MABA-011103

Auto Transformer 1:1.77
40 - 1215 MHz

Rev. V1

Features

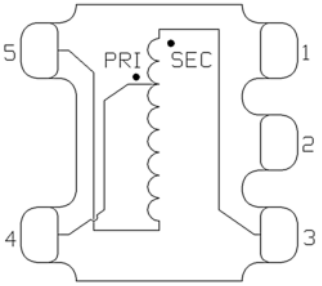
- 1:1.77 Impedance
- Surface Mount Package
- Excellent Temperature Stability
- Available on Tape and Reel
- 260° Reflow Compatible
- RoHS Compliant and Pb Free
- Suitable for all CATV, Broadband and FTTX applications

Description

The MABA-011103 is a 1:1.77 auto transformer. This transformer is ideally suited for CATV broadband applications.

Functional Schematic





Pin Configuration[3]

Pin #	Function
1, 2	Not Connected (ground)
3	Secondary Dot
4	Primary Dot
5	Ground

3. MACOM recommends connecting unused package pins to ground.

Electrical Specifications: Freq = 40 - 1215 MHz, T_A = 25°C, Z_0 = 75 Ω, P_{IN} = 0 dBm

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Impedance Ratio	-	-	—	1:1.77	—
Insertion Loss (Pin 4 - Pin 3)	40 - 150 MHz 150 - 750 MHz 750 - 1215 MHz	dB	—	2.4 2.8 2.6	3.0 3.1 3.0
Input Return Loss (Pin 4)	40 - 1215 MHz	dB	—	9	8
Output Return Loss (Pin 3)	40 - 1215 MHz	dB	13	16	—

Ordering Information[1,2]

Part Number	Package
MABA-011103	Tape & Reel
MABA-011103-TB	Customer Sample Board

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

Recommended Maximum Ratings[4,5]

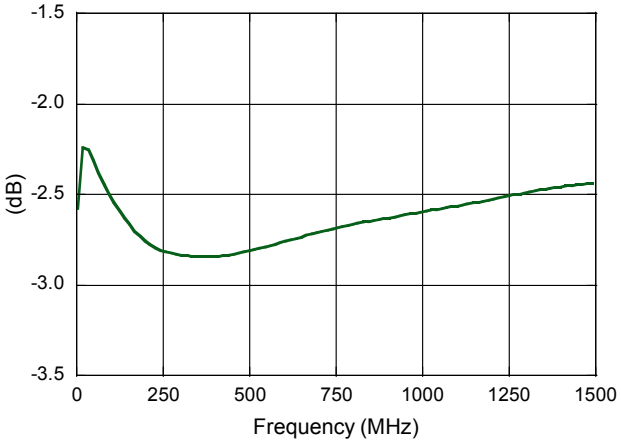
Parameter	Rating
Input Power[6]	2 W
DC Current	200 mA
Operating Temperature	-40°C to +85°C

4. Exceeding anyone or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at +25°C only.

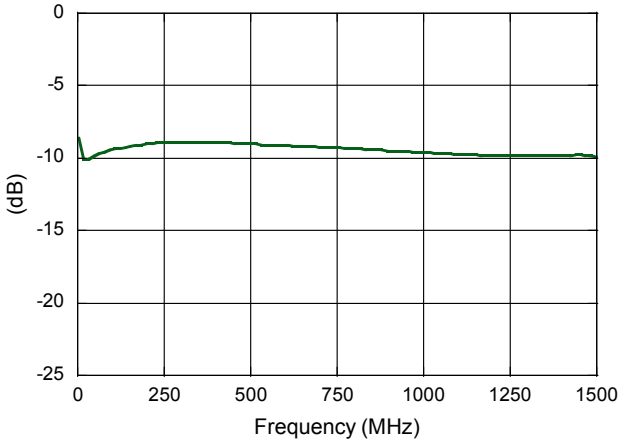
MACOM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.
Visit www.macom.com for additional data sheets and product information.
For further information and support please visit:
https://www.macom.com/support

Typical Performance Curves[7]: T_A = 25°C, Z_0 = 75 Ω, P_{IN} = 0 dBm

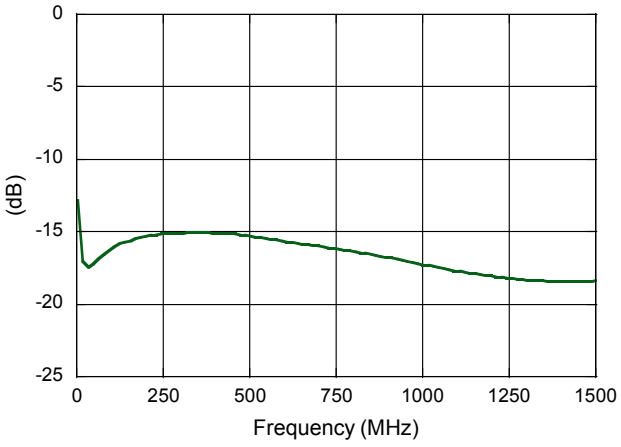
Insertion Loss (pin 3)



