

1:2 Transmission Line Balun 5 - 3000 MHz



MABA-011130

Rev. V3

Features

- 50 Ω Unbalanced / 100 Ω Balanced
- Wide Bandwidth
- Excellent RF Performance & Temperature Stability from -55°C to +125°C
- Surface Mount Package

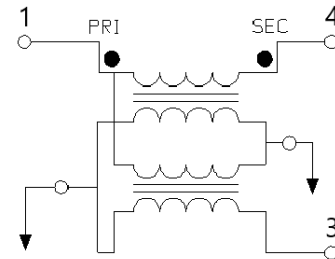
Applications

- Multiple Wideband Applications

Description

The MABA-011130 is a 1:2 balun transformer in a surface mount package. Ideally suited multiple wide band applications.

Functional Schematic



Pin Configuration¹

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

1. MACOM recommends connecting unused package pins to ground.

Electrical Specifications: Freq. = 5 - 3000 MHz, T_A = +25°C, Z₀ = 50 Ω , P_{IN} = 0 dBm

Parameter	Conditions	Units	Min.	Typ.	Max.
Impedance Ratio	-	ratio	—	1:2	—
Insertion Loss (pin 1 - pin 4)	5 - 2000 MHz	dB	—	1.3	2.3
	2000 - 3000 MHz			1.5	2.0
Insertion Loss (pin 1 - pin 3)	5 - 2000 MHz	dB	—	1.3	2.3
	2000 - 3000 MHz			2.1	2.7
Balanced Insertion Loss	5 - 3000 MHz	dB	—	1.7	2.2
Amplitude Balance	5 - 3000 MHz	dB	—	0.5	±1.5
Phase Balance	5 - 3000 MHz	°	—	8	±12
Input Return Loss (pin 1)	5 - 2000 MHz	dB	7	10	—
	2000 - 3000 MHz		5	8	
Output Return Loss (pin 3-4)	5 - 3000 MHz	dB	5	9	—

Ordering Information

Part Number	Description
MABA-011130	Bulk

Absolute Maximum Ratings^{2,3}

Parameter	Absolute Maximum
Input RF Power ⁴	2 W
DC Current	1 A
Operating Temperature	-55°C to +125°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.
4. Specified at +25C only and measured at 900 MHz & 2400 MHz.

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

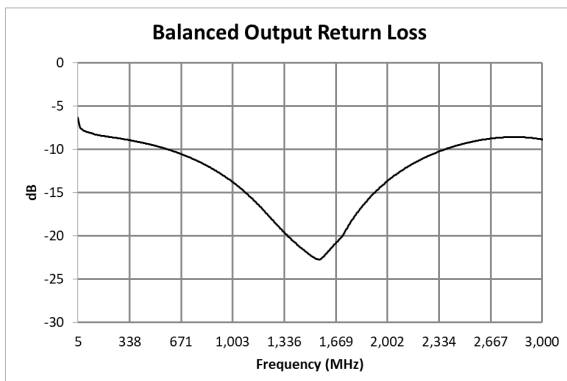
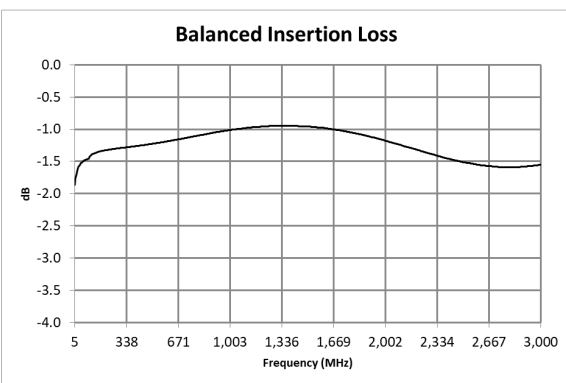
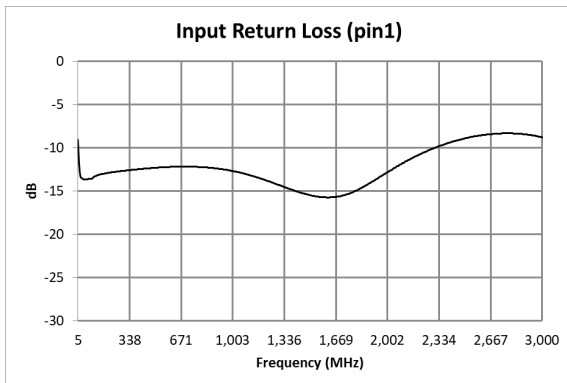
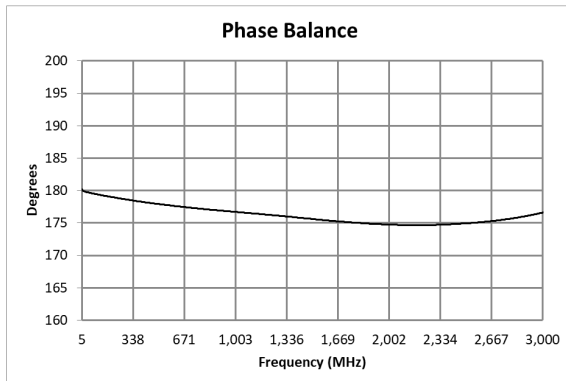
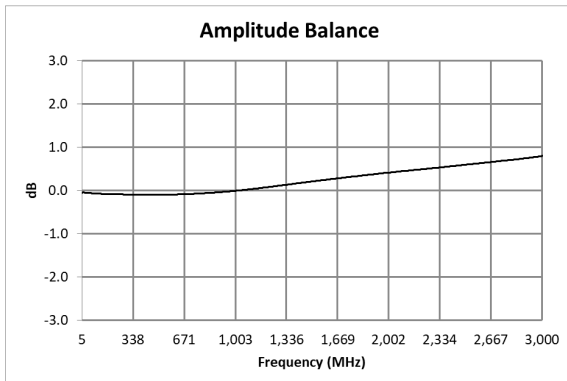
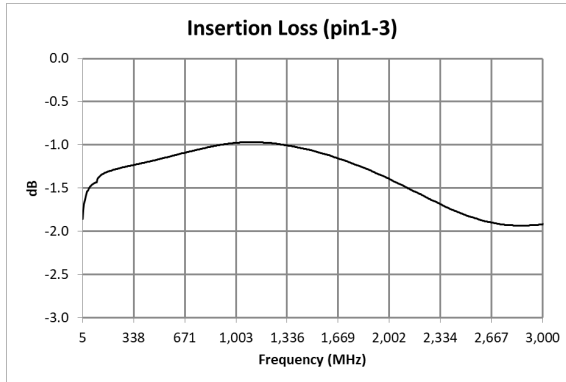
1:2 Transmission Line Balun 5 - 3000 MHz



MABA-011130

Rev. V3

Typical Performance Curves⁵



5. Temperature plots available on request.

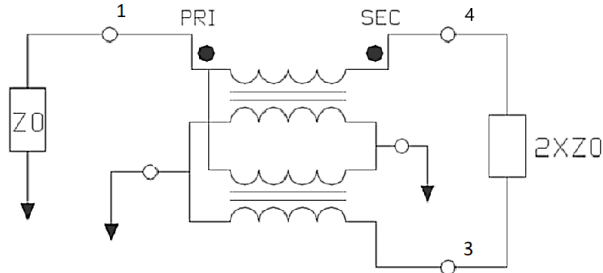
1:2 Transmission Line Balun 5 - 3000 MHz



