MABA-011100

1:2 Transformer Balun
20 - 4000 MHz

Rev. V1

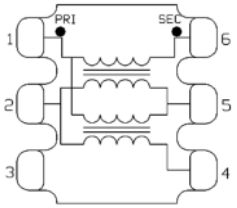
Features

- Wide Bandwidth
- Suitable for multiple wideband applications
- Excellent RF Performance & Temperature Stability
- Surface Mount Package
- Available on Tape and Reel
- RoHS* Compliant and Lead Free
- 260°C Reflow Compatible

Description

The MABA-011100 is a 1:2 balun transformer in a surface mount package. Ideally suited multiple wide band applications.

Functional Schematic



Pin Configuration[1]

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

1. MACOM recommends connecting unused package pins to ground.

Electrical Specifications: Freq. = 20 - 4000 MHz, T_A = +25°C, Z_0 = 50 Ω, P_{IN} = 0 dBm

Parameter	Conditions	Units	Min	Typ	Max
Impedance Ratio	—	ratio	—	1:2	—
Balanced Insertion Loss	20 - 4000 MHz	dB	—	1.5	2.0
Amplitude Balance	20 - 4000 MHz	dB	—	0.5	±2.0
Phase Balance	20 - 4000 MHz	°	—	7.0	±15
Input Return Loss (Pin 1)	20 - 2000 MHz 2000 - 4000 MHz	dB	7 12	10 15	—
Output Return Loss (Pin 4-6)	20 - 4000 MHz	dB	11	14	—

Ordering Information[2,3]

Part Number	Description
MABA-011100	2000 piece reel
MABA-011100-TB	Customer test board

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

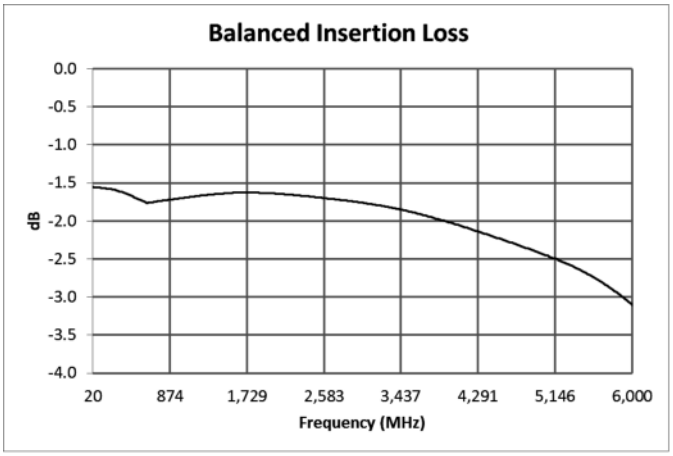
Absolute Maximum Ratings[4,5]

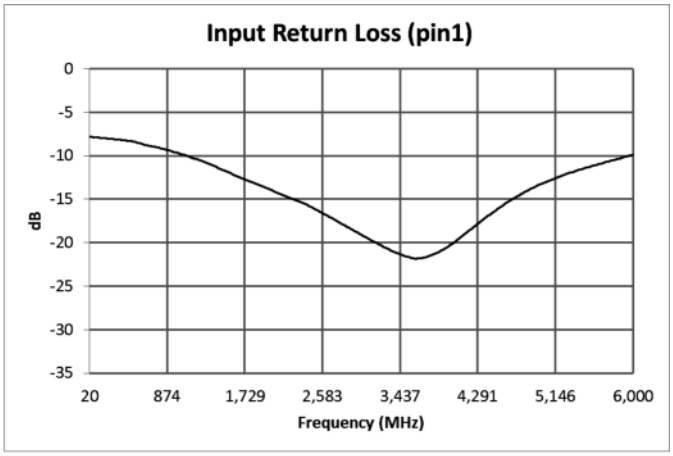
Parameter	Absolute Maximum
Input RF Power[6]	1 W
DC Current	1 A
Operating Temperature	-55°C to +85°C

