

## 1:1 Transmission Line Transformer 46 - 1002 MHz

Rev. V4

### Features

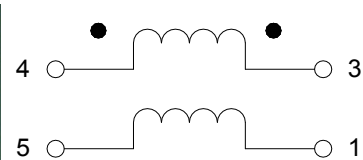
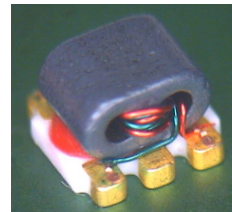
- 1:1 Impedance
- Wide Frequency Range
- Surface Mount Package
- 260°C reflow compatible
- RoHS Compliant, Lead Free
- Available on Tape & Reel

### Description

The MABA-010245-CT1160 is a 1:1 transmission line transformer. The windings are welded to the package substrate for improved reliability and to eliminate lead content.

This transformer is ideally suited for CATV broadband, & Satellite STB/Subscriber applications.

### Schematic



### Pin Configuration

Pin #	Function
1	Secondary Dot
2	Not Connected
3	Secondary
4	Primary
5	Primary Dot

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

Parameter	Frequency	Units	Min.	Typ.	Max.
Insertion Loss 1 (Pin 4 to Pin 3)	46 - 1002 MHz	dB	—	0.1	0.6
Insertion Loss 2 (Pin 4 to Pin 1)	46 - 1002 MHz	dB	—	0.4	0.7
Amplitude Balance (Nominal 0 dB)	46 - 1002 MHz	dB	—	0.3	$\pm 0.8$
Phase Balance (Nominal 180°)	46 - 100 MHz 100 - 100 2MHz	°	—	2.4 1.2	$\pm 5.0$ $\pm 2.5$
Input Return Loss (Pin4)	46 - 300 MHz 300 - 1002 MHz	dB	25 17.5	42 30	—

### Ordering Information

Part #	Package
MABA-010245-CT1160	2000 piece per reel
MABA-010245-CT11TB	Customer test board

### Absolute Maximum Ratings<sup>1,2</sup>

Parameter	Absolute Maximum
RF Power	250 mW
DC Current	>600 mA @ 5 V
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +100°C

1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. MACOM does not recommend sustained operation near these survivability limits.

