

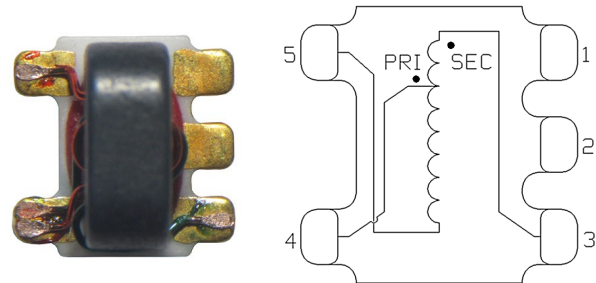
Features

- 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 Configuration³

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, Z₀ = 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	dB	—	2.4	3.0
	150 - 750 MHz			2.8	3.1
	750 - 1215 MHz			2.6	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.

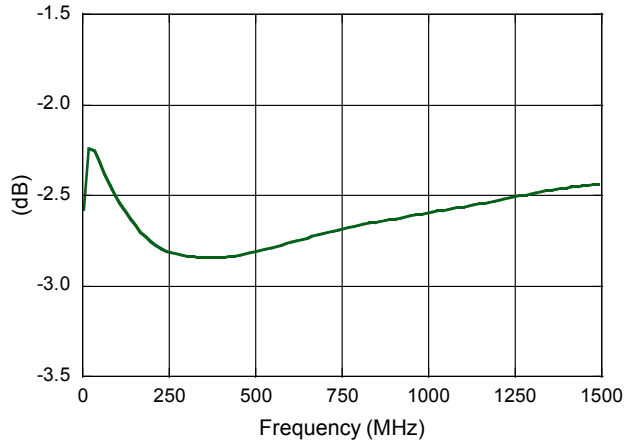
Recommended Maximum Ratings^{4,5}

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

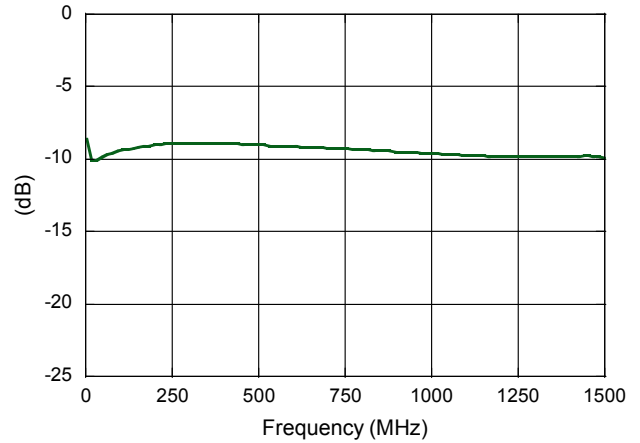
4. Exceeding anyone or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at +25°C only.

Typical Performance Curves⁷: $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$, $P_{IN} = 0 \text{ dBm}$

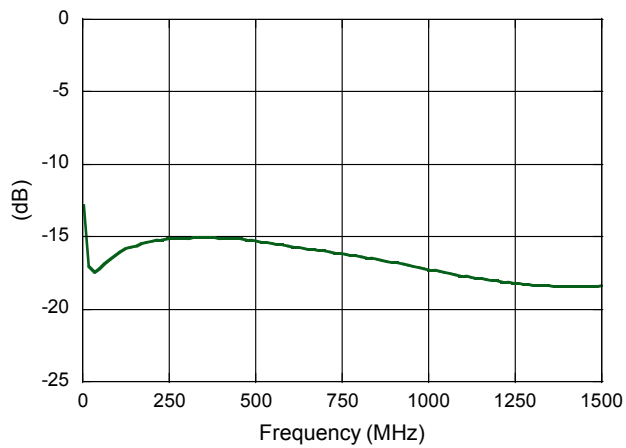
Insertion Loss (pin 3)



Input Return Loss (pin 4)

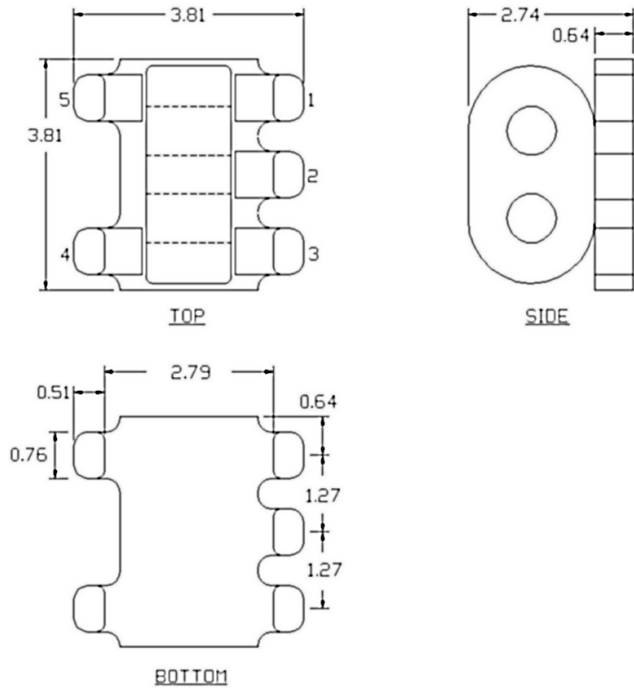


Output Return Loss (pin 3)



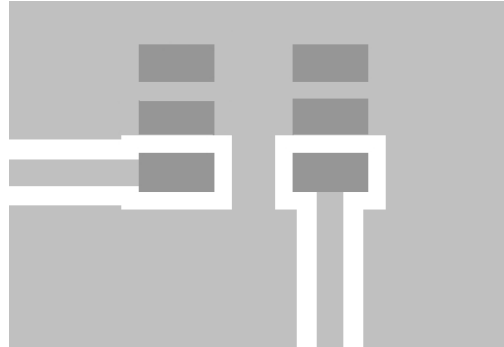
7. Full temperature plots available on request.

Outline Drawing^{8,9,10,11}

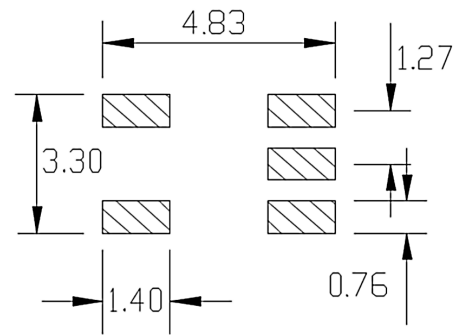


- 8. Dimensions in mm.
- 9. Tolerance: ± 0.2 mm unless otherwise noted.
- 10. Model number and lot code are printed on the reel.
- 11. Finish: Electroless nickel immersion gold (ENIG).

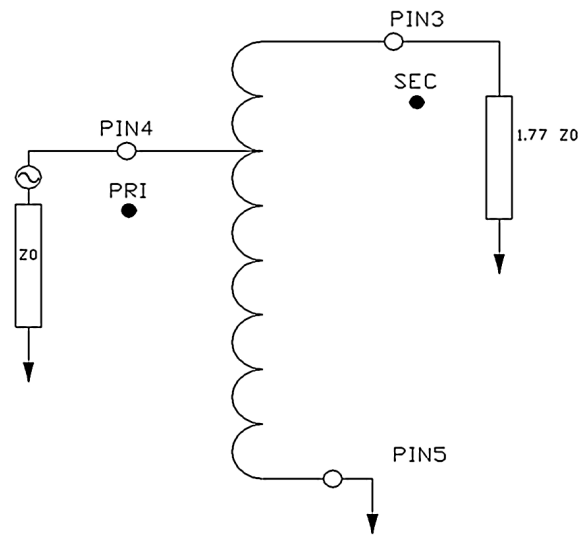
PCB Layout¹²



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		

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