

1:1 Transmission Line Transformer 4.5 - 3000 MHz

Rev. V2

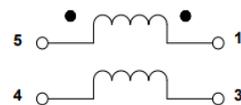
Features

- Surface Mount
- Wide Frequency range
- 1:1 Impedance
- Available on Tape and Reel
- RoHS Compliant and Pb Free
- 260°C Reflow Compatible
- Excellent Temperature Stability

Description

The MABA-008757-CT1160 is a 1:1 Transmission Line Transformer. The windings of this device are welded to the package substrate for improved reliability and eliminate lead content. This transformer is ideally suited for CATV and Satellite STB/Subscriber applications.

Functional Schematic



Pin Configuration

Pin #	Function
1	Secondary Dot (Output 2)
2	Not Connected
3	Secondary (Output 1)
4	Primary (Input)
5	Primary Dot

Electrical Specifications: Freq. = 4.5 - 3000 MHz, T_A = 25°C, Z₀ = 75 Ω, P_{IN} = 0 dBm

Parameter	Conditions	Units	Min.	Typ.	Max.
Impedance Ratio	—	—	—	1:1	—
Insertion Loss 1 (Pin 4 - Pin 3)	4.5 - 1200 MHz	dB	—	0.2	0.8
	1200 - 2000 MHz			1.0	2.0
	2000 - 3000 MHz			1.8	3.0
Insertion Loss 2 (Pin 4 - Pin 1)	4.5 - 50 MHz	dB	—	0.7	0.9
	500 - 1200 MHz			0.4	0.5
	1200 - 2000 MHz			0.5	2.0
	2000 - 3000 MHz			1.2	3.0
Amplitude Balance	4.5 - 20 MHz	dB	—	0.2	±1.2
	20 - 1000 MHz			0.3	±1.0
Phase Balance (ref value 180°)	4.5 - 1000 MHz	°	—	0.03	±20
Input Return Loss (Pin 4)	4.5 - 1000 MHz	dB	16	26.30	—

Ordering Information¹

Part Number	Description
MABA-008757-CT1160	2000 piece reel
MABA-008757-CT11TB	sample board

1. All sample boards include 5 loose parts.

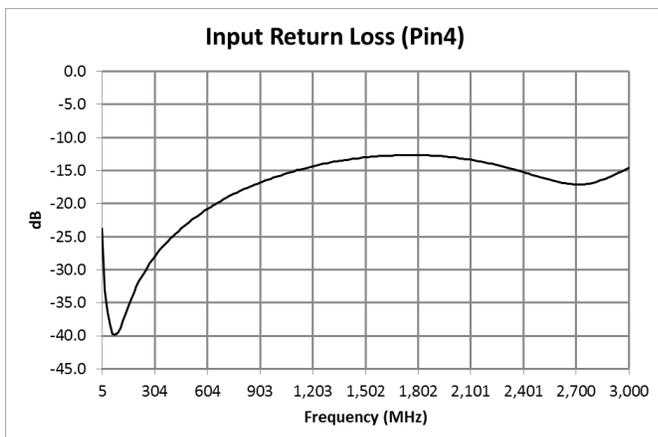
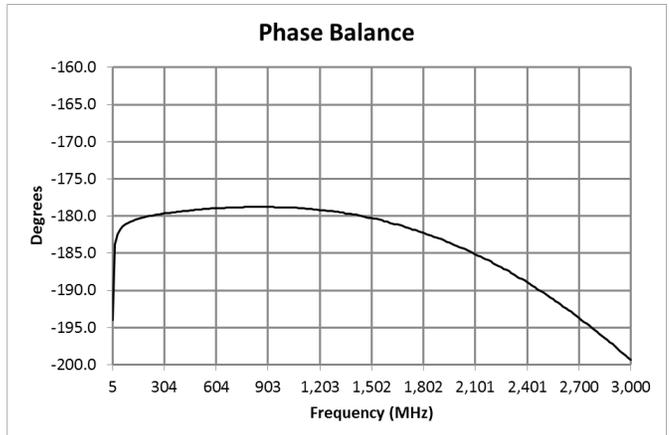
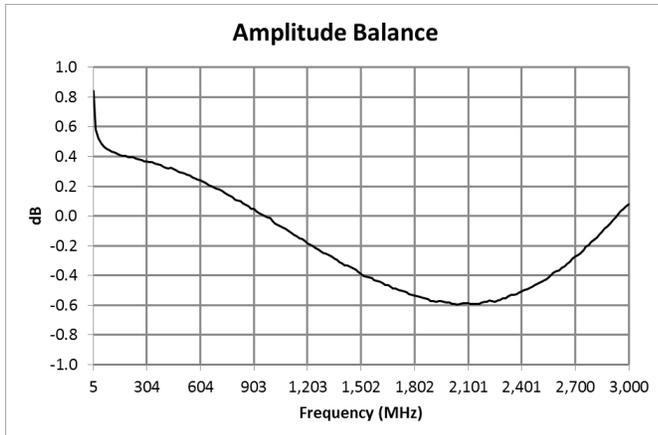
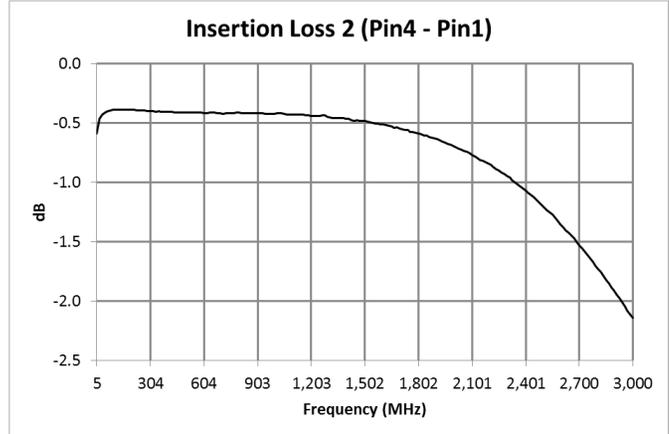
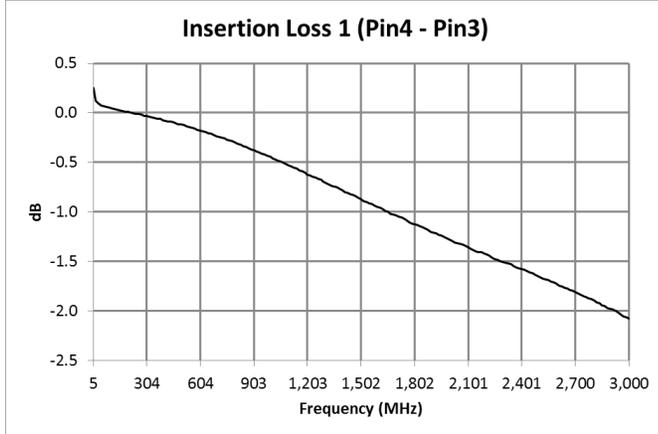
Absolute Maximum Ratings

