Chip Inductors - 0805CS (2012)

- Exceptional Q values, even at high frequencies
- Tight tolerances – 2% for most; 1% for some values
- Wirewound construction provides the highest SRFs in 0805 size

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH)</th>
<th>Percent tolerance</th>
<th>Q min</th>
<th>SRF typ (MHz)</th>
<th>DCR max (Ohms)</th>
<th>Imrs (mA)</th>
<th>Color code</th>
</tr>
</thead>
<tbody>
<tr>
<td>0805CS-020XJE</td>
<td>2.8 @ 250 MHz</td>
<td>5</td>
<td>80 @ 1500 MHz</td>
<td>12200</td>
<td>0.06</td>
<td>800</td>
<td>Gray</td>
</tr>
<tr>
<td>0805CS-300XJE</td>
<td>3.0 @ 250 MHz</td>
<td>5</td>
<td>65 @ 1500 MHz</td>
<td>12200</td>
<td>0.06</td>
<td>800</td>
<td>White</td>
</tr>
<tr>
<td>0805CS-350XJE</td>
<td>3.3 @ 250 MHz</td>
<td>5</td>
<td>50 @ 1500 MHz</td>
<td>12200</td>
<td>0.08</td>
<td>600</td>
<td>Black</td>
</tr>
<tr>
<td>0805CS-560XJE</td>
<td>5.6 @ 250 MHz</td>
<td>5</td>
<td>65 @ 1000 MHz</td>
<td>5900</td>
<td>0.08</td>
<td>600</td>
<td>Orange</td>
</tr>
<tr>
<td>0805CS-680XJE</td>
<td>6.8 @ 250 MHz</td>
<td>5</td>
<td>50 @ 1000 MHz</td>
<td>5600</td>
<td>0.11</td>
<td>600</td>
<td>Brown</td>
</tr>
</tbody>
</table>

- Tight tolerances – 2% for most; 1% for some values

1. When ordering, specify tolerance, termination and packaging codes:
   0805CS-821XJE

- Tolerance: F = 1%  G = 2%  J = 5% (Table shows stock tolerances in bold.)
- 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).
- 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.
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. Each part is marked with a single dot. The color dots are not unique identifiers and correspond to multiple inductance values.
9. Electrical specifications at 25°C.

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

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0805CS Series (2012)

Typical Q vs Frequency

Typical L vs Frequency

Designer’s Kit C303 contains 10 of each 5% part
Designer’s Kit C303-2 contains 10 of each 2% part
Core material Ceramic
Environmental RoHS compliant, halogen free
Terminations Silver-palladium-platinum-glass frit. Other terminations available at additional cost.
Weight 10.2 – 11.6 mg
Ambient temperature –40°C to +125°C with Irms current
Maximum part temperature +140°C (ambient + temp rise).
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) +100 to +250 ppm/°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 Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See Doc787_PCB_Washing.pdf.