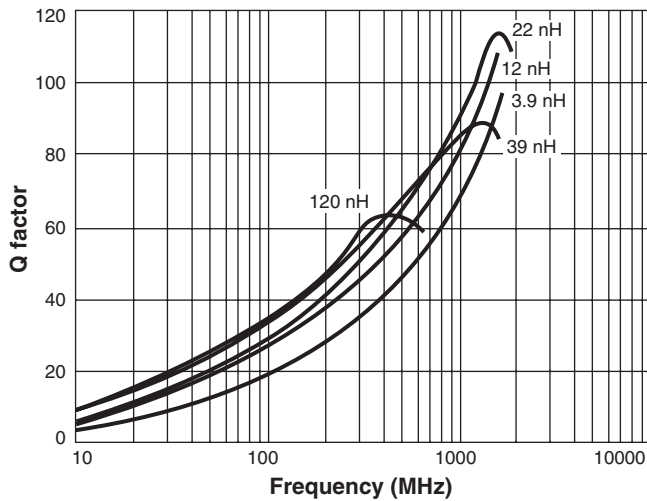
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# 0805HT Series (2012)

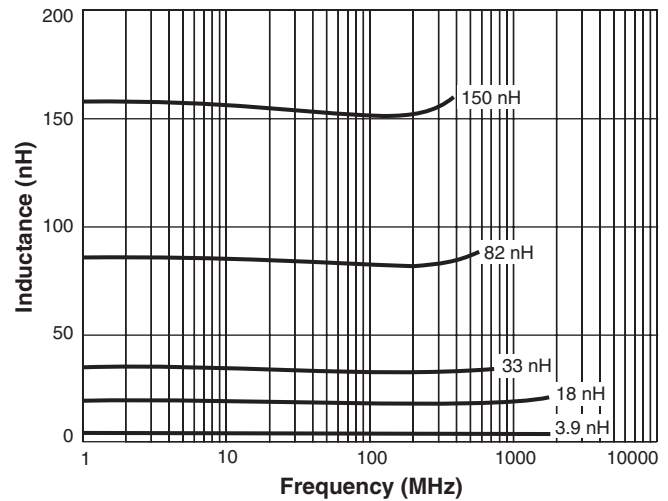
## Typical Q vs Frequency



| A     | B     | C     | E     | F     | G     | H     | I     | J     |        |
|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| max   | max   | max   |       |       |       |       |       |       | inches |
| 0.085 | 0.060 | 0.035 | 0.050 | 0.017 | 0.045 | 0.070 | 0.040 | 0.030 |        |
| 2,16  | 1,52  | 0,89  | 1,27  | 0,43  | 1,14  | 1,78  | 1,02  | 0,76  | mm     |

**Note:** Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0,152 mm.

## Typical L vs Frequency



**Designer's Kit C321** contains samples of all 5% tolerance parts

**Core material** Ceramic

**Environmental** RoHS compliant, halogen free

**Terminations** Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

**Weight** 6.0 – 6.9 mg

**Ambient temperature**  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$  with Irms current

**Maximum part temperature**  $+140^{\circ}\text{C}$  (ambient + temp rise).

**Storage temperature** Component:  $-40^{\circ}\text{C}$  to  $+140^{\circ}\text{C}$ .

Tape and reel packaging:  $-40^{\circ}\text{C}$  to  $+80^{\circ}\text{C}$

**Resistance to soldering heat** Max three 40 second reflows at  $+260^{\circ}\text{C}$ , parts cooled to room temperature between cycles

**Temperature Coefficient of Inductance (TCL)**  $+25$  to  $+125$  ppm/ $^{\circ}\text{C}$

**Moisture Sensitivity Level (MSL)** 1 (unlimited floor life at  $<30^{\circ}\text{C}$  / 85% relative humidity)

**Failures in Time (FIT) / Mean Time Between Failures (MTBF)**

One per billion hours / one billion hours, calculated per Telcordia SR-332

**Packaging** 2000/7" reel; 7500/13" reel; Plastic tape: 8 mm wide, 0.23 mm thick, 4 mm pocket spacing, 0.9 mm pocket depth

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).



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|                                |                                |                                |                                |                                |                                |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
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| <a href="#">0805HT-22NTGLC</a> | <a href="#">0805HT-R12TJLC</a> | <a href="#">0805HT-39NTGLC</a> | <a href="#">0805HT-10NTJLC</a> | <a href="#">0805HT-18NTJLC</a> | <a href="#">0805HT-18NTGLB</a> |
| <a href="#">0805HT-R33TGLB</a> | <a href="#">0805HT-R22TGLB</a> | <a href="#">0805HT-R39TJLB</a> | <a href="#">0805HT-4N7TJLB</a> | <a href="#">0805HT-33NTJLB</a> | <a href="#">0805HT-15NTGLC</a> |
| <a href="#">0805HT-82NTGLB</a> | <a href="#">0805HT-5N1TJLC</a> | <a href="#">0805HT-9N1TJLB</a> | <a href="#">0805HT-R27TJLB</a> | <a href="#">0805HT-R18TGLC</a> | <a href="#">0805HT-R33TJLC</a> |
| <a href="#">0805HT-47NTGLB</a> | <a href="#">0805HT-6N8TJLB</a> | <a href="#">0805HT-56NTJLB</a> | <a href="#">0805HT-20NTGLB</a> | <a href="#">0805HT-R15TGLB</a> | <a href="#">0805HT-27NTJLB</a> |
| <a href="#">0805HT-10NTGLC</a> | <a href="#">0805HT-7N5TJLC</a> | <a href="#">0805HT-20NTJLC</a> | <a href="#">0805HT-47NTJLC</a> | <a href="#">0805HT-68NTGLC</a> | <a href="#">0805HT-R22TJLC</a> |
| <a href="#">0805HT-R50TJLC</a> | <a href="#">0805HT-12NTJLC</a> | <a href="#">0805HT-33NTJLC</a> | <a href="#">0805HT-R10TGLB</a> | <a href="#">0805HT-3N9TJLB</a> | <a href="#">0805HT-9N1TJLC</a> |
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| <a href="#">0805HT-R10TJLB</a> | <a href="#">0805HT-R33TGLC</a> | <a href="#">0805HT-R15TJLC</a> | <a href="#">0805HT-10NTJLB</a> | <a href="#">0805HT-56NTGLB</a> | <a href="#">0805HT-R39TGLB</a> |
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| <a href="#">0805HT-R15TJLB</a> | <a href="#">0805HT-68NTJLC</a> | <a href="#">0805HT-R50TJLB</a> | <a href="#">0805HT-1N8TJLC</a> | <a href="#">0805HT-4N7TJLC</a> | <a href="#">0805HT-R39TJLC</a> |
| <a href="#">0805HT-22NTGLB</a> | <a href="#">0805HT-68NTGLB</a> | <a href="#">0805HT-7N5TJLB</a> | <a href="#">0805HT-R15TGLC</a> | <a href="#">0805HT-5N1TJLB</a> | <a href="#">0805HT-5N6TJLB</a> |
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| <a href="#">0805HT-82NTJLC</a> | <a href="#">0805HT-39NTGLB</a> | <a href="#">0805HT-R18TJLB</a> | <a href="#">0805HT-R33TJLB</a> |                                |                                |