MABA-009210-CT1760

1:1 Transmission Line Balun
50 - 1200 MHz

Rev. V3

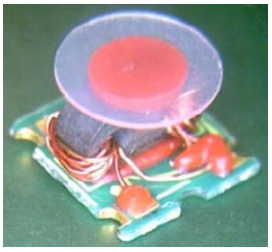
Features

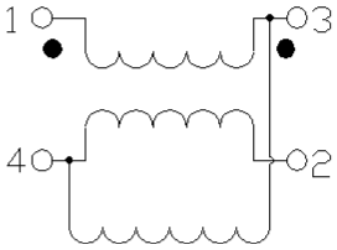
- Surface Mount
- 1:1 Impedance
- Excellent temperature stability
- RoHS Compliant
- 260ºC Reflow compatible

Description

The MABA-009210-CT1760 is a 1:1 RF transmission line Transformer in a low cost surface mount package. Ideally suited for high volume CATV/ Broadband application. Suitable for use in 50 Ohm and 75 Ohm systems.

Functional Schematic





Ordering Information

Part Number	Package
MABA-009210-CT1760	900 piece reel
MABA-009210-CT17TB	Sample Board

Pin Configuration

Pin Number	Function
1	Primary Dot (input)
2	Secondary (o/p coupled)
3	Secondary Dot (o/p through)
4	Primary (ground)

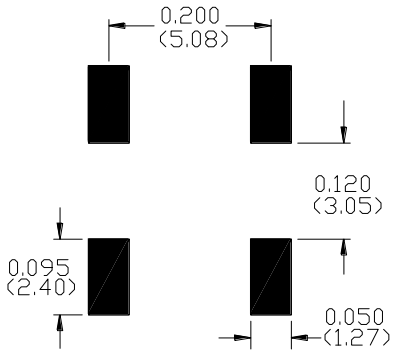
Electrical Specifications: Freq. = 50 - 1200 MHz, T_A = +25°C, Z_0 = 75 Ω

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss 1 (Through) Pin 3 to pin 1	50 MHz 870 MHz 1002 MHz 1200 MHz	dB	—	0.13 0.53 0.63 0.83	0.33 0.93 1.18 1.93
Insertion Loss 2 (Coupled) Pin 2 to pin 1	50 MHz 870 MHz 1002 MHz 1200 MHz	dB	—	0.43 0.33 0.43 0.63	0.62 0.63 0.78 1.33
Amplitude Balance	50 MHz 870 MHz 1002 MHz 1200 MHz	dB	—	0.3 -0.1 -0.2 -0.2	-0.6 +0.7 +0.7 +0.8
Phase Balance	50 - 1002 MHz 1002 - 1200 MHz	°	—	1.2 3.2	± 4.0 ± 8.0
Input Return Loss	50 - 500 MHz 500 - 1002 MHz 1002 - 1200 MHz	dB	18.0 17.5 11.0	23.0 19.0 18.0	—

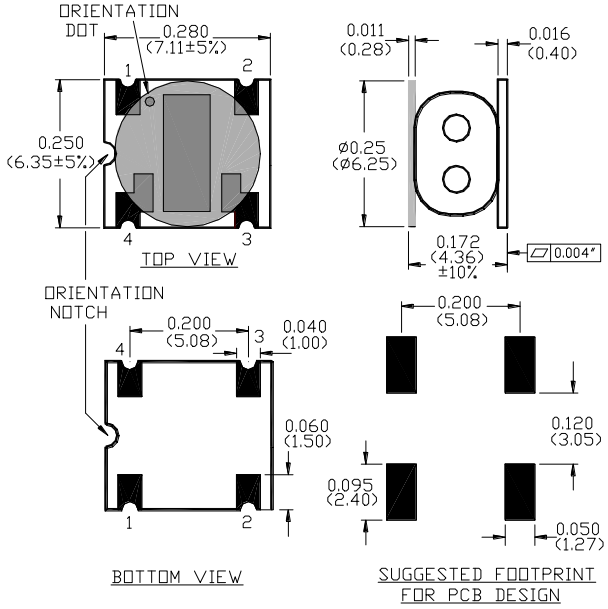
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Power	500 mW
DC Current	500 mA
Operating/Storage Temperature	-40°C to +85°C

Recommended Footprint



Outline Drawing



1. Dimensions in inches (mm).
2. Tolerance: .xx ±0.02, .xxx 0.01 unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1 µm gold over 3 to 6 µm nickel

Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Ao	mm	6.80
Bo	mm	7.60
Ko	mm	5.30
Orientation	-	F24
Reference Application Note ANI-019 for orientation		

