

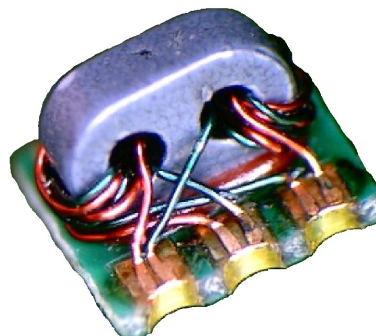
## Features

- 1:1 impedance
- Surface mount
- Center tap on secondary
- Available on tape and reel
- 260° reflow compatible
- RoHS compliant and Pb free

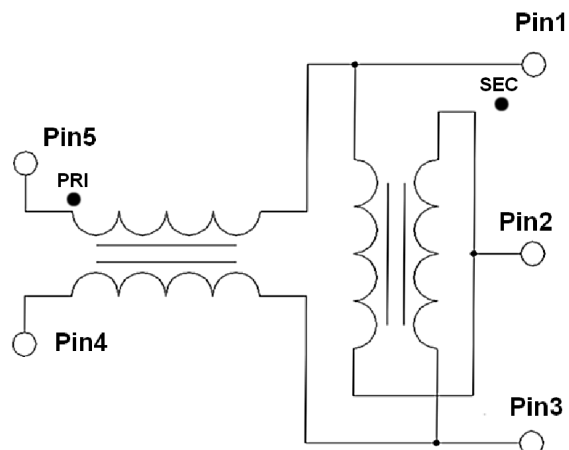
## Description

MABACT0040 is a 1:1 transmission line transformer in a low cost surface mount package. Excellent return loss.

Ideally suited for high volume CATV Broadband applications.



## Functional Schematic



## Ordering Information

Part Number	Package
MABACT0040	Tape & Reel
MABACT0040-TB	Customer Test Board

## Pin Configuration

Pin No.	Function
1	Secondary Dot (output 1)
2	Secondary center tap (ground)
3	Secondary (output 2)
4	Primary (ground)
5	Primary Dot (input)

\* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

## 1:1 Transmission Line Transformer, with center tap 5 – 1218 MHz

Rev. V3

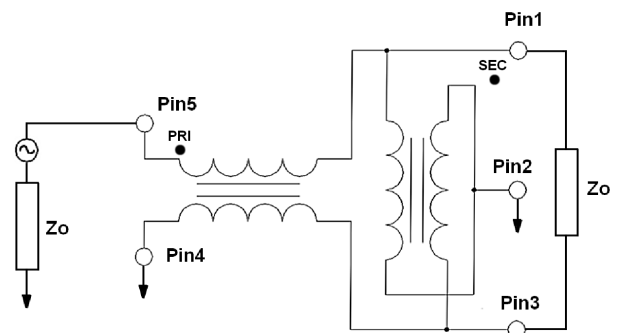
Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{in} = 0 \text{ dBm}$

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Frequency Range	—	MHz	5	—	1218
Impedance	—	$\Omega$	—	75	—
Impedance Ratio	—	Ratio	—	1:1	—
Insertion Loss 1 (Pin5 - Pin1)	5 - 1218 MHz	dB	—	1.0	1.6
Insertion Loss 2 (Pin5 - Pin3)	5 - 1218 MHz	dB	—	1.1	1.6
Amplitude Balance	5 - 1000 MHz 1000 - 1218 MHz	dB dB	—	0.1 0.07	$\pm 0.5$ $\pm 0.7$
Phase Balance (ref value $180^\circ$ )	5 - 1218 MHz	$^\circ$	—	2.5	$\pm 10$
Input Return Loss (Pin5)	5 - 1218 MHz	dB	16	22	—

### Recommended Maximum Ratings

Parameter	Maximum Rating
Input Power	500 mW
DC Current	500 mA
Operating Temperature	$-40^\circ\text{C}$ to $+105^\circ\text{C}$

