



SMT Balun and Coupler for DOCSIS 3.1 and 4.0



- Designed for DOCSIS 3.1/4.0 Broadband or Cable TV (CATV) network
- Compact and low-profile surface mount package
- 1:1 transmission line balun and 23 dB coupling ratio coupler

Core material Ferrite

Environment RoHS compliant, halogen free

Terminations RoHS compliant tin-silver-copper over silver-platinum-glass frit. Other terminations available at additional cost.

Weight ZB1200 0.106 g, ZB1201 0.189 g

Ambient temperature -40°C to $+125^{\circ}\text{C}$

Maximum part temperature $+140^{\circ}\text{C}$

Storage temperature Component: -40°C to $+140^{\circ}\text{C}$.

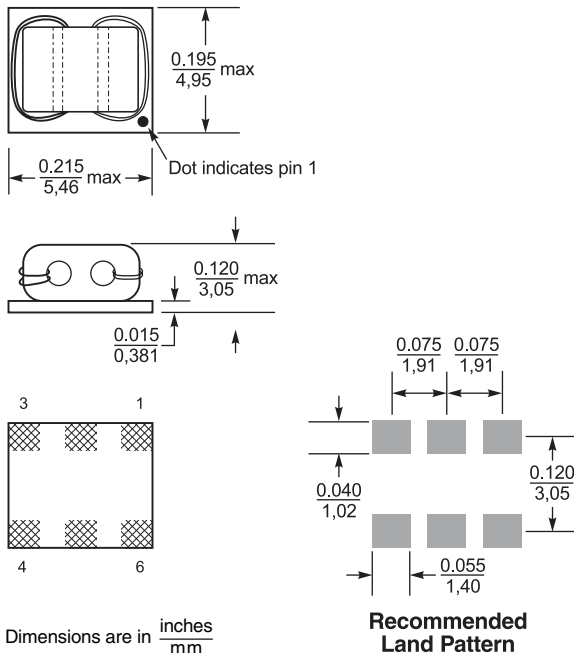
Tape and reel packaging: -40°C to $+80^{\circ}\text{C}$

Resistance to soldering heat Max three 40 second reflows at $+260^{\circ}\text{C}$, parts cooled to room temperature between cycles

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at $<30^{\circ}\text{C}$ / 85% relative humidity)

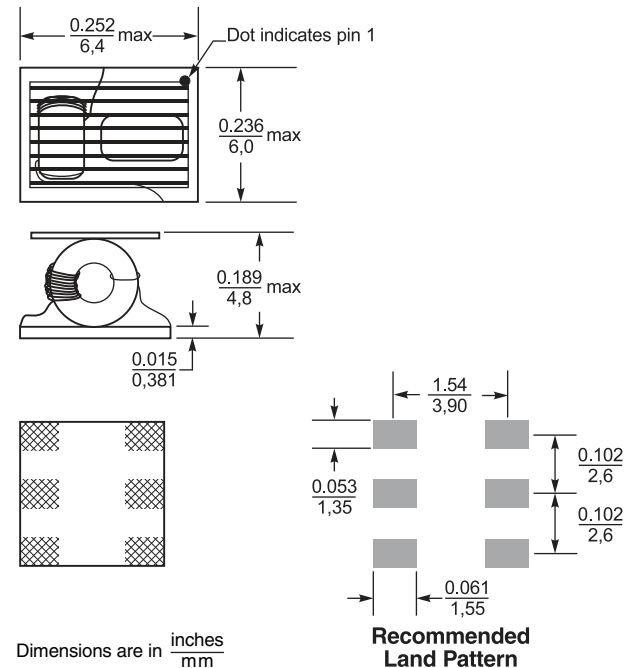
PCB washing Tested to MIL-STD-202 Method 215 plus an additional aqueous wash. See [Doc787_PCB_Washing.pdf](#).

Dimensions – ZB1200-DE



Packaging ZB1200 700/7" reel; 2500/13" reel Plastic tape: 12 mm wide, 0.40 mm thick, 8 mm pocket spacing, 3.1 mm pocket depth

Dimensions – ZB1201-CE



Packaging ZB1201 250/7" reel; 1000/13" reel Plastic tape: 16 mm wide, 0.35 mm thick, 12 mm pocket spacing, 5.0 mm pocket depth



SMT Balun for DOCSIS 3.1 and 4.0 – ZB1200-DE



Part number ¹	Impedance ratio pri:sec	Bandwidth (MHz)	Insertion loss max (dB)	L min ² (μH)	DCR max ³ (mOhm)	Input Power max (W)
ZB1200-DE_	1:1	0.1 – 2500	0.6	30	65	1.5

1. When ordering, please specify **packaging** code:

ZB1200-DEC

Termination: **E** = RoHS compliant tin-silver-copper over silver-platinum-glass frit.
Special order: **S** = non-RoHS tin-lead (63/37).

