

# 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 T's, 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

Part number <sup>1</sup>	Inductance <sup>2</sup> ±5% (µH)	DCR max (Ohms)	Irms <sup>3</sup> (mA)
BCR-221JL_	0.22	0.10	1200
BCR-531JL_	0.53	0.15	1060
BCR-122JL_	1.20	1.05	270
BCR-162JL_	1.65	0.60	490
BCR-232JL_	2.35	1.61	270
BCR-272JL_	2.75	0.40	675
BCR-632JL_	6.35	0.92	480
BCR-652JL_	6.50	0.70	650
BCR-802JL_	8.00	3.39	230

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

**BCR-802JLC**

**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

**PCB washing** Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787\\_PCB\\_Washing.pdf](#).

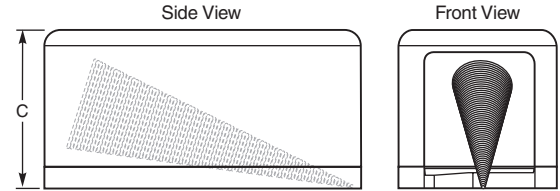
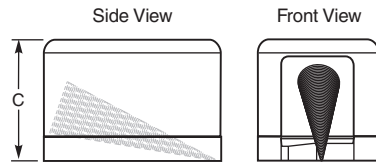
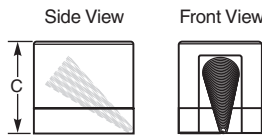
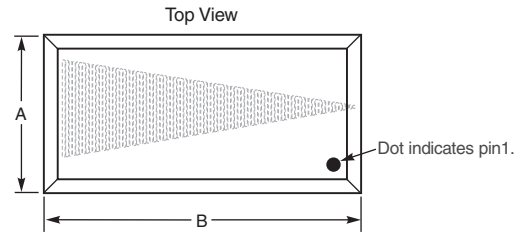
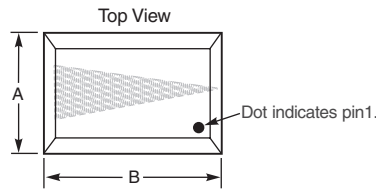
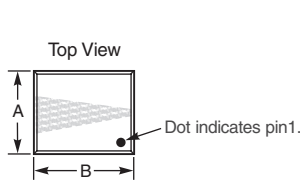


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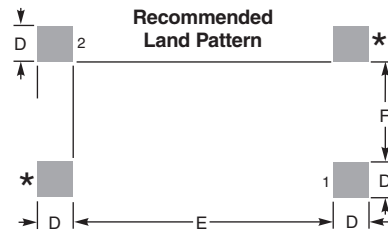
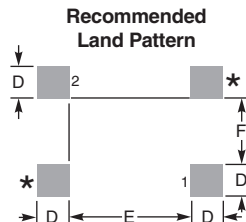
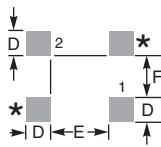
BCR-122

BCR-162, -221, -232, -531, -802

BCR-272, -632, -652



Recommended Land Pattern



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

	A	B	C	D	E	F
BCR-122	0.105 ±0.010/2,67 ±0,25	0.120 ±0.010/3,05 ±0,25	0.110 ±0.010/2,79 ±0,25	0.030/0,76	0.070/1,78	0.050/1,27
BCR-162, -221, -232, -531, -802	0.150 ±0.010/3,81 ±0,25	0.220 ±0.010/5,59 ±0,25	0.160 ±0.010/4,06 ±0,25	0.040/1,02	0.150/3,81	0.080/2,03
BCR-272, -632, -652:	0.220 ±0.010/5,59 ±0,25	0.440 ±0.010/11,18 ±0,25	0.220 ±0.010/5,59 ±0,25	0.050/1,27	0.360/9,14	0.140/3,56

Dimensions (inches/millimeters)



