

Balun Transformer, 1:1 Transmission Line 50 - 1200 MHz

Rev. V3

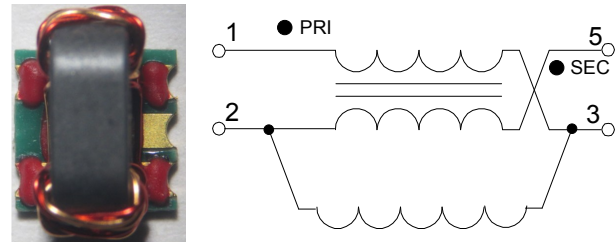
Features

- Surface Mount Package
- 1:1 Impedance Ratio
- Excellent Temperature Stability
- RoHS Compliant and Pb Free
- 260° Reflow Compatible
- Available on Tape and Reel

Description

The MABA-011058 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 Ω and 75 Ω systems.

Functional Schematic



Pin Configuration

Pin #	Function	Pin #	Function
1	Primary Dot	4	No Connection
2	Primary	5	Secondary Dot
3	Secondary		

Electrical Specifications: Freq. = 50 - 1200 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency Test Conditions (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	—	—	—	1:1	—
Insertion Loss 1 Through (Pin 1 - Pin 3)	50	dB	—	0.2	0.4
	870			0.6	0.8
	1002			0.7	0.9
	1200			0.9	1.1
Insertion Loss 2 Coupled (Pin 1 - Pin 5)	50	dB	—	0.4	0.5
	870			0.4	0.5
	1002			0.4	0.5
	1200			0.4	0.6
Amplitude Balance	50 - 870	dB	—	0.05	0.5
	870 - 1002			0.3	0.7
	1002 - 1200			0.4	0.8
Phase Balance (ref. value 180°)	50 - 1002	°	—	0.2	4.0
	1002 - 1200			1.8	5.0
Input Return Loss (Pin 1)	50 - 500	dB	21	29	—
	500 - 1002		17	27	
	1002 - 1200		16	24	

