

# 1:1 Transmission Line Balun 50 - 1200 MHz



MABA-009210-CT1760

Rev. V4

## Features

- Surface Mount
- 1:1 Impedance
- Excellent temperature stability
- RoHS\* Compliant

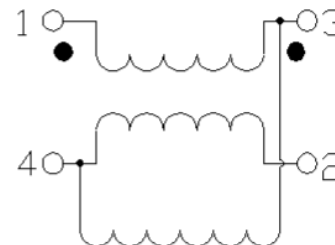
## Applications

- CATV / Broadband

## Description

The MABA-009210-CT1760 is a 1:1 RF transmission line Transformer in a low cost surface mount package. Suitable for use in 50  $\Omega$  and 75  $\Omega$  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<sub>A</sub> = +25°C, Z<sub>0</sub> = 75 $\Omega$

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	—

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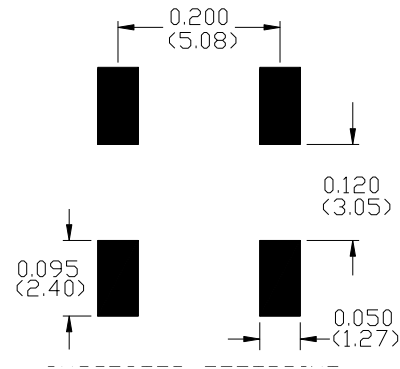
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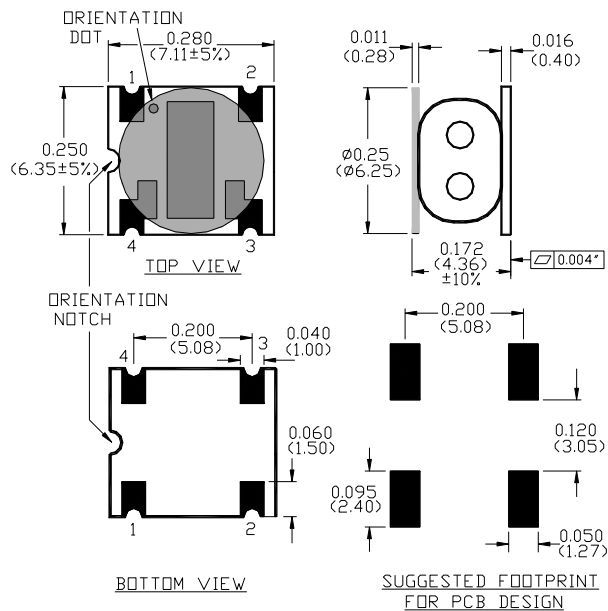
## Absolute Maximum Ratings

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

## Recommended Footprint



## Outline Drawing



## Tape & Reel Information

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

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

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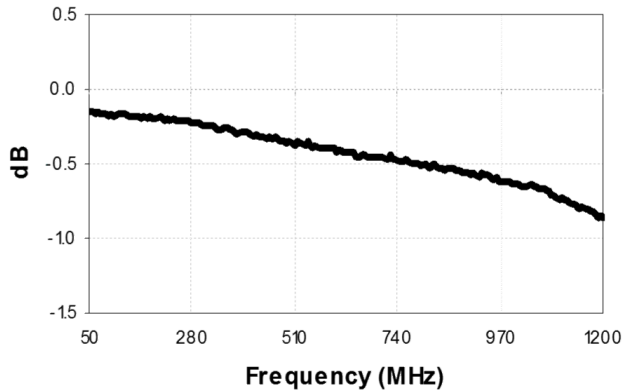


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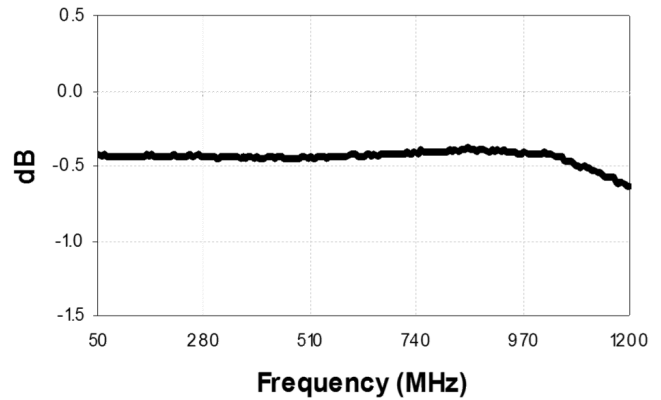
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Typical Performance Curves: Electrical Specifications:  $Z_0 = 75 \Omega$ ,  $T_A = 25^\circ\text{C}$ ,  $P_{in} = 0 \text{ dBm}$

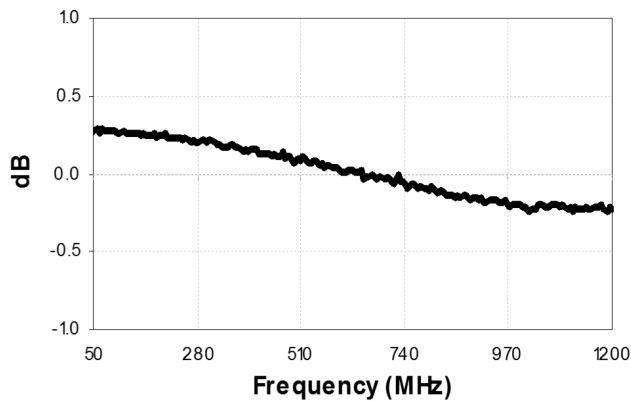
### Insertion Loss 1: (through Pin 3-1)



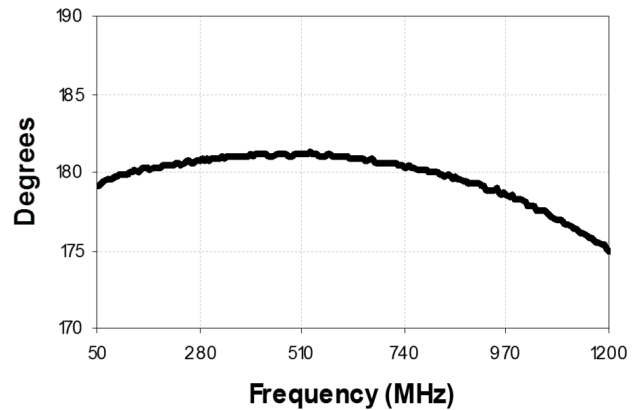
### Insertion Loss 2: (coupled Pin 2-1)



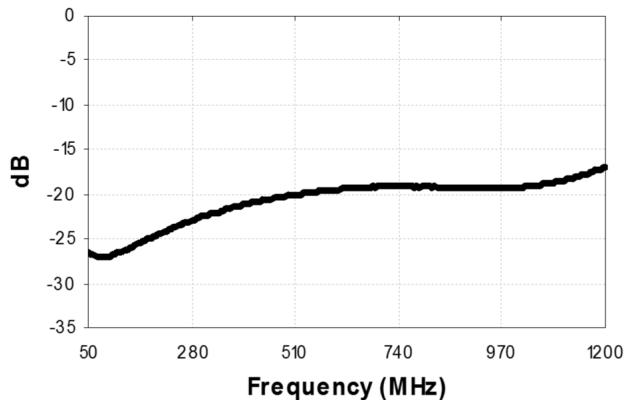
### Amplitude Balance



### Phase Balance



### Return Loss: Input (Pin 1)



Full temperature plots available on request

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