Input Return Loss (pin 4)



Output Return Loss (pin 3)

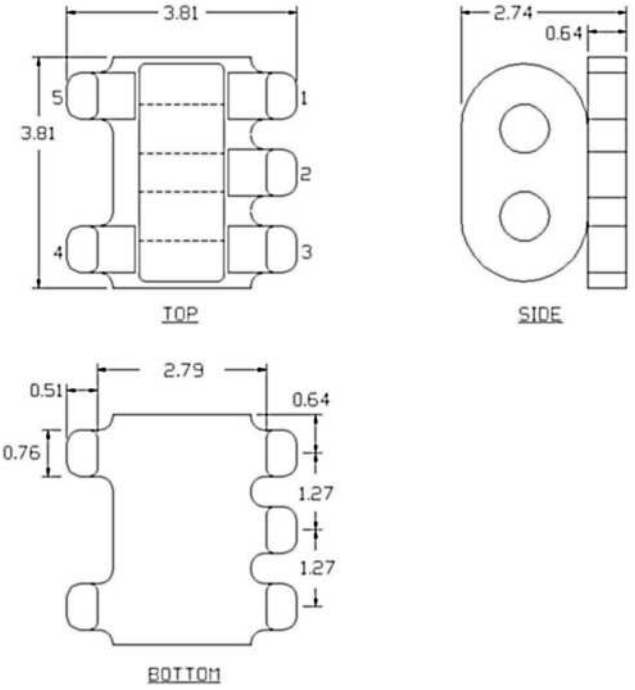


7. Full temperature plots available on request.

MACOM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.
Visit www.macom.com for additional data sheets and product information.

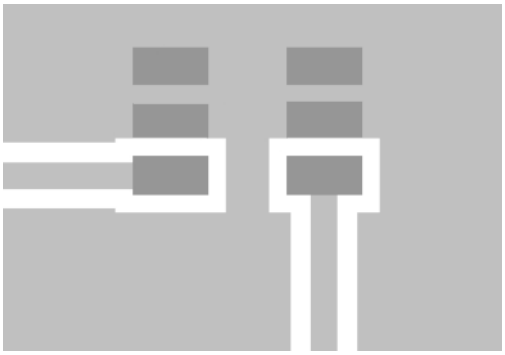
For further information and support please visit:
https://www.macom.com/support

Outline Drawing[8,9,10,11]

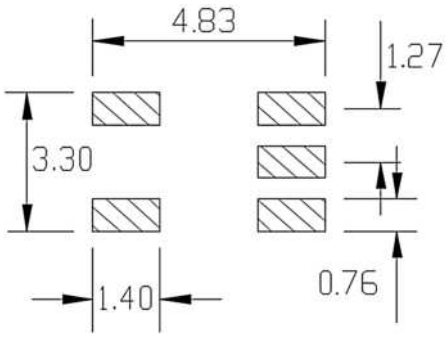


8. Dimensions in mm.
9. Tolerance: ±0.2 mm unless otherwise noted.
10. Model number and lot code are printed on the reel.
11. Finish: Electroless nickel immersion gold (ENIG).

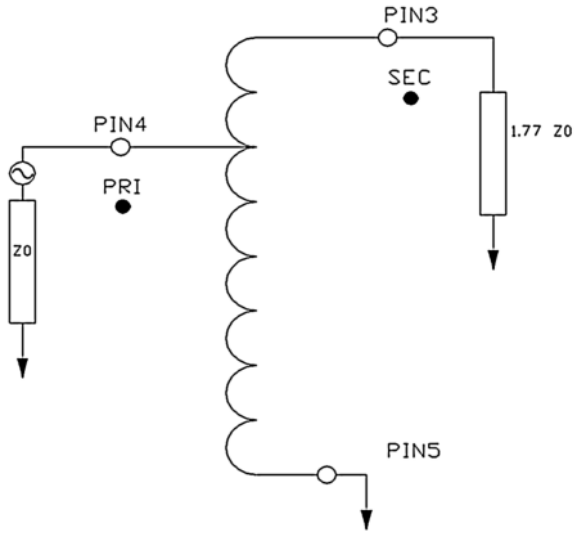
PCB Layout[12]



12. Recommended PCB layout shown above uses 1.6 mm FR4, Grounded coplanar wave guide, transmission line width 0.70 mm and gap 0.57 mm.



Application Schematic



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. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice.
Visit www.macom.com for additional data sheets and product information.

For further information and support please visit:
https://www.macom.com/support

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 estoppels 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.