Packaging: **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (700 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

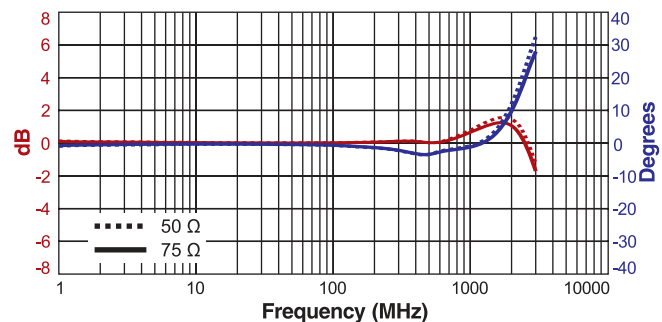
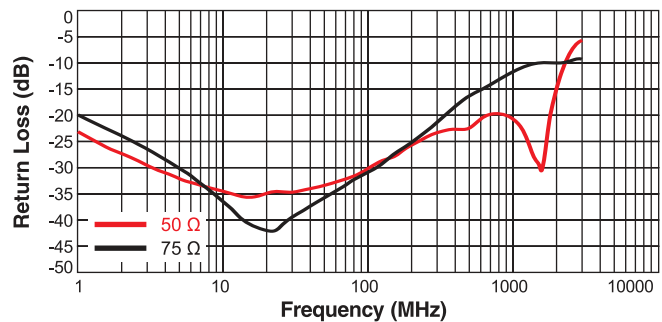
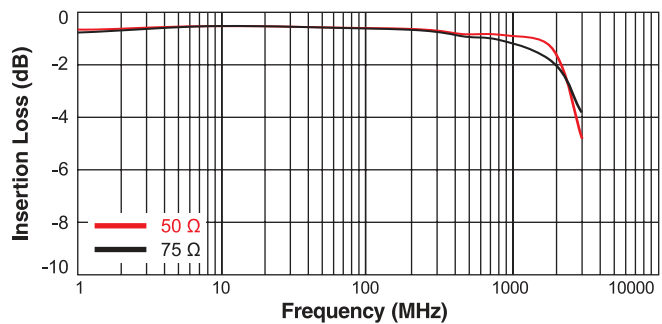
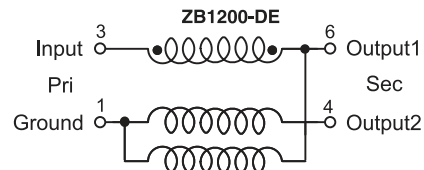
D = 13" machine-ready reel. EIA-481 embossed plastic tape (2500 parts per full reel). Factory order only, not stocked.

2. Inductance measured per winding (pins 1-6, 1-4, 3-6) at 100 kHz, 0.1 V, 0 Adc on an Agilent/HP 4192 or equivalent.

3. DCR measured per winding (pins 1-6, 1-4, 3-6) on a micro-ohmmeter.

4. Electrical specifications at 25°C. Measurements are referenced to 50 Ohms. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

Schematic



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SMT Coupler for DOCSIS 3.1 and 4.0 – ZB1201-CE

Part number ¹	Coupling ratio (dB)	Bandwidth (MHz)	Insertion loss max (dB)	Pins 1-6, Pins 3-4		Pins 2-4, Pins 2-6		Input Power max (W)
				L min ² (μH)	DCR max ³ (mOhm)	L min ² (μH)	DCR max ³ (mOhm)	
ZB1201-CE_	23	1.2 – 2500	0.3	0.012	23	2.7	145	1.5

1. When ordering, please specify **packaging** code:

ZB1201-CEC

Termination: **E** = RoHS compliant tin-silver-copper over silver-platinum-glass frit.

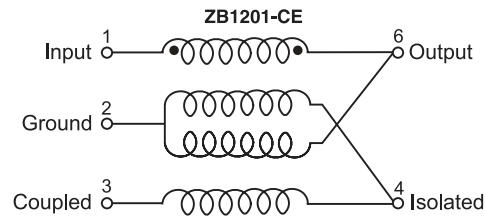
Special order: **S** = non-RoHS tin-lead (63/37).

Packaging: **C** = 7" machine-ready reel. EIA-481 embossed plastic tape (700 parts per full reel). Quantities less than full reel available: in tape (not machine ready) or with leader and trailer (\$25 charge).

