

1:2 Transformer Balun

10 - 6000 MHz



MABA-011131

Rev. V1

Features

- 50 Ω Unbalanced / 100 Ω Balanced
- Wide Bandwidth
- Suitable for multiple wideband applications
- Excellent RF Performance & Temperature Stability
- Surface Mount Package

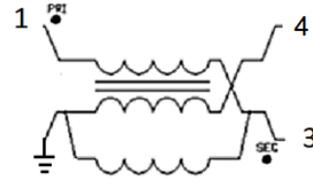
Applications

- Multiple Wideband Applications

Description

The MABA-011131 is a 1:2 balun transformer ideally suited multiple wide band applications.

Functional Schematic



Pin Configuration¹

Pin #	Function	Pin #	Function
2, 5, 6	Not used	3	Output 2 (Non Inverting)
1	Input	4	Output 1 (Inverting)

1. MACOM recommends connecting unused package pins to ground.

Electrical Specifications: Freq. = 10 - 6000 MHz, T_A = +25°C, Z₀ = 50 Ω , P_{IN} = 0 dBm

Parameter	Conditions, Frequency (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	-	ratio	—	1:2	—
Insertion Loss (pin 1 - pin 4)	10 - 500	dB	—	2.4	3.2
	500 - 4000			1.4	2.3
	4000 - 6000			2.0	2.7
Insertion Loss (pin 1 - pin 3)	10 - 500	dB	—	2.4	3.2
	500 - 4000			1.4	2.3
	4000 - 5000			2.9	4.2
	5000 - 6000			4.7	5.7
Balanced Insertion Loss	10 - 500	dB	—	2.2	3.0
	500 - 4000			1.3	2.0
	4000 - 5000			1.8	3.3
	5000 - 6000			2.8	3.8
Amplitude Balance	10 - 4000	dB	—	0.2	±1.0
	4000 - 4000			1.0	±2.0
	5000 - 6000			2.8	±4.3
Phase Balance	10 - 5000	°	—	6	—
	5000 - 6000			8	
Input Return Loss (pin 1)	10 - 4000	dB	8	10	—
	4000 - 6000		2		
Output Return Loss (pin 3-4)	10 - 4000	dB	5	10	—
	4000 - 6000		2		

* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

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DC-0024309

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Ordering Information^{2,3}

Part Number	Package
MABA-011131	bulk
MABA-011131-TB	Sample Board

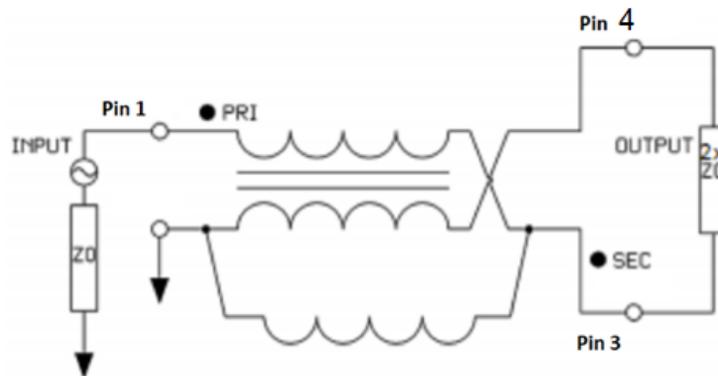
- Reference Application Note M513 for reel size information.
- All sample boards include 5 loose parts.

