Chip Inductors—0805HQ (2012)

The 0805HQ Series offers our highest Q factors in an 0805 form factor. In addition, current handling has been improved with significantly lower DCR values.

Like all Coilcraft wire wound ceramic chip inductors, the 0805HQ Series provides exceptional SRFs, tight inductance tolerance and batch consistency.

For even higher Qs, consider our surface mount spring inductors that combine the high Q of an air wound coil with the convenience of automatic placement.

Coilcraft Designer’s Kit C325 contains samples of all 5% inductance tolerance parts. To order, contact Coilcraft or visit http://order.coilcraft.com.

### Table of Inductors

<table>
<thead>
<tr>
<th>Part number1</th>
<th>Inductance2 (nH)</th>
<th>Percent tolerance3</th>
<th>Q min4</th>
<th>SRF min5 (GHz)</th>
<th>DCR max6 (Ohms)</th>
<th>Irms7 (A)</th>
<th>Color code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0805HQ-2N5XJL_</td>
<td>2.5 @ 250 MHz</td>
<td>5</td>
<td>80 @ 1500 MHz</td>
<td>10.30</td>
<td>0.020</td>
<td>1.6</td>
<td>Black</td>
</tr>
<tr>
<td>0805HQ-5N6XJL_</td>
<td>5.6 @ 250 MHz</td>
<td>5</td>
<td>98 @ 1500 MHz</td>
<td>6.10</td>
<td>0.035</td>
<td>1.6</td>
<td>Brown</td>
</tr>
<tr>
<td>0805HQ-6N2XJL_</td>
<td>6.2 @ 250 MHz</td>
<td>5</td>
<td>88 @ 1000 MHz</td>
<td>4.75</td>
<td>0.035</td>
<td>1.6</td>
<td>Red</td>
</tr>
<tr>
<td>0805HQ-12NX_L_</td>
<td>12 @ 250 MHz</td>
<td>5,2</td>
<td>80 @ 1000 MHz</td>
<td>3.00</td>
<td>0.045</td>
<td>1.6</td>
<td>Orange</td>
</tr>
<tr>
<td>0805HQ-16NX_L_</td>
<td>16 @ 250 MHz</td>
<td>5,2</td>
<td>72 @ 500 MHz</td>
<td>2.95</td>
<td>0.060</td>
<td>1.5</td>
<td>Yellow</td>
</tr>
<tr>
<td>0805HQ-18NX_L_</td>
<td>18 @ 250 MHz</td>
<td>5,2</td>
<td>75 @ 500 MHz</td>
<td>2.55</td>
<td>0.060</td>
<td>1.4</td>
<td>Green</td>
</tr>
<tr>
<td>0805HQ-20NX_L_</td>
<td>20 @ 250 MHz</td>
<td>5,2</td>
<td>70 @ 500 MHz</td>
<td>2.05</td>
<td>0.055</td>
<td>1.4</td>
<td>Blue</td>
</tr>
<tr>
<td>0805HQ-27NX_L_</td>
<td>27 @ 250 MHz</td>
<td>5,2</td>
<td>75 @ 500 MHz</td>
<td>2.00</td>
<td>0.070</td>
<td>1.3</td>
<td>Violet</td>
</tr>
<tr>
<td>0805HQ-30NX_L_</td>
<td>30 @ 250 MHz</td>
<td>5,2</td>
<td>65 @ 500 MHz</td>
<td>1.95</td>
<td>0.095</td>
<td>1.2</td>
<td>Gray</td>
</tr>
<tr>
<td>0805HQ-39NX_L_</td>
<td>39 @ 250 MHz</td>
<td>5,2</td>
<td>65 @ 500 MHz</td>
<td>1.60</td>
<td>0.110</td>
<td>1.1</td>
<td>White</td>
</tr>
<tr>
<td>0805HQ-48NX_L_</td>
<td>48 @ 200 MHz</td>
<td>5,2</td>
<td>65 @ 500 MHz</td>
<td>1.40</td>
<td>0.095</td>
<td>1.2</td>
<td>Black</td>
</tr>
<tr>
<td>0805HQ-51NX_L_</td>
<td>51 @ 200 MHz</td>
<td>5,2</td>
<td>65 @ 500 MHz</td>
<td>1.40</td>
<td>0.120</td>
<td>1.0</td>
<td>Brown</td>
</tr>
</tbody>
</table>

1. When ordering, specify tolerance, termination and packaging codes:
   - Tolerance: G = 2% J = 5% (Table shows stock tolerances in bold.)
   - Termination: L = RoHS compliant silver-palladium-platinum-glass frit. E = Halogen free component. RoHS compliant without exemption silver-palladium-platinum-glass frit terminations. Special order: T = RoHS tin-silver-copper (95.5/0/4.5) or S = non-RoHS tin-lead (63/37).
   - 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 4286 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.

5. For SRF less than 6 GHz, measured using an Agilent/HP 8753D network analyzer and a Coilcraft SMD-D test fixture. For SRF greater than 6 GHz, measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture.

6. DCR measured on a Cambridge Technology micro-ohmmeter and a Coilcraft CCF840 test fixture.

7. Current that causes a 15°C temperature rise from 25°C ambient.

8. Electrical specifications at 25°C.

Refer to Doc 362 “Soldering Surface Mount Components” before soldering.

Core material: Ceramic

Environmental: RoHS compliant, halogen free optional

Terminations: RoHS compliant silver-palladium-platinum-glass frit. Other terminations available at additional cost.

Weight: 10.5 – 12.5 mg

Ambient temperature: –40°C to +125°C with Irms current. +85°C to +140°C with derated current

Storage temperature: Component: –40°C to +140°C. Tape and reel packaging: –40°C to +80°C

Resistance to soldering heat: Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL): +25 to +125 mmr/m°C

Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°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, 1.65 mm pocket depth

PCB washing: Only pure water or alcohol recommended

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This product may not be used in medical or high risk applications without prior Coilcraft approval.

Specification subject to change without notice. Please check out web site for latest information.
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Typical Q vs Frequency

Typical L vs Frequency

Irms Derating

Note: Height dimension (C) is before optional solder application. For maximum height dimension including solder, add 0.006 in / 0.152 mm.