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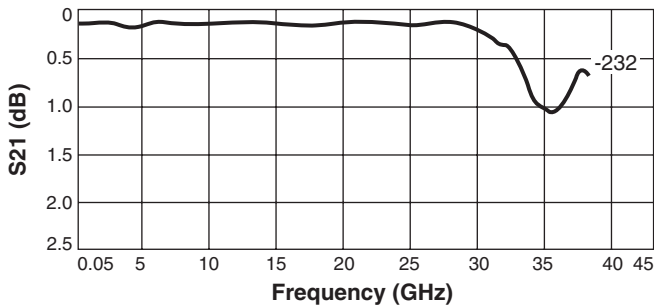
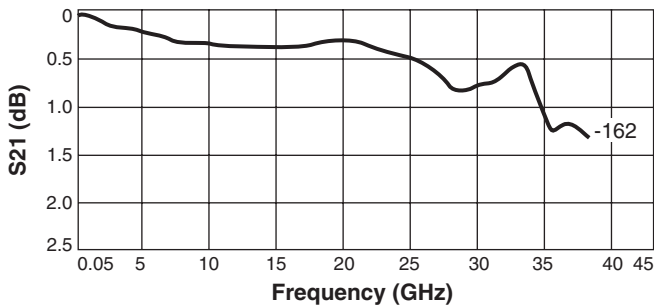
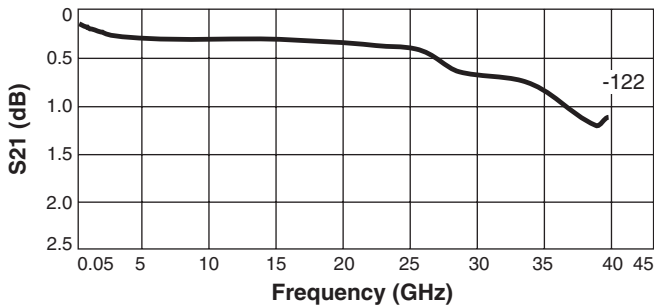
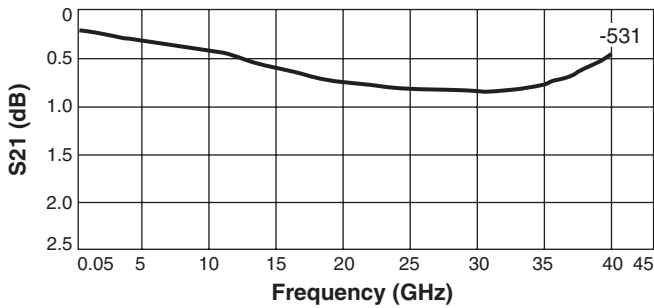
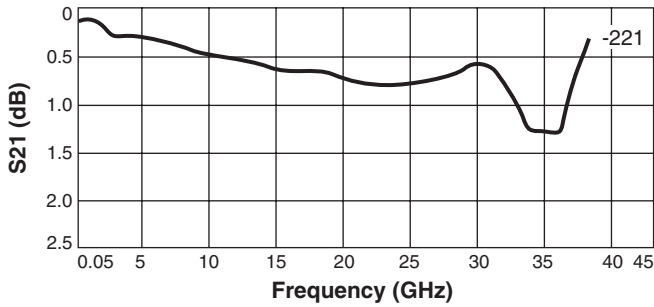
