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>
<thead>
<tr>
<th>Part number</th>
<th>Inductance (nH)</th>
<th>Percent tolerance</th>
<th>L typ</th>
<th>Q typ</th>
<th>SRF typ (MHz)</th>
<th>DCR typ (Ohms)</th>
<th>Irms (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0402PA-0N8XJE</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_E</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_E</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-3N5X_E</td>
<td>3.5</td>
<td>5,2</td>
<td>3.51</td>
<td>58</td>
<td>3.55</td>
<td>82</td>
<td>8750</td>
</tr>
<tr>
<td>0402PA-5N8X_E</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-6N2X_E</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_E</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:

   L = RoHS compliant silver-palladium-platinum-glass frit terminations.
   J = Non-RoHS tin-silver-copper (95.5/4/0.5)
   K = Halogen free component. RoHS compliant silver-platinum-glass frit terminations.
   G = 2% tolerance
   J = 5% tolerance

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

   U = Less than full reel. In tape, but not machine ready.
   T = RoHS compliant, halogen free.

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 ≤6 GHz, measured using an Agilent/HP 8753D 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.
0402PA Series (1005)

Typical Q vs Frequency

Typical L vs Frequency

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**Typical Q vs Frequency**

- **Frequency (MHz)**
- **Q Factor**

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**Typical L vs Frequency**

- **Frequency (MHz)**
- **Inductance (nH)**

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**Recommended Land Pattern**

- **A max** 0.047
- **B max** 0.025
- **C max** 0.026
- **D max** 0.010
- **E max** 0.020
- **F max** 0.009
- **ref E** 0.022
- **F ref** 0.026
- **G** 0.014
- **H** 0.018 inches

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>I</th>
<th>J</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.19</td>
<td>0.64</td>
<td>0.66</td>
<td>0.25</td>
<td>0.51</td>
<td>0.23</td>
<td>0.56</td>
<td>0.66</td>
<td>0.36</td>
<td>0.46 mm</td>
</tr>
</tbody>
</table>

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