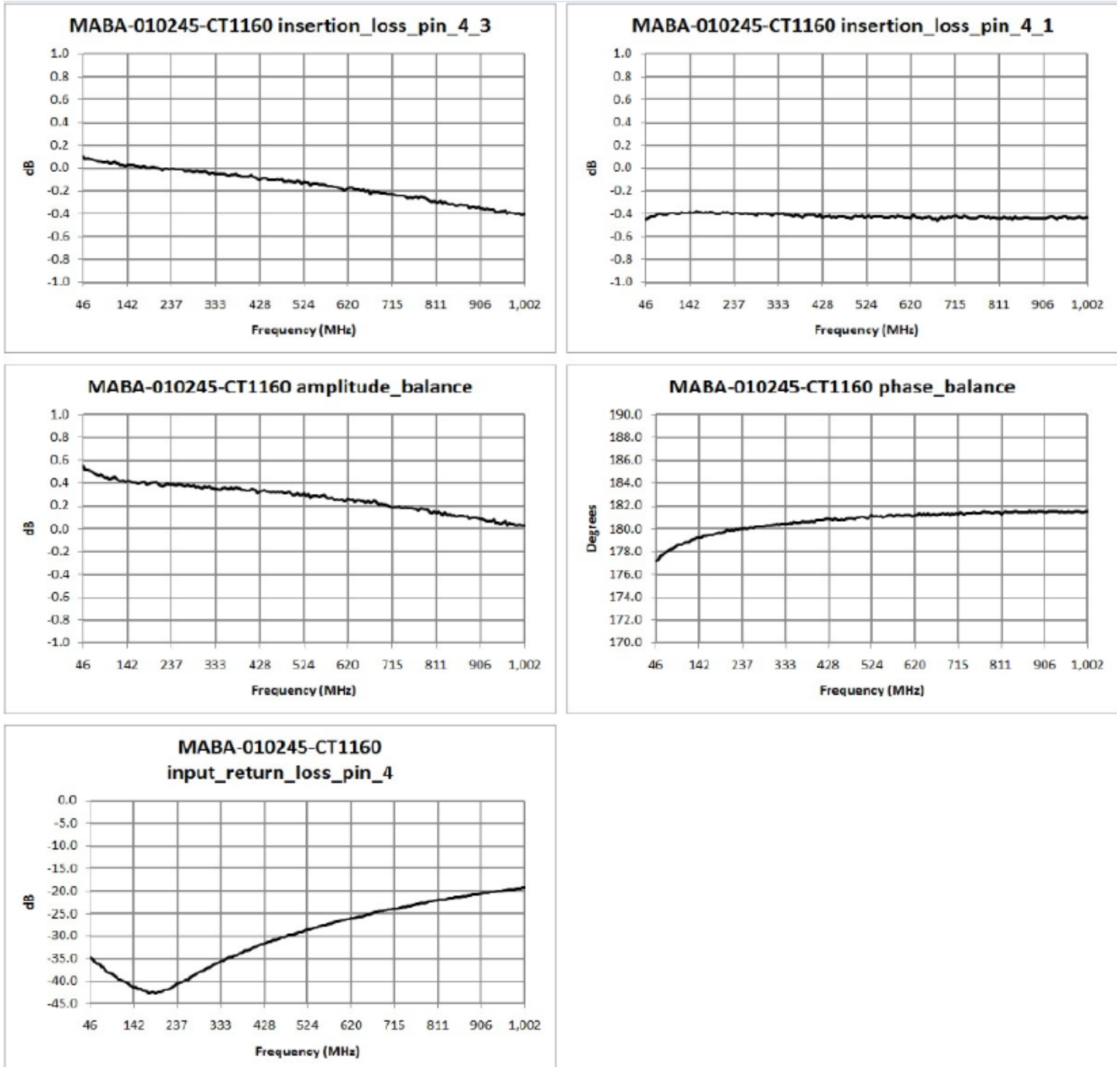
# MABA-010245-CT1160



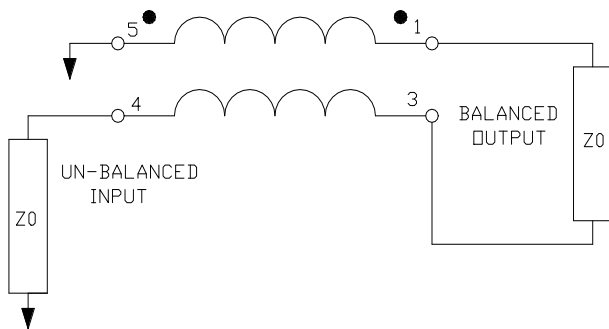
1:1 Transmission Line Transformer  
46 - 1002 MHz

Rev. V4

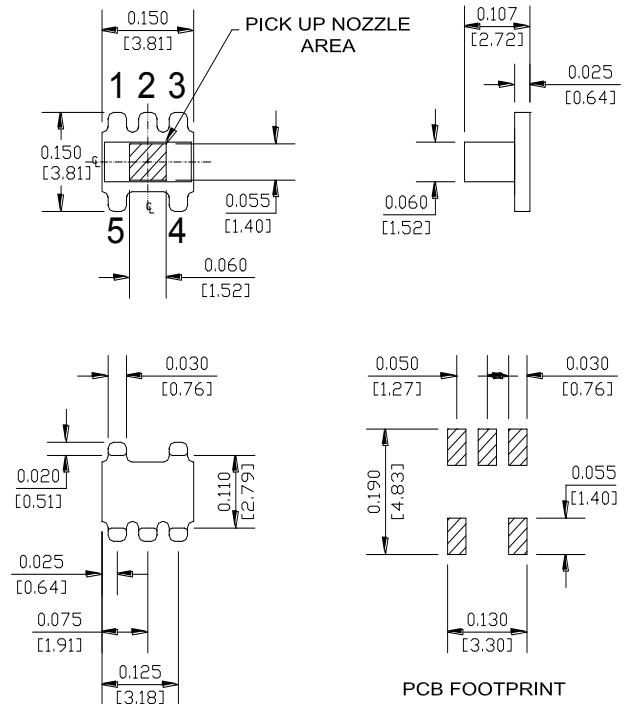
Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{IN} = 0 \text{ dBm}$



## Application Circuit

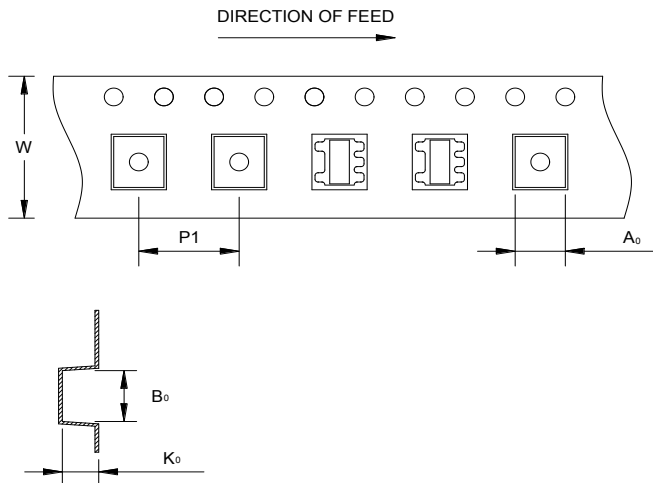


## Outline Drawing



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

## Reel Orientation



## Tape & Reel Information

Item	Dimension
$A_0$	4.0 mm +/-0.1 mm
$B_0$	4.0 mm +/-0.1 mm
$K_0$	2.90 mm +/-0.1 mm
$W$	12.0 mm +/-0.3 mm
$P1$	8.00 mm +/-0.1 mm

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.