

1:1 Transmission Line Transformer 4.5 - 1200 MHz

Rev. V2

Features

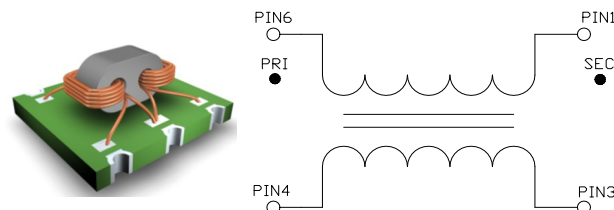
- 1:1 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Excellent Amplitude & Phase Balance
- Can Be Used In Both 50 Ω & 75 Ω Systems
- Available on Tape & Reel
- 260°C Reflow Compatible
- RoHS* Compliant & Lead Free

Description

The MABA-010314-CT1370 is a 1:1 RF transmission line transformer in a surface mount package.

Ideally suited for broadband CATV applications.

Schematic



Pin Configuration

Pin #	Function
1	Secondary Dot
2,5	No Connection (ground)
3	Secondary
4	Primary
6	Primary Dot

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

Parameter	Frequency (MHz)	Units	Min.	Typ.	Max.
Insertion Loss 1 (Pin 6 to Pin 1)	4.5 - 870 870 - 1200	dB	—	0.50 1.20	1.0 2.0
Insertion Loss 2 (Pin 6 to Pin 3)	4.5 - 870 870 - 1200	dB	—	0.60 0.70	1.0 1.4
Amplitude Balance (Nominal 0 dB)	4.5 - 50 50 - 1000 1000 - 1200	dB	—	± 0.9 ± 0.4 ± 0.7	± 1.3 ± 1.0 ± 1.1
Phase Balance (Nominal 180°)	4.5 - 50 50 - 1200	°	—	± 5 ± 6	± 15 ± 10
Input Return Loss (Pin 6)	4.5 - 350 350 - 1000 1000 - 1200	dB	20 16 13	28 23 19	—

Ordering Information

Part number	Description
MABA-010314-CT1370	900 piece reel
MABA-010314-CT13TB	customer evaluation board

Recommended Maximum Ratings

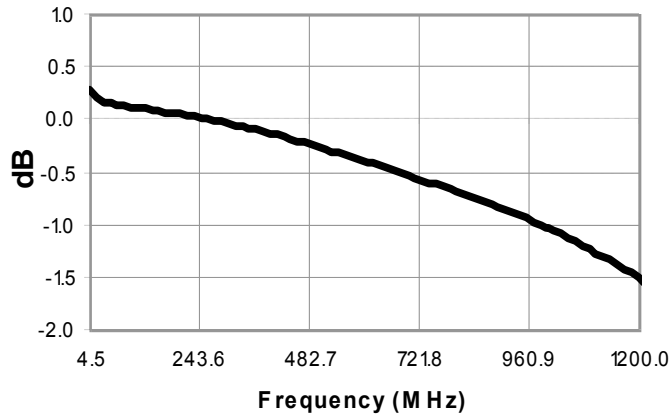
Parameter	Value
Input Power	250 mW
DC Current, (tested @ 5 V)	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

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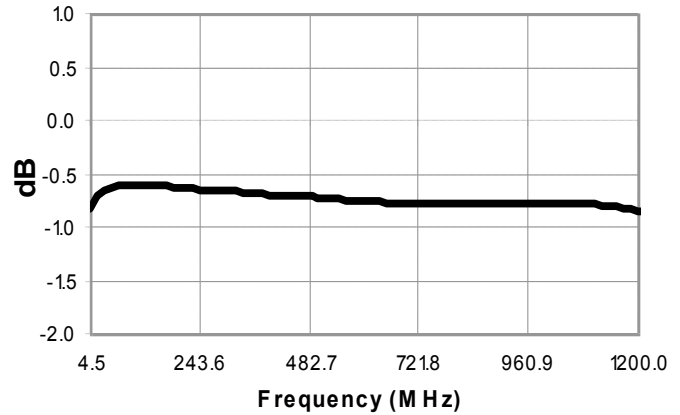
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 75\ \Omega$, $P_{IN} = 0\ \text{dBm}$

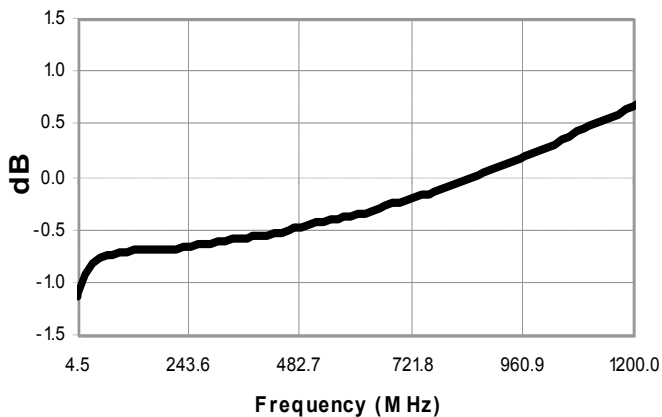
Insertion Loss 1: (Pin 6 to 1)