Absolute Maximum Ratings^{4,5,6}

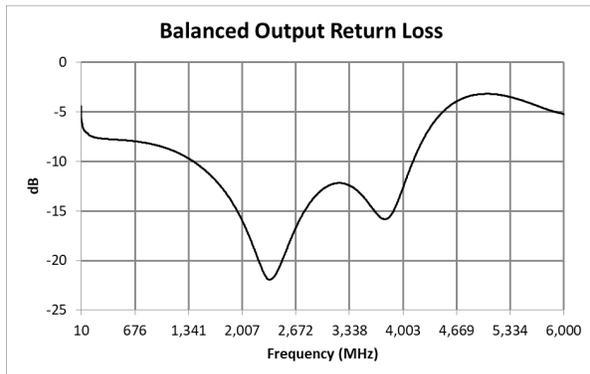
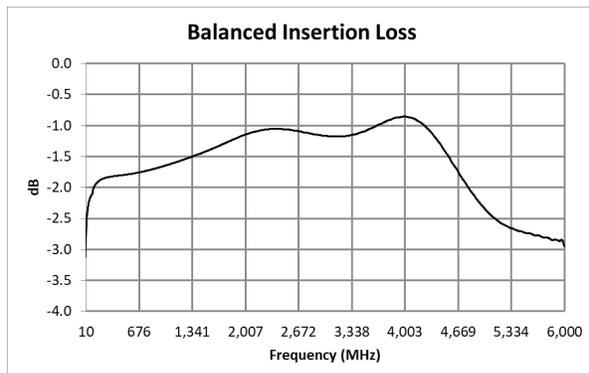
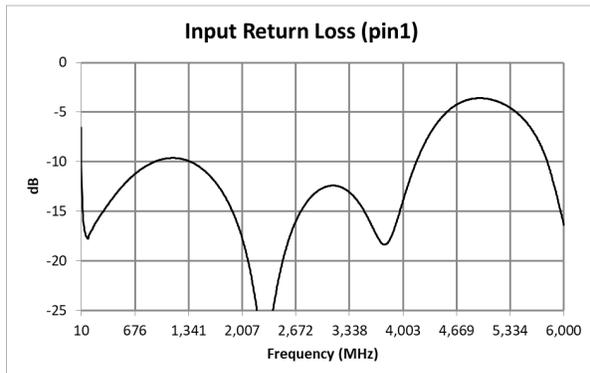
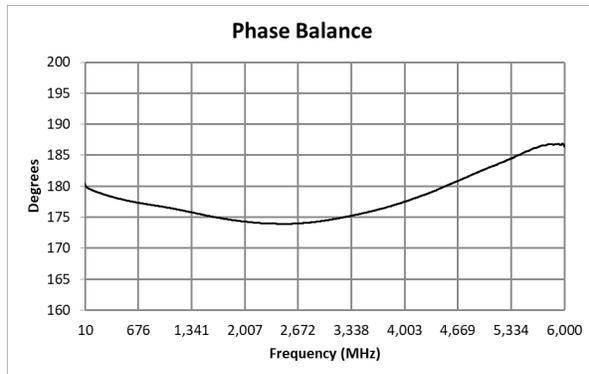
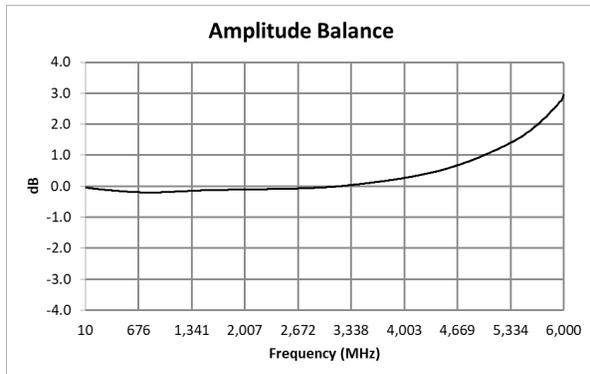
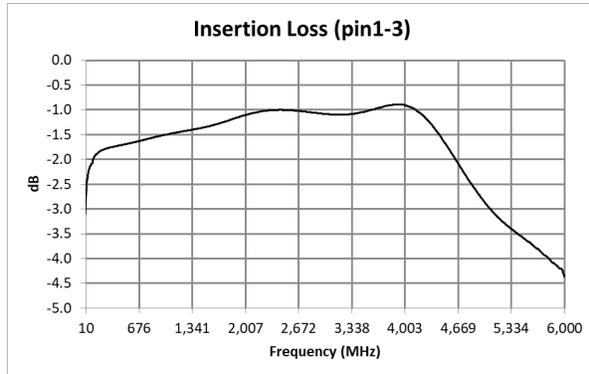
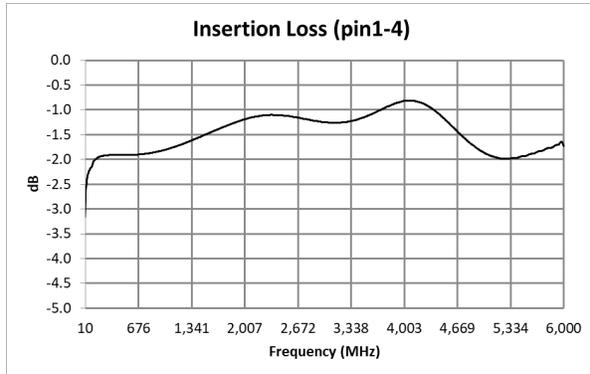
Parameter	Absolute Maximum
Input RF Power ⁶	2 W
DC Current	1 A
Operating Temperature	-55°C to +105°C

- Exceeding any one or combination of these limits may cause permanent damage to this device.
- MACOM does not recommend sustained operation near these survivability limits.
- Specified at +25°C only, measured @ 2.4 GHz.