Ordering Information

Part Number	Package
MABA-011058	Tape & Reel
MABA-011058-TB	Customer Test Board

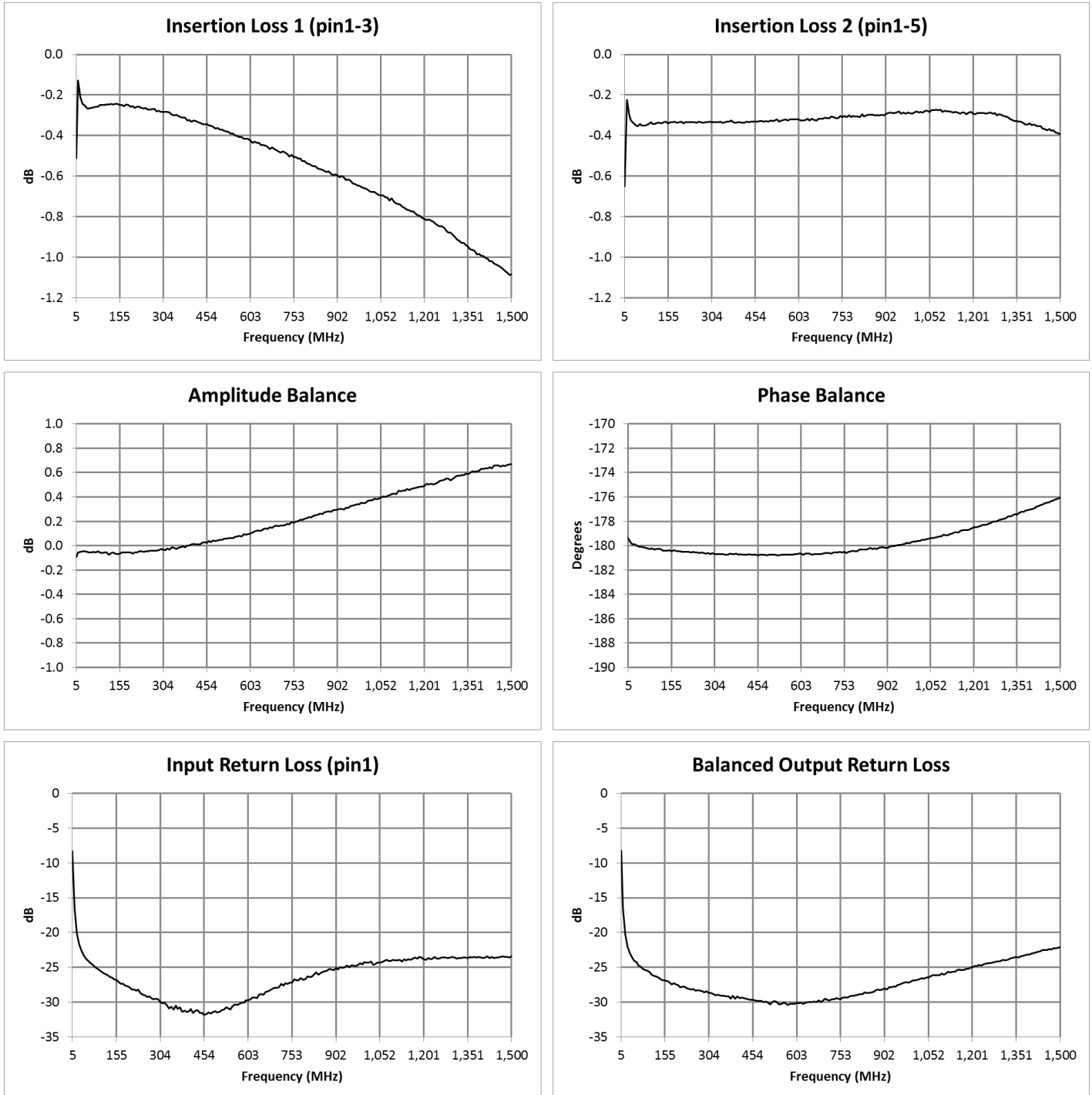
Recommended Maximum Ratings

Parameter	Rating
Input Power	500 mW
DC Current	500 mA
Operating Temperature	-40°C to +85°C

Balun Transformer, 1:1 Transmission Line 50 - 1200 MHz

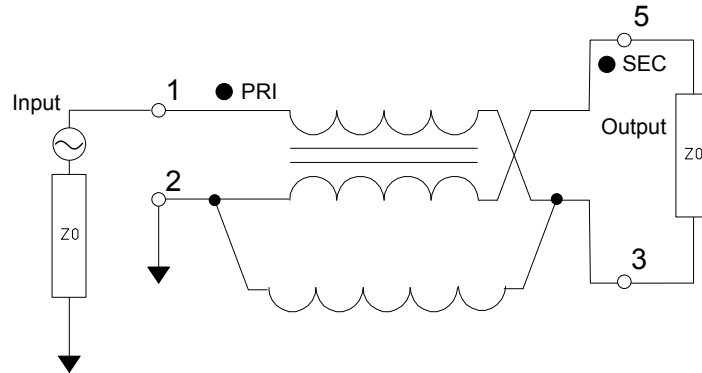
Rev. V3

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

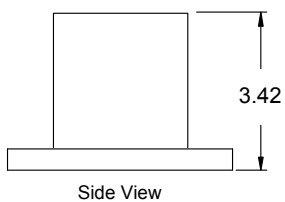
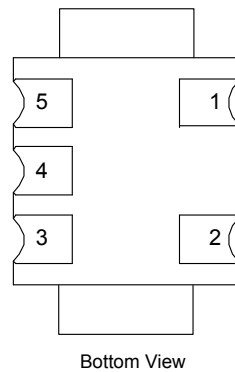
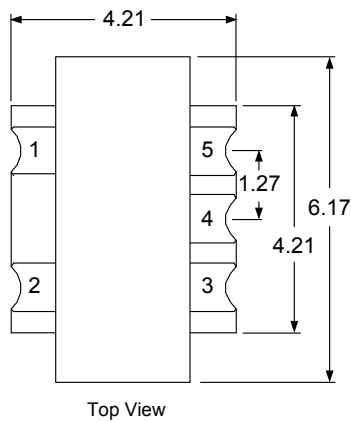


Full temperature plots available on request

Application Schematic

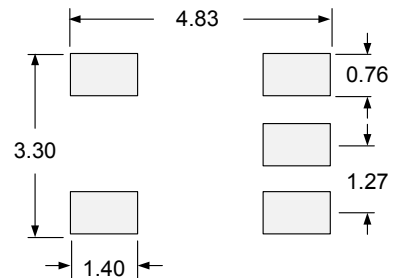


Outline Drawing



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Lead plating ENIG.

PCB Layout



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	8.00
Ao	mm	4.40
Bo	mm	6.50
Ko	mm	3.60
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

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.