Chip Inductors - 0402PA (1005)

With current ratings as high as 1.8 A, Coilcraft's 0402PA wirewound chip inductors are ideal for power amplifiers in TDMA, CDMA, GSM and other wireless applications. Compared to our standard 0402CS Series, they can handle up to 65% more current and have half the DC resistance. These inductors are perfect for use as an RF choke for the power supply, the LC tank between amplifier and antenna and in the amplifier bias circuit. Like our other ceramic chip inductors, they feature outstanding self-resonant frequencies and excellent Q values. Most values are available in 2% inductance tolerance.

Coilcraft Designer’s Kit C373 contains samples of all 5% inductance tolerance parts. To order, contact Coilcraft or visit http://order.coilcraft.com.

### Table: 0402PA Inductors

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH)</th>
<th>Percent tolerance</th>
<th>900 MHz L typ Q typ</th>
<th>1.7 GHz L typ Q typ</th>
<th>SRF typ (MHz)</th>
<th>DCR typ (Ohms)</th>
<th>Irms (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0402PA-0N8XJR_</td>
<td>0.78</td>
<td>5</td>
<td>0.79</td>
<td>35</td>
<td>0.76</td>
<td>55</td>
<td>15200</td>
</tr>
<tr>
<td>0402PA-1N9X_R_</td>
<td>1.9</td>
<td>5,2</td>
<td>1.83</td>
<td>50</td>
<td>1.81</td>
<td>73</td>
<td>12500</td>
</tr>
<tr>
<td>0402PA-3N4X_R_</td>
<td>3.4</td>
<td>5,2</td>
<td>3.36</td>
<td>51</td>
<td>3.33</td>
<td>93</td>
<td>7200</td>
</tr>
<tr>
<td>0402PA-5N8X_R_</td>
<td>5.8</td>
<td>5,2</td>
<td>5.76</td>
<td>56</td>
<td>5.70</td>
<td>83</td>
<td>5450</td>
</tr>
<tr>
<td>0402PA-5N8X_R_</td>
<td>6.2</td>
<td>5,2</td>
<td>6.17</td>
<td>57</td>
<td>6.28</td>
<td>81</td>
<td>4950</td>
</tr>
<tr>
<td>0402PA-8N2X_R_</td>
<td>8.2</td>
<td>5,2</td>
<td>8.15</td>
<td>58</td>
<td>8.19</td>
<td>82</td>
<td>4650</td>
</tr>
</tbody>
</table>

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

   - 0402PA-8N2XJR
   - Tolerance: G = 2% J = 5%
   - Termination: R = RoHS matte Sn over Ni over Ag-Pt-glass frit

   Special order:
   - T = RoHS Sn/Ag/Cu (95.5/4.0/0.5)
   - S = Not RoHS Sn/Pb (63/37)

2. Inductance measured at 250 MHz using a Coilcraft SMD-F test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286 impedance analyzer.

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 >6 GHz, measured using an Agilent/HP 8722ES network analyzer and a Coilcraft SMD-D test fixture. For SRF 8 GHz, measured using anAgilent/HP 8755D network analyzer and a Coilcraft SMD-D test fixture.

6. DCR measured on a micro-ohmmeter.

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.

Core material: Ceramic

Environmental:
- RoHS compliant, halogen free
- Terminations: RoHS matte Sn over Ni over Ag-Pt-glass frit. Other terminations available at additional cost.
- Weight: 0.9 – 1.1 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): +25 to +125 ppm/°C
- Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging:
- 2000 or 10000 per 7″ reel. Paper tape: 8 mm wide, 0.68 mm thick, 2 mm pocket spacing

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0402PA Series (1005)

Typical Q vs Frequency

Typical L vs Frequency

AEC Q200 85°C+
Halogen Free

A B C D E F G H I J

max max max ref max max

0.047 0.025 0.026 0.010 0.020 0.009 0.022 0.026 0.014 0.018 inches

1.19 0.64 0.66 0.25 0.51 0.23 0.56 0.66 0.36 0.46 mm

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