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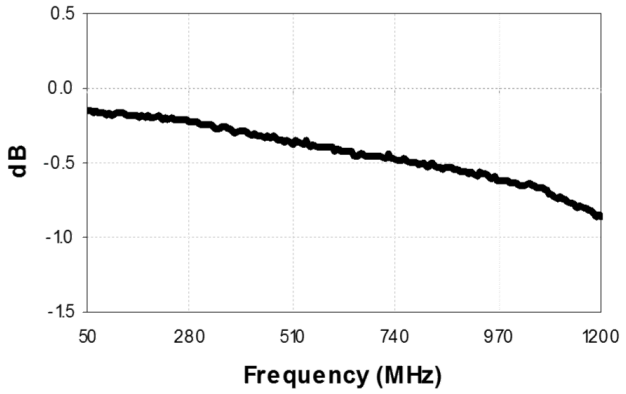
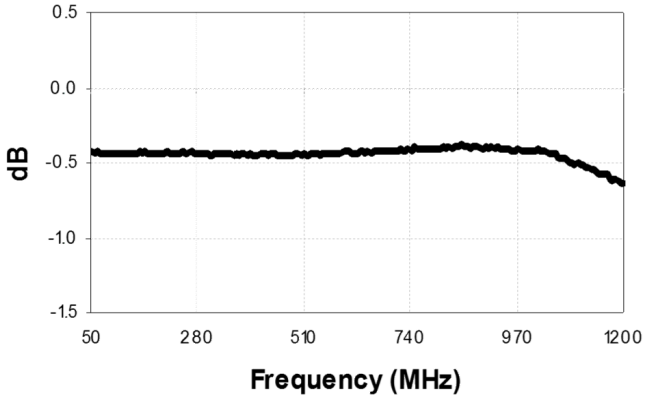
Typical Performance Curves: Electrical Specifications: Z_0 = 75 Ω, T_A = 25°C, P_{in} = 0 dBm

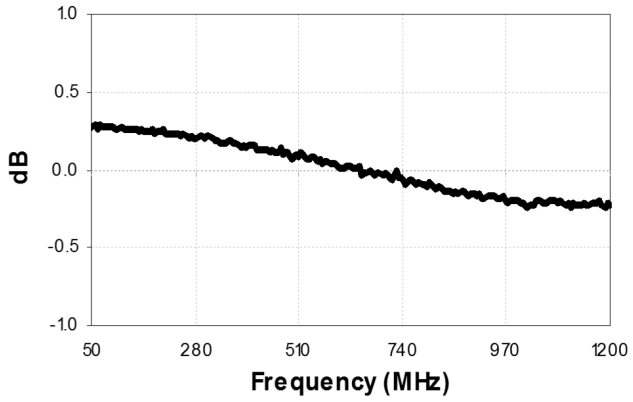
Insertion Loss 1: (through Pin 3-1)



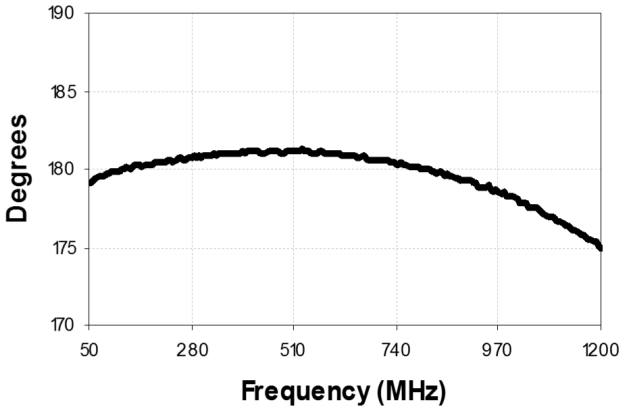
Insertion Loss 2: (coupled Pin 2-1)



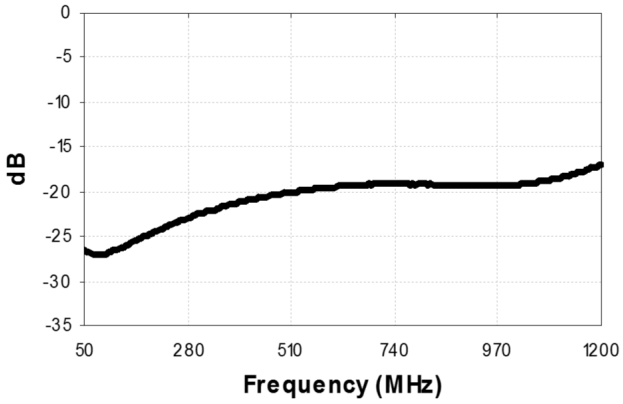
Amplitude Balance



Phase Balance



Return Loss: Input (Pin 1)



Note: The insertion loss graphs have minimum loss pad loss value subtracted from data. Loss value = -10.67dB.

Full temperature plots available on request