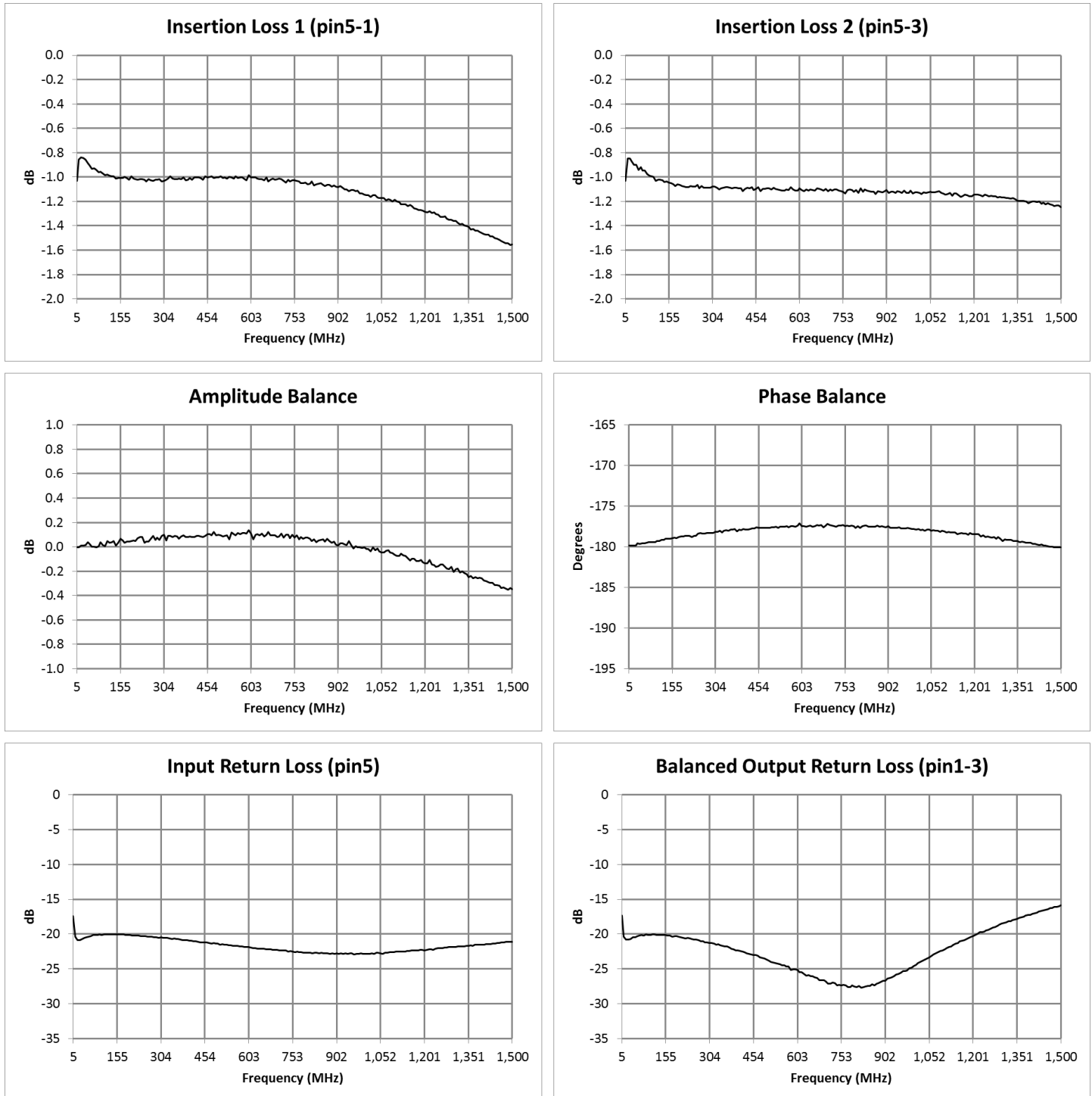
### Application Schematic



## 1:1 Transmission Line Transformer, with center tap 5 – 1218 MHz

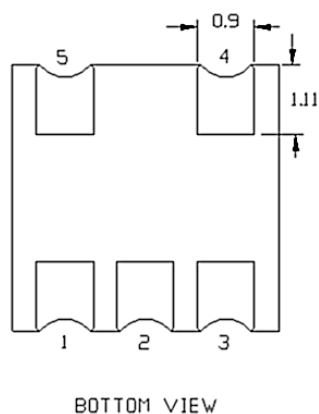
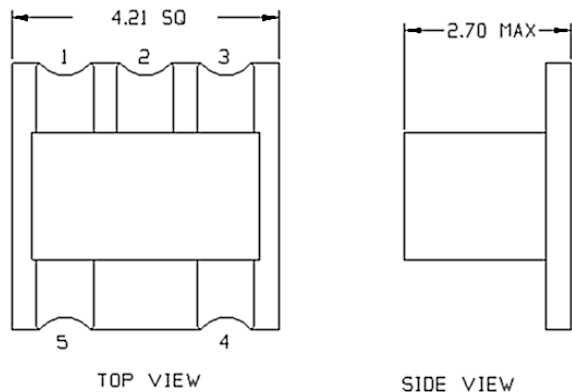
Rev. V3

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



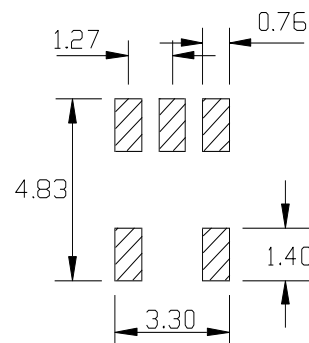
Full temperature plots available on request.

## Outline Drawing



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2\text{mm}$  unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Finish: Electroless nickel immersion gold (ENIG)

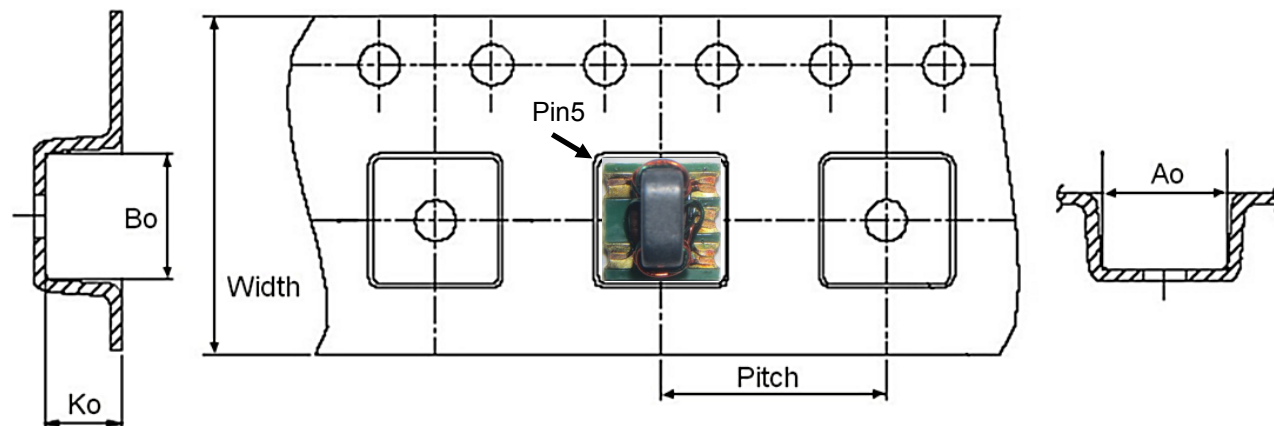
## Footprint



## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Ao	mm	4.5
Bo	mm	4.5
Ko	mm	2.73
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

## Carrier Tape Orientation



M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM 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.