D = 13" machine-ready reel. EIA-481 embossed plastic tape (2500 parts per full reel). Factory order only, not stocked.

- Inductance measured per winding at 100 kHz, 0.1 V, 0 Adc on an Agilent/HP 4192 or equivalent.
- DCR measured per winding on a micro-ohmmeter.
- Electrical specifications at 25°C. Measurements are referenced to 50 Ohms. Refer to Doc 362 "Soldering Surface Mount Components" before soldering.

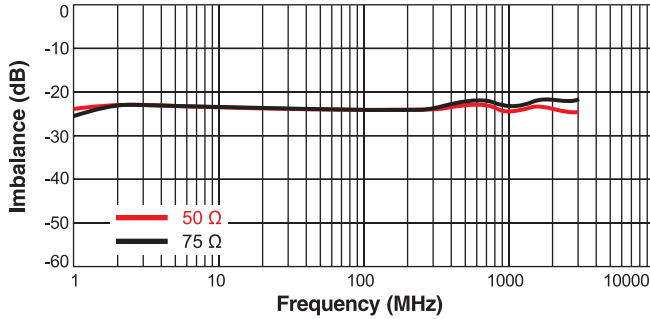
Schematic



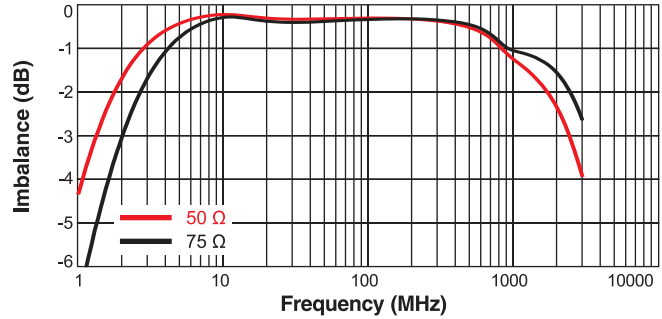


SMT Balun and Coupler for DOCSIS 3.1 and 4.0 – ZB1201-CE

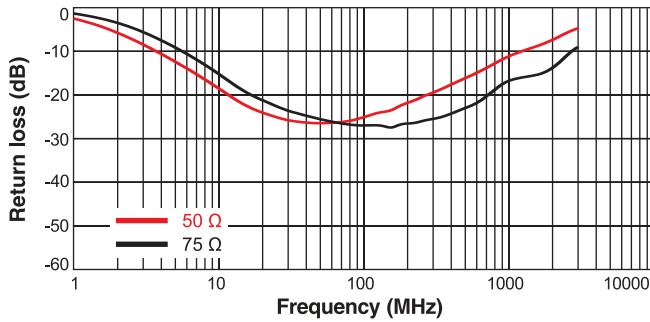
Coupling (Pin 1 – 3)



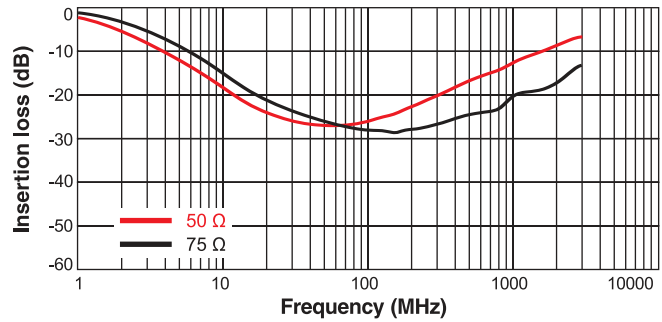
Main line loss (Pin 1 – 6)



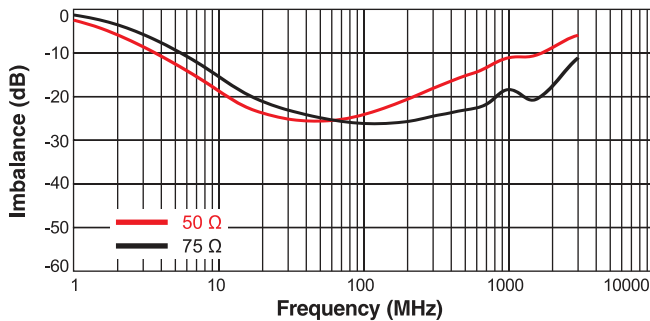
Return loss: Input (Pin 1)



Return loss: Output (Pin 6)



Return loss: Coupling (Pin 3)



Isolation (Pin 1 – 4)