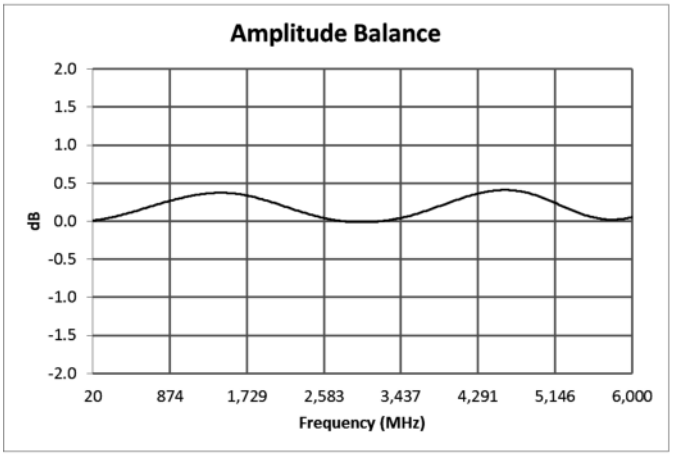
4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at +25C only, measured at 2GHz

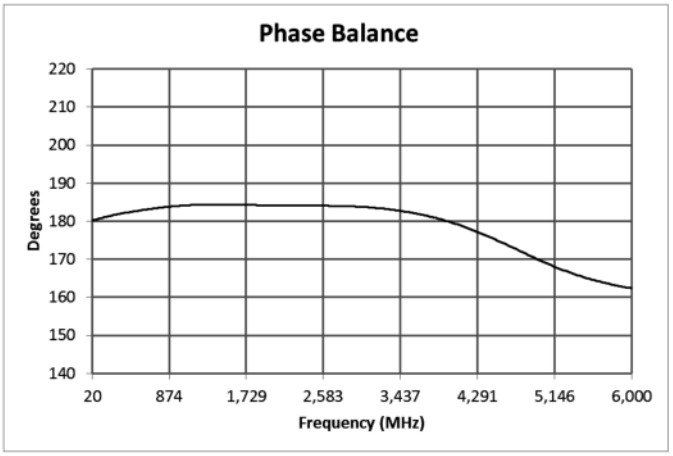
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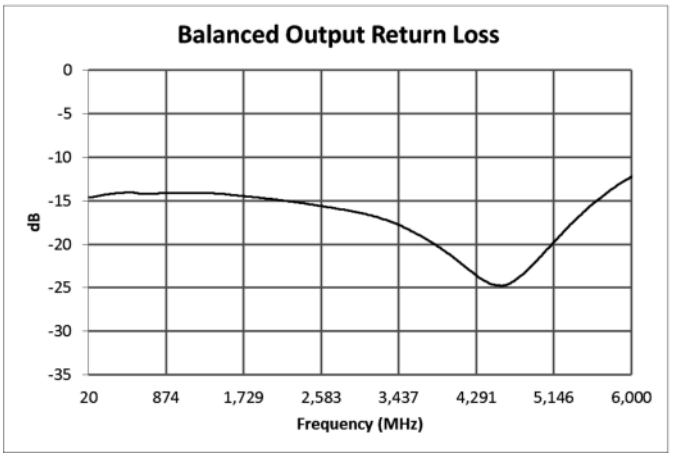
Typical Performance Curves[6]