Application Schematic



Typical Performance Curves



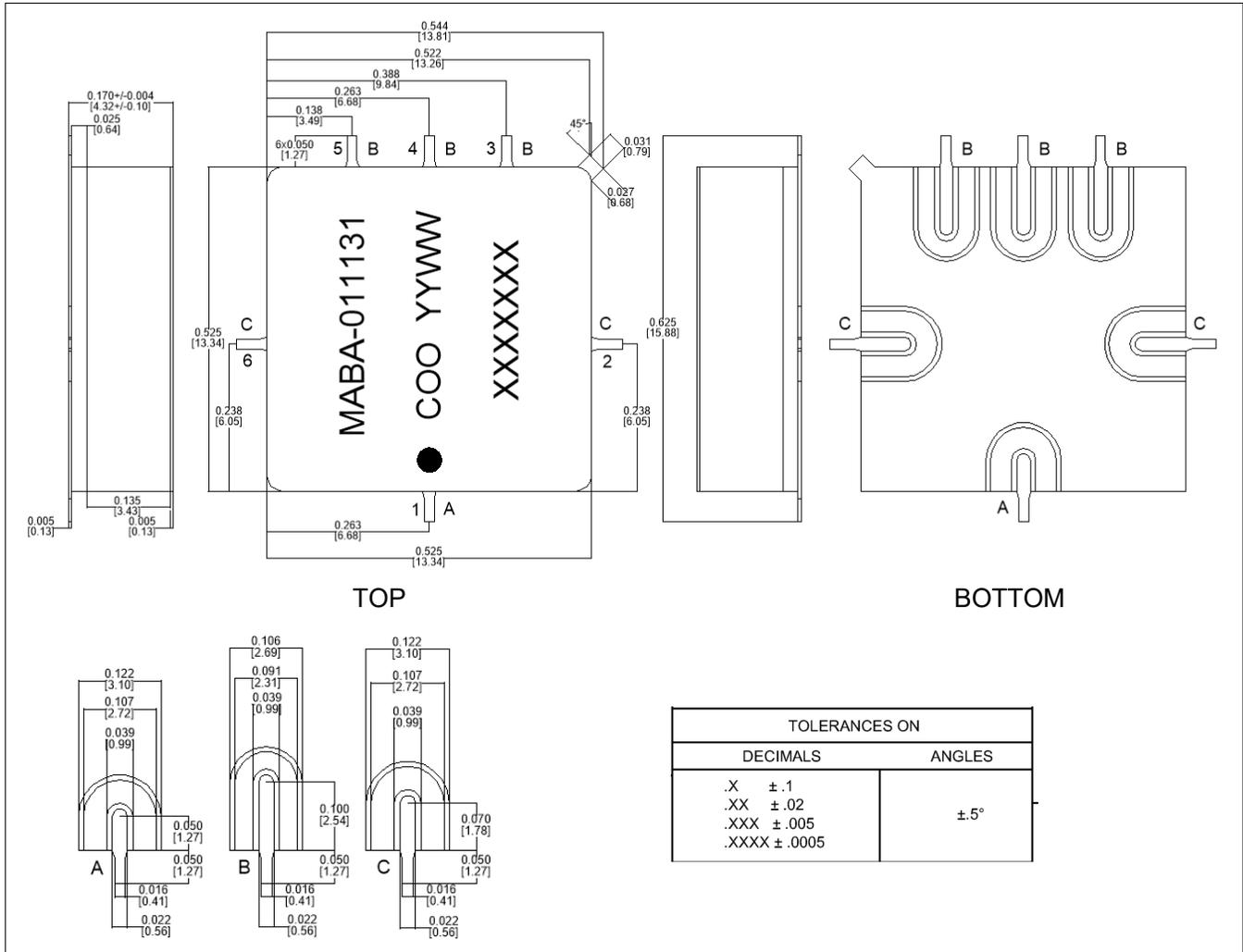
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Outline Drawing^{7,8,9}



7. Dimensions in inches [mm].

8. Model number and lot code are printed on the tray

9. Weight (approx.): 2 Grams

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