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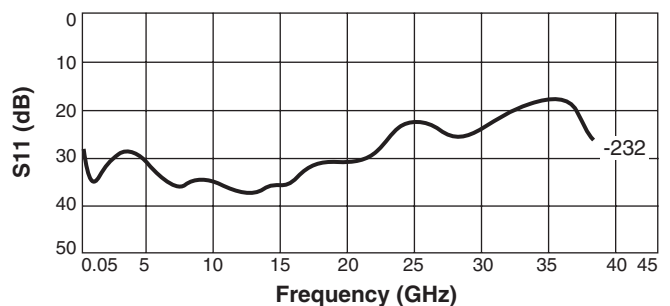
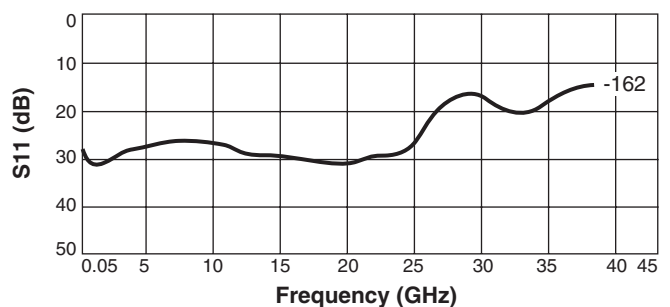
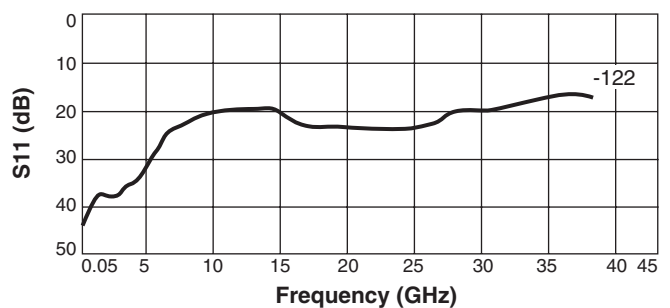
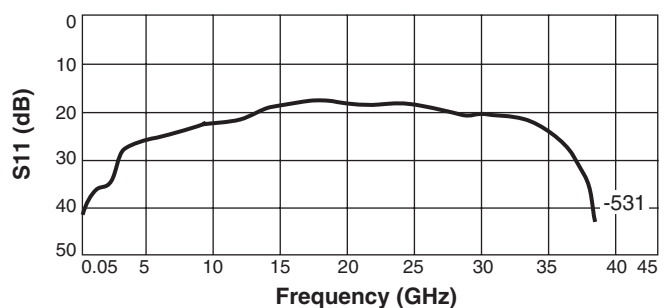
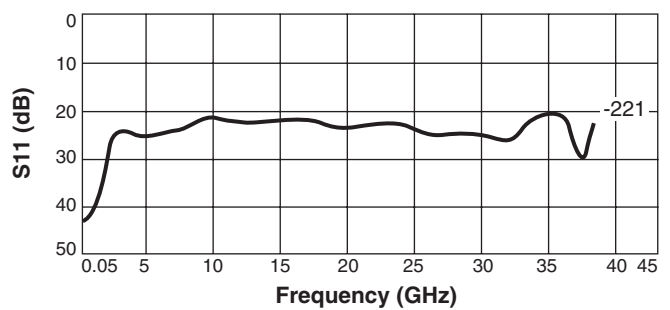


