MABA-011094

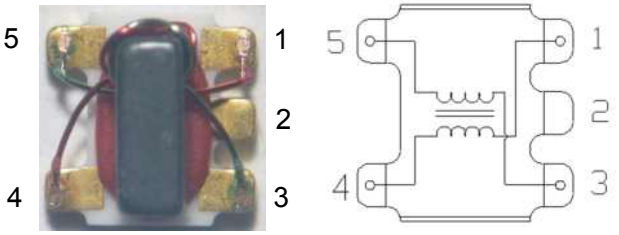
1:1 Transformer Balun
5 - 1225 MHz

Rev. V2

Features

- 1:1 Impedance Ratio
- Surface Mount Package
- Available on Tape & Reel
- 260ºC Reflow Compatible
- RoHS Compliant and Pb Free
- Excellent Temperature Stability
- Can be used on 50 Ω and 75 Ω Systems
- Suitable for all CATV, Broadband and FTTx Applications

Functional Schematic



Pin Configuration

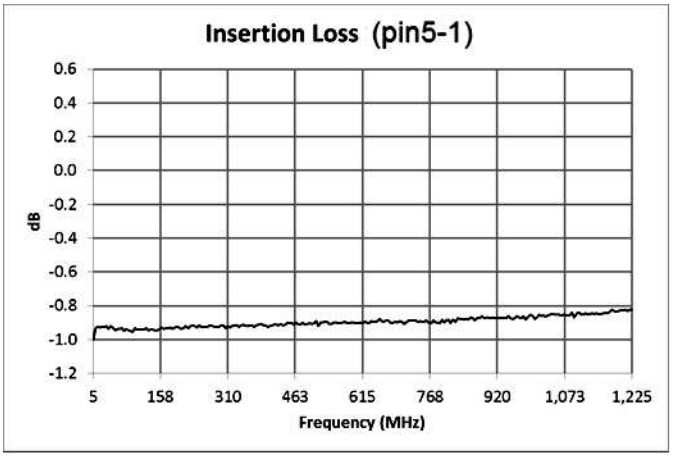
Pin #	Function
1	Secondary Dot (Output 1)
2	Not Connected
3	Secondary (Output 2)
4	Primary (Ground)
5	Primary Dot (Input)

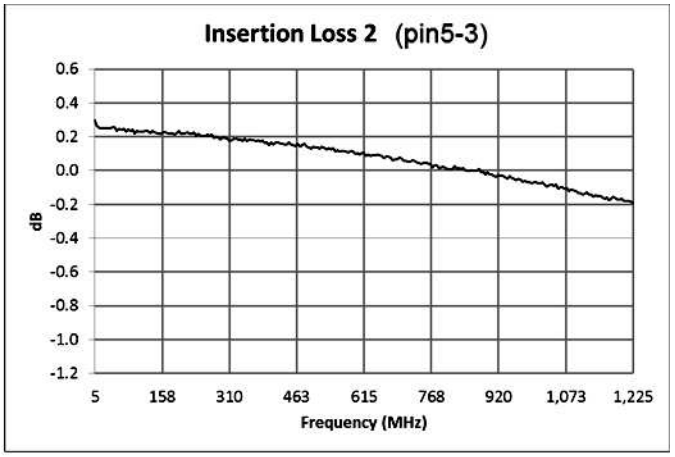
Electrical Specifications: Freq. = 5 - 1225 MHz, T_A = 25°C, Z_0 = 75 Ω, P_{IN} = 0 dBm

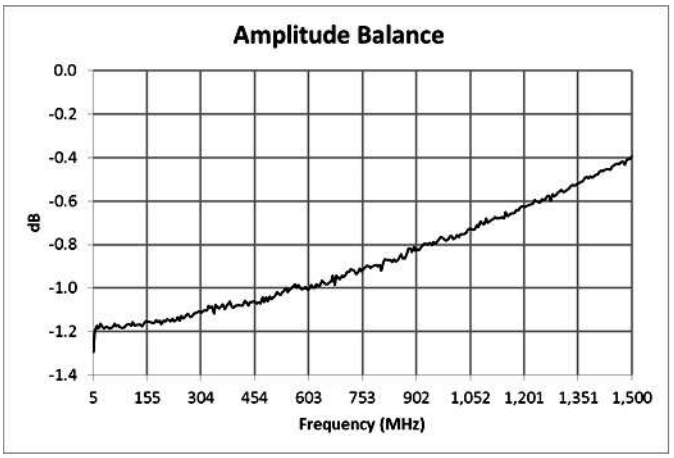
Parameter	Test Conditions (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	-	Ratio	—	1:1	—
Insertion Loss (Pin5 - Pin1)	5 - 45 45 - 100 100 - 600 600 - 1000 1000 - 1225	dB	—	1.0 0.9 0.9 1.0 1.0	1.2 1.1 1.2 1.3 1.4
Insertion Loss (Pin5 - Pin3)	5 - 45 45 - 100 100 - 600 600 - 1000 1000 - 1225	dB	—	0.15 -0.2 0.15 0.18 0.30	0.1 0.2 0.2 0.5 0.7
Amplitude Balance	5 - 45 45 - 600 600 - 1000 1000 - 1225	dB	—	1.1 1.0 0.9 0.6	±1.6 ±1.4 ±1.5 ±1.5
Phase Balance	5 - 45 45 - 600 600 - 1000 1000 - 1225	°	—	2 2 4 4	±7 ±4 ±10 ±10
Input Return Loss (Pin5)	5 - 45 45 - 600 600 - 1000 1000 - 1225	dB	20 20 20 18	31 30 24 21	—

