

1:1 Transmission Line Transformer 4.5 - 1200 MHz

Rev. V2

Features

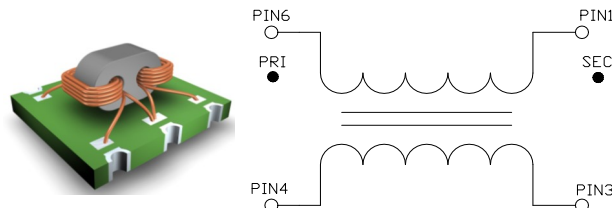
- 1:1 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Excellent Amplitude & Phase Balance
- Can Be Used In Both 50 Ω & 75 Ω Systems
- Available on Tape & Reel
- 260°C Reflow Compatible
- RoHS* Compliant & Lead Free

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

Ordering Information

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

Recommended Maximum Ratings

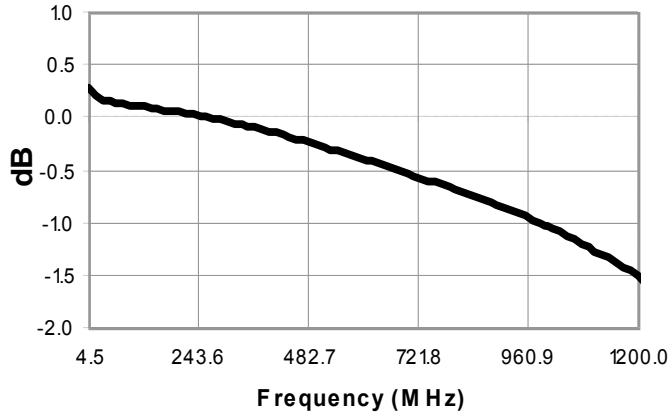
Parameter	Value
Input Power	250 mW
DC Current, (tested @ 5 V)	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

1:1 Transmission Line Transformer 4.5 - 1200 MHz

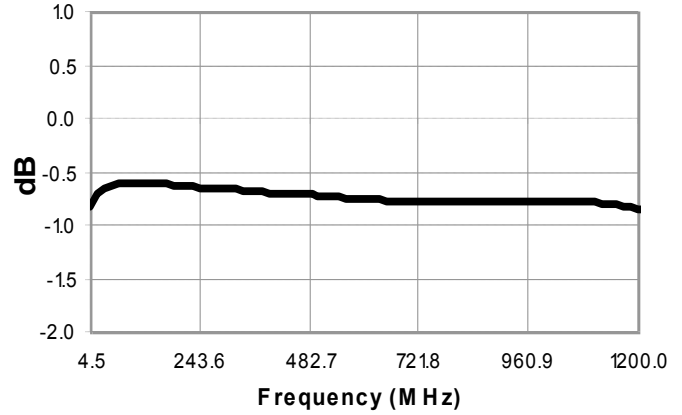
Rev. V2

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

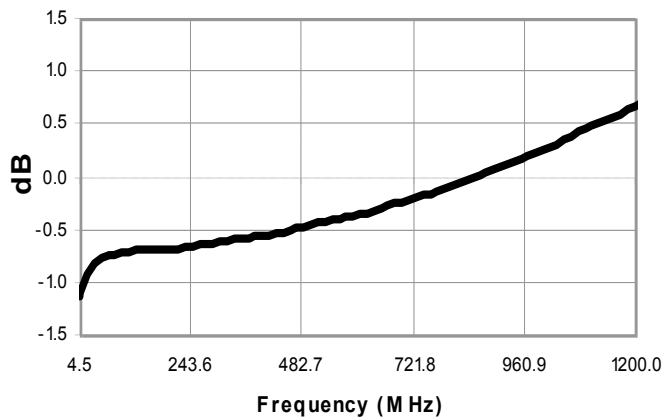
Insertion Loss 1: (Pin 6 to 1)