# SMT Broadband Conical Inductors

## Insertion Loss



## Return Loss



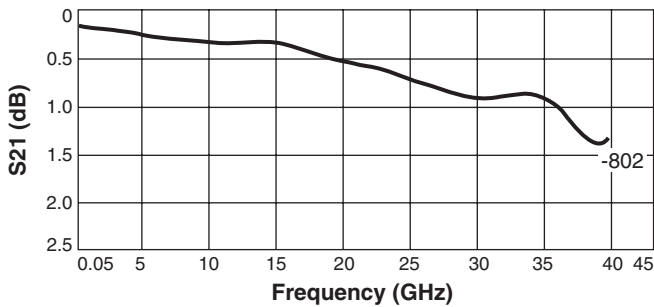
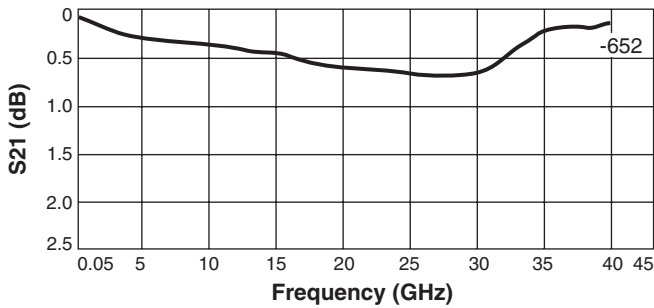
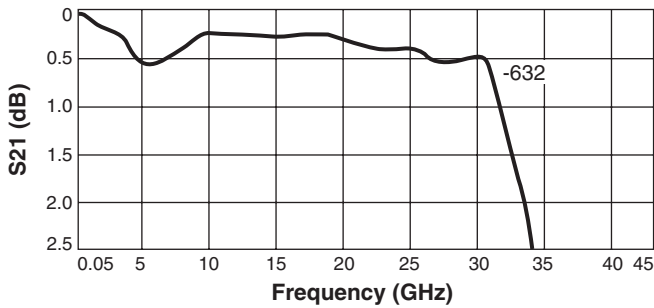
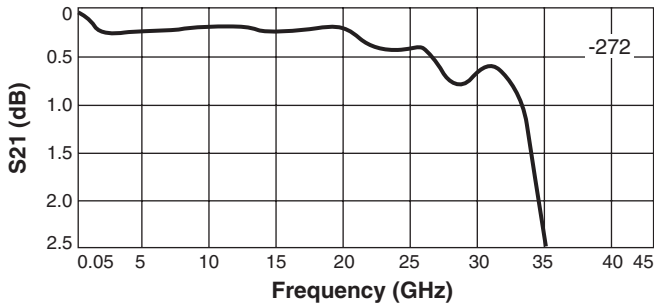
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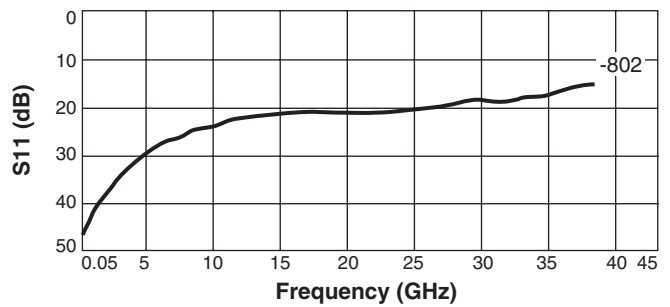
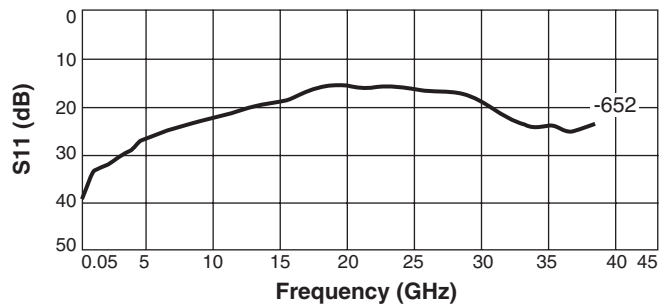
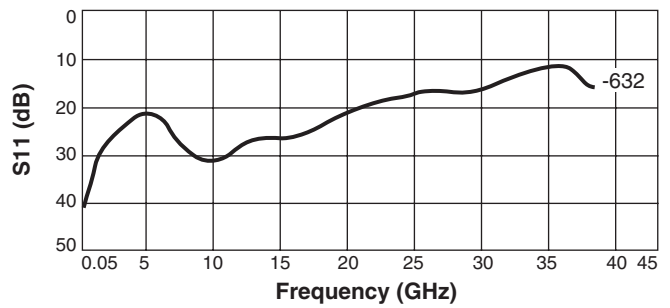
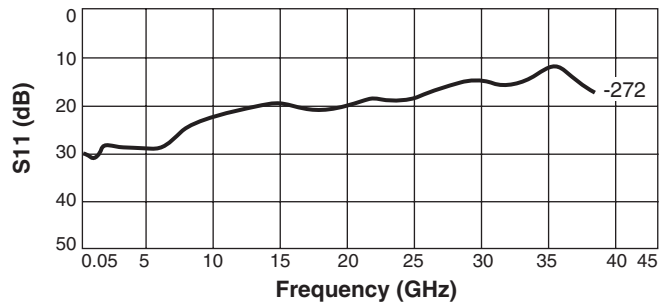


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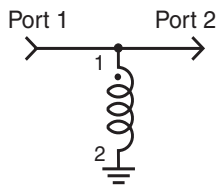
## Insertion Loss



## Return Loss



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



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