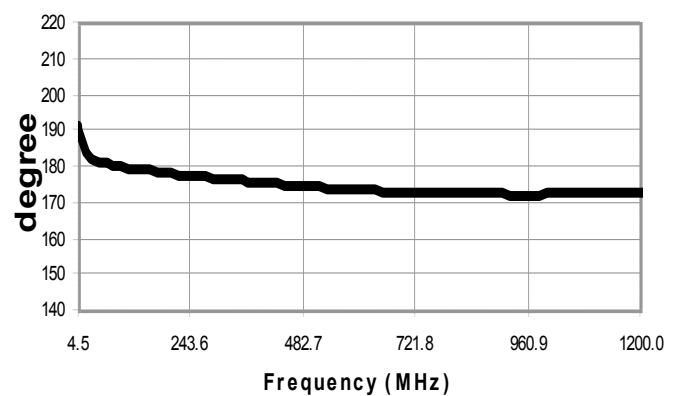
Insertion Loss 2: (Pin 6 to 3)



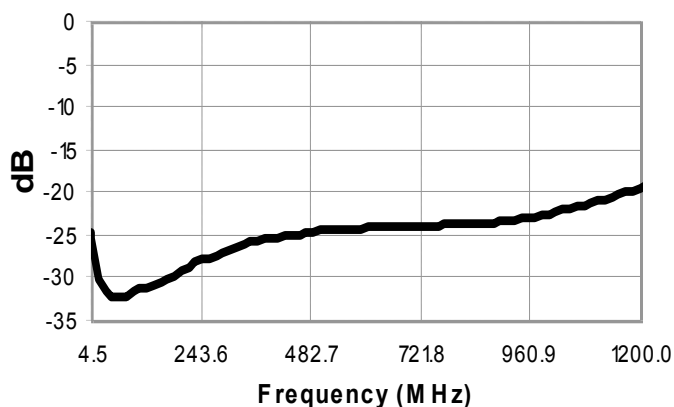
Amplitude Balance



Phase Balance



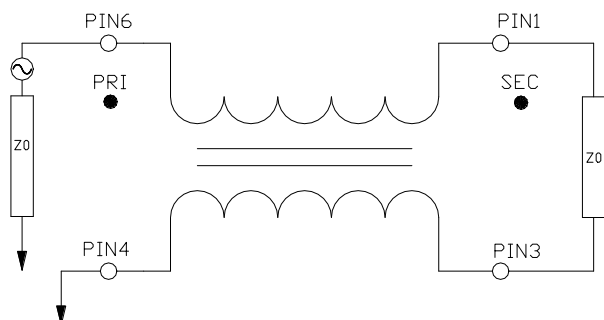
Return Loss: Input (Pin 6)



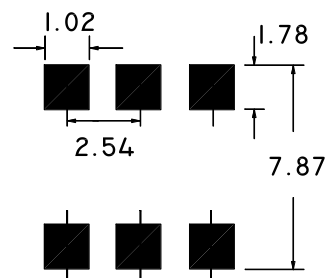
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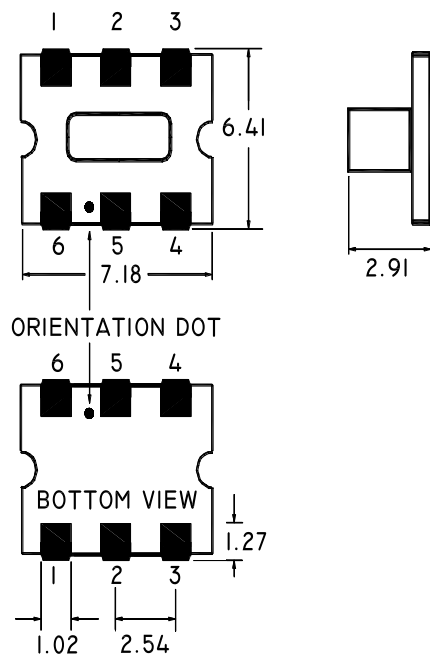
Application Circuit



Recommended Footprint



Outline Drawing (SM-55)



Dimensions in mm.
Tolerance: ± 0.2 mm unless otherwise noted.
Model number and lot code printed on reel.
Finish: Electroless nickel immersion gold

Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16
Pitch	mm	12
Ao	mm	6.7
Bo	mm	7.4
Ko	mm	3.1
Orientation	-	F-15
Reference Application Note ANI-019 for orientation		

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