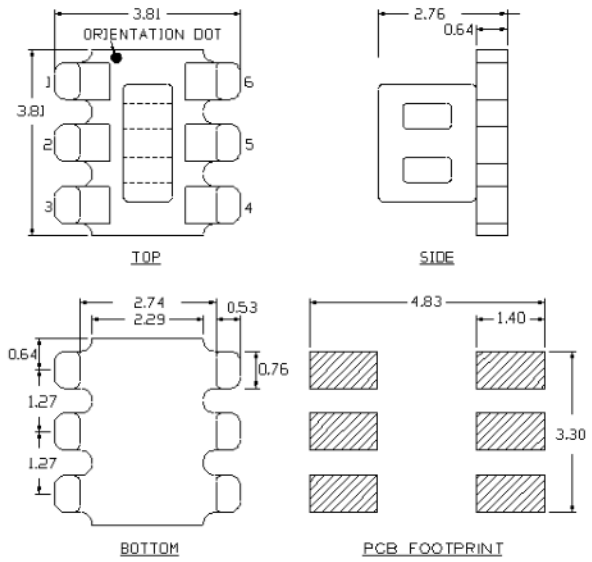


6. Temperature plots available on request.

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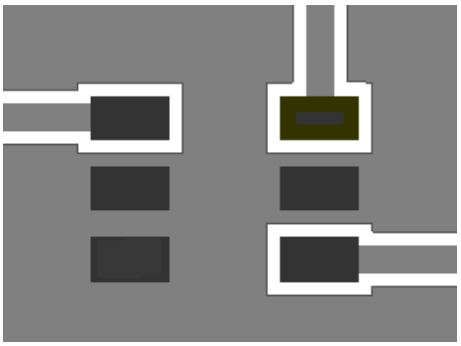
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Outline Drawing[7,8,9,10]



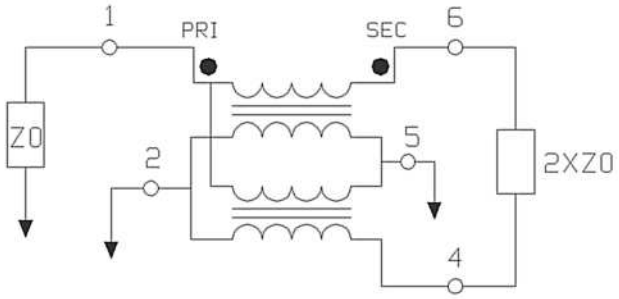
7. Dimensions in mm.
8. Tolerance: ±0.2 mm unless otherwise noted.
9. Model number and lot code are printed on the reel.
10. Plating finish: ENIG.

Recommended Board Layout[11,12]



11. Recommended PCB layout shown above uses Roger RO4350B substrate, thickness 0.254 mm.
12. Grounded coplanar wave guide trace, width 0.48 mm and Gap 0.25 mm.

Application Schematic



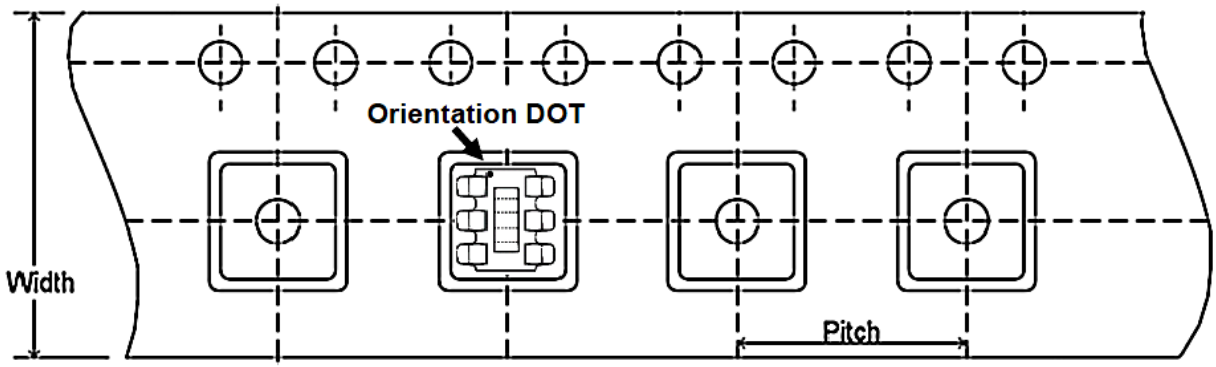
Tape & Reel Information[13]

Parameter	Units	Value
Qty per Reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F33

13. Reference Application Note ANI-019 for orientation.

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Carrier Tape Orientation



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