SMT Broadband Conical Inductors

- Full-length cap fully protects the coil and provides a large surface for pick and place.
- The self positioning mounting bracket has four soldered pads for excellent board adhesion.
- Designed specifically for broadband and high frequency applications.
- Operates as a series of narrow-band inductors throughout an operating frequency range of 10 MHz to 40 GHz.
- Ideal for use in ultra-wideband bias Ts, where the conical inductor provides the path for the DC bias injection or extraction while isolating the power source from the active device.
- For a “flying lead” version that allows adjustment of the mounting angle consider the BCL series

<table>
<thead>
<tr>
<th>Part number</th>
<th>Inductance ² (µH)</th>
<th>DCR max (Ohms)</th>
<th>Irms ³ (mA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCR-221JL</td>
<td>0.22</td>
<td>0.10</td>
<td>1200</td>
</tr>
<tr>
<td>BCR-531JL</td>
<td>0.53</td>
<td>0.15</td>
<td>1060</td>
</tr>
<tr>
<td>BCR-122JL</td>
<td>1.20</td>
<td>1.05</td>
<td>270</td>
</tr>
<tr>
<td>BCR-162JL</td>
<td>1.65</td>
<td>0.60</td>
<td>490</td>
</tr>
<tr>
<td>BCR-232JL</td>
<td>2.35</td>
<td>1.61</td>
<td>270</td>
</tr>
<tr>
<td>BCR-272JL</td>
<td>2.75</td>
<td>0.40</td>
<td>675</td>
</tr>
<tr>
<td>BCR-632JL</td>
<td>6.35</td>
<td>0.92</td>
<td>480</td>
</tr>
<tr>
<td>BCR-652JL</td>
<td>6.50</td>
<td>0.70</td>
<td>650</td>
</tr>
<tr>
<td>BCR-802JL</td>
<td>8.00</td>
<td>3.39</td>
<td>230</td>
</tr>
</tbody>
</table>

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

Termination: L = Tin-silver-copper over silver-platinum-glass frit
Special order, added cost:
S = Tin-lead over silver-platinum-glass frit

Packaging: C = 7” machine-ready reel. EIA-481 embossed plastic tape.
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.

2. Inductance measured at 10 MHz, 0.1 Vrms, 0 Adc using an Agilent/HP 16193A fixture in an Agilent/HP 4287A LCR meter or equivalents.
3. Current that causes a 40°C temperature rise from 25°C ambient.
4. Electrical specifications at 25°C.

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

Terminations: Tin-silver-copper over silver-platinum-glass frit
Other terminations available at additional cost.

Weights:
- BCR-122: 34 mg
- BCR-221, BCR-162, BCR-232, BCR-531: 101 mg
- BCR-272, BCR-632, BCR-652: 472 mg
- BCR-802: 107 mg

Ambient temperature: -40°C to +85°C
Storage temperature: Component: -40°C to +85°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

Moisture Sensitivity Level (MSL): 1 (unlimited floor life at <30°C / 85% relative humidity)

Failures in Time (FIT) / Mean Time Between Failures (MTBF):
38 per billion hours / 26,315,789 hours, calculated per Telcordia SR-332

Packaging:
- BCR-122: 500/7″ reel; 2000/13″ reel Plastic tape: 12 mm wide, 0.36 mm thick, 8 mm pocket spacing, 3.51 mm pocket depth
- BCR-162, BCR-221, BCR-232, BCR-531, BCR-802: 300/7″ reel; 1500/13″ reel Plastic tape: 12 mm wide, 0.36 mm thick, 8 mm pocket spacing, 4.83 mm pocket depth
- BCR-272, BCR-632, BCR-652: 200/7″ reel; 750/13″ reel Plastic tape: 24 mm wide, 0.33 mm thick, 12 mm pocket spacing, 6.45 mm pocket depth

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**BCR-122**

Top View

Dot indicates pin1.

Side View

Front View

Recommended Land Pattern

*Pad is for mounting stability only; do not connect to circuit. Connecting to circuit may adversely affect performance.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>BCR-122</td>
<td>0.105 ±0.010/2.67 ±0.25</td>
<td>0.120 ±0.010/3.05 ±0.25</td>
<td>0.110 ±0.010/2.79 ±0.25</td>
<td>0.030/0.76</td>
<td>0.070/1.78</td>
<td>0.050/1.27</td>
</tr>
<tr>
<td>BCR-162, -221, -232, -531, -802</td>
<td>0.150 ±0.010/3.81 ±0.25</td>
<td>0.220 ±0.010/5.59 ±0.25</td>
<td>0.160 ±0.010/4.06 ±0.25</td>
<td>0.040/1.02</td>
<td>0.150/3.81</td>
<td>0.080/2.03</td>
</tr>
<tr>
<td>BCR-272, -632, -652</td>
<td>0.220 ±0.010/5.59 ±0.25</td>
<td>0.440 ±0.010/11.18 ±0.25</td>
<td>0.220 ±0.010/5.59 ±0.25</td>
<td>0.050/1.27</td>
<td>0.360/9.14</td>
<td>0.140/3.56</td>
</tr>
</tbody>
</table>

Dimensions (inches/millimeters)
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Insertion Loss

Return Loss

Insertion Loss Diagram

Return Loss Diagram

This product may not be used in medical or high-risk applications without prior Coilcraft approval.
Specification subject to change without notice.
Please check web site for latest information.
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Insertion Loss

Response curves measured in a bias tee configuration with an Agilent/HP 8722ES network analyzer.

Return Loss