Parameter	Absolute Maximum
Input RF Power	250 mW
DC Current	30 mA
Operating Temperature	-40°C to + 85°C

1:1 Transmission Line Transformer 4.5 - 3000 MHz

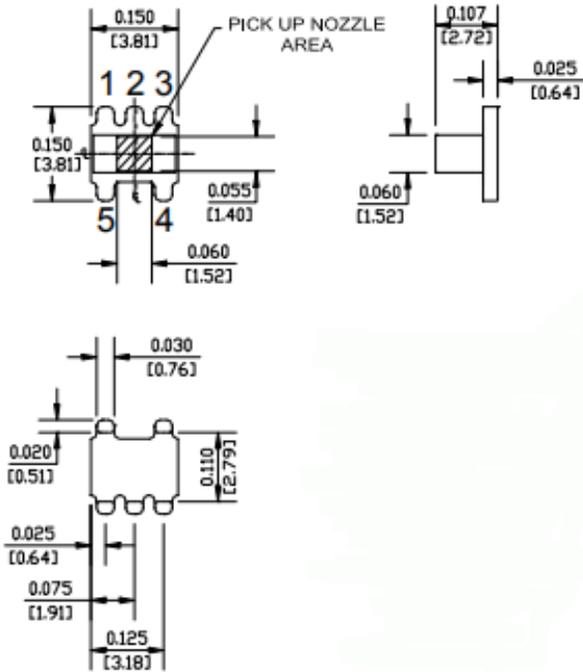
Rev. V2

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

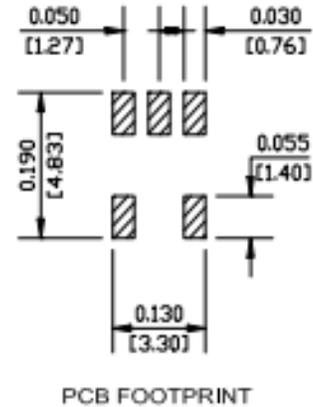


Full temperature plots available on request

Part Outline Drawing

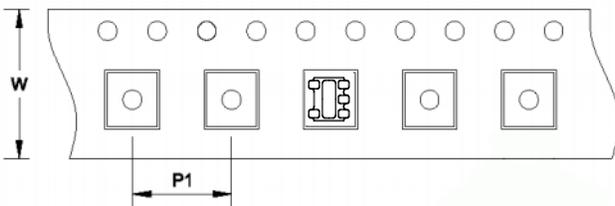


PCB Footprint



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

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F5
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.