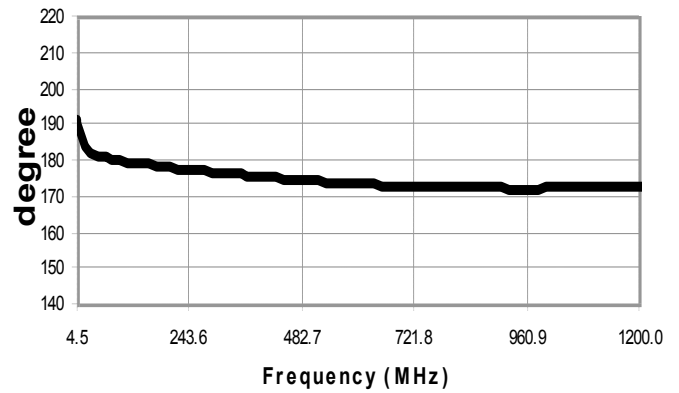
Insertion Loss 2: (Pin 6 to 3)



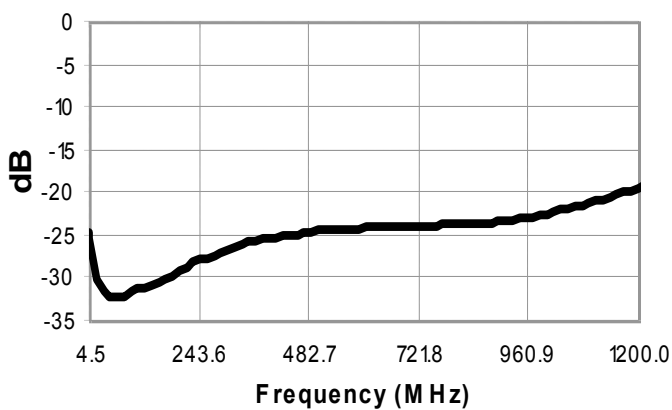
Amplitude Balance



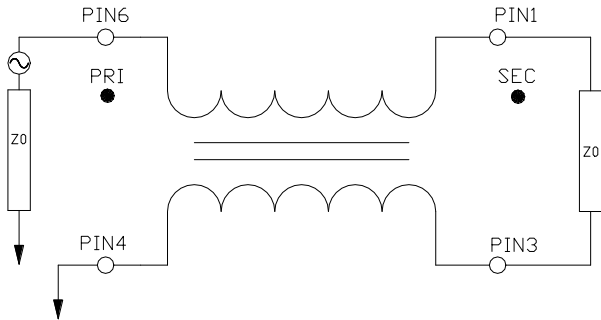
Phase Balance



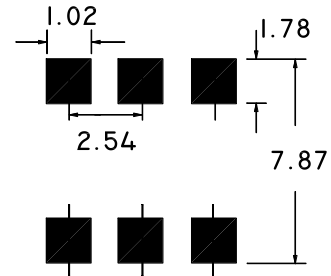
Return Loss: Input (Pin 6)



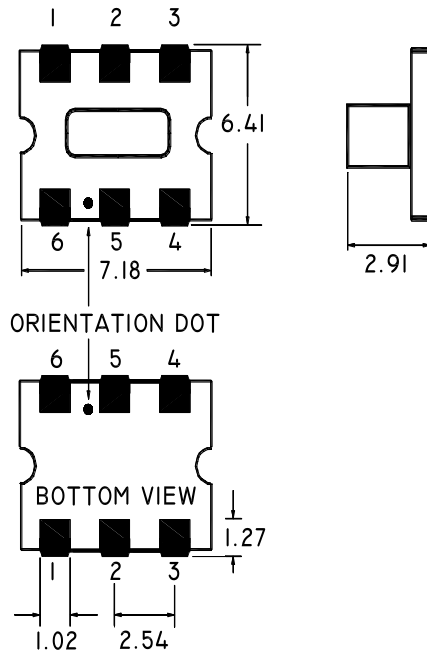
Application Circuit



Recommended Footprint



Outline Drawing (SM-55)



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		

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

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.