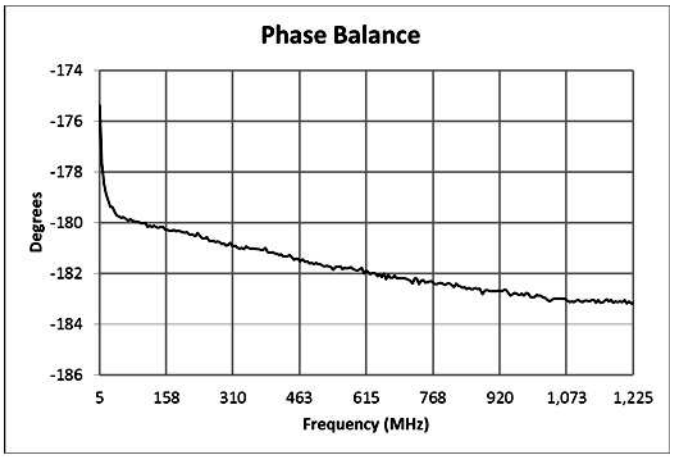
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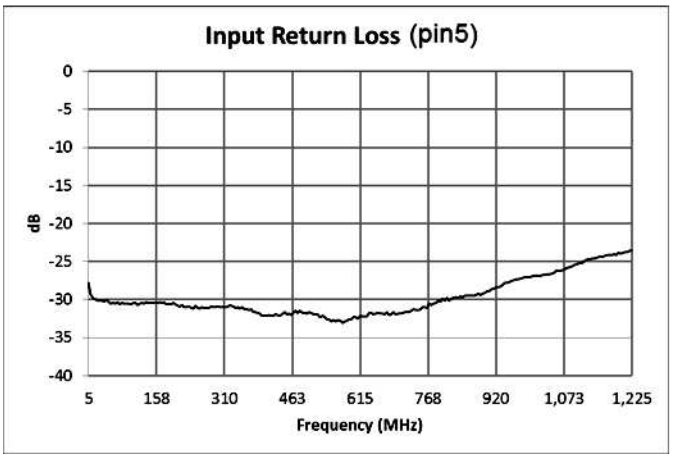
Typical Performance Curves[1]











1. Full temperature plots available on request.

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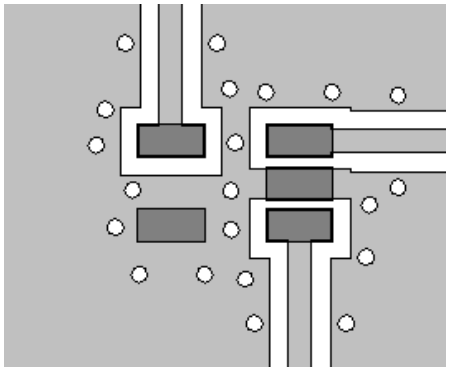
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Absolute Maximum Ratings[2,3]

Parameter	Absolute Maximum
Input RF Power	1 W
DC Current	1 A
Operating Temperature	-40°C to +85°C

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

Recommended Board Layout/Footprint[4,5]

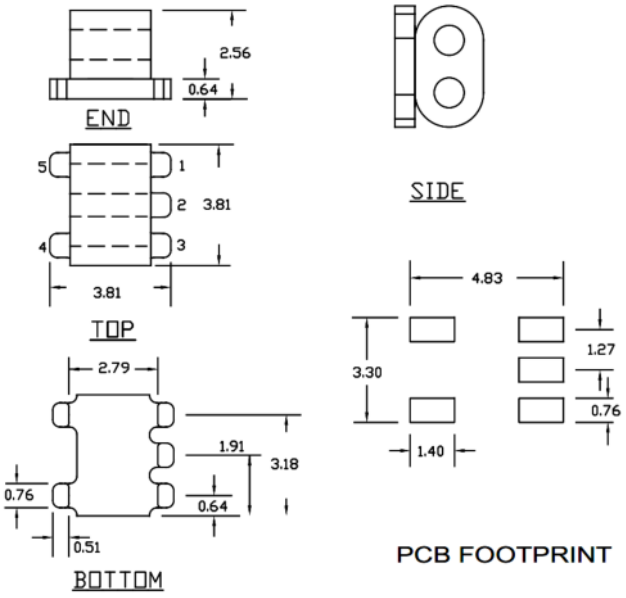


4. Recommended PCB layout shown above uses 1.6 mm FR4.
5. Grounded coplanar wave guide, transmission line width 0.70 mm and gap 0.57 mm.

Ordering Information

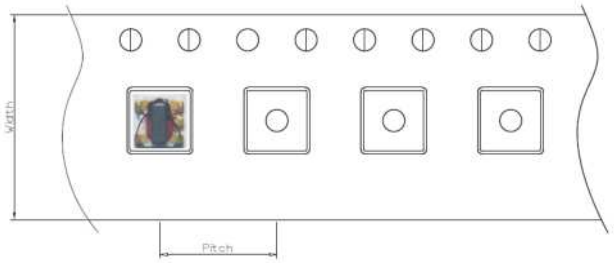
Part Number	Description
MABA-011094	2000 piece reel
MABA-011094-TB	customer test board

Outline Drawing[6,7,8,9]



6. Dimensions in mm
7. Tolerance: ±0.2 mm unless otherwise noted
8. Model number and lot code are printed on the reel
9. 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	-	F31
Reference Application Note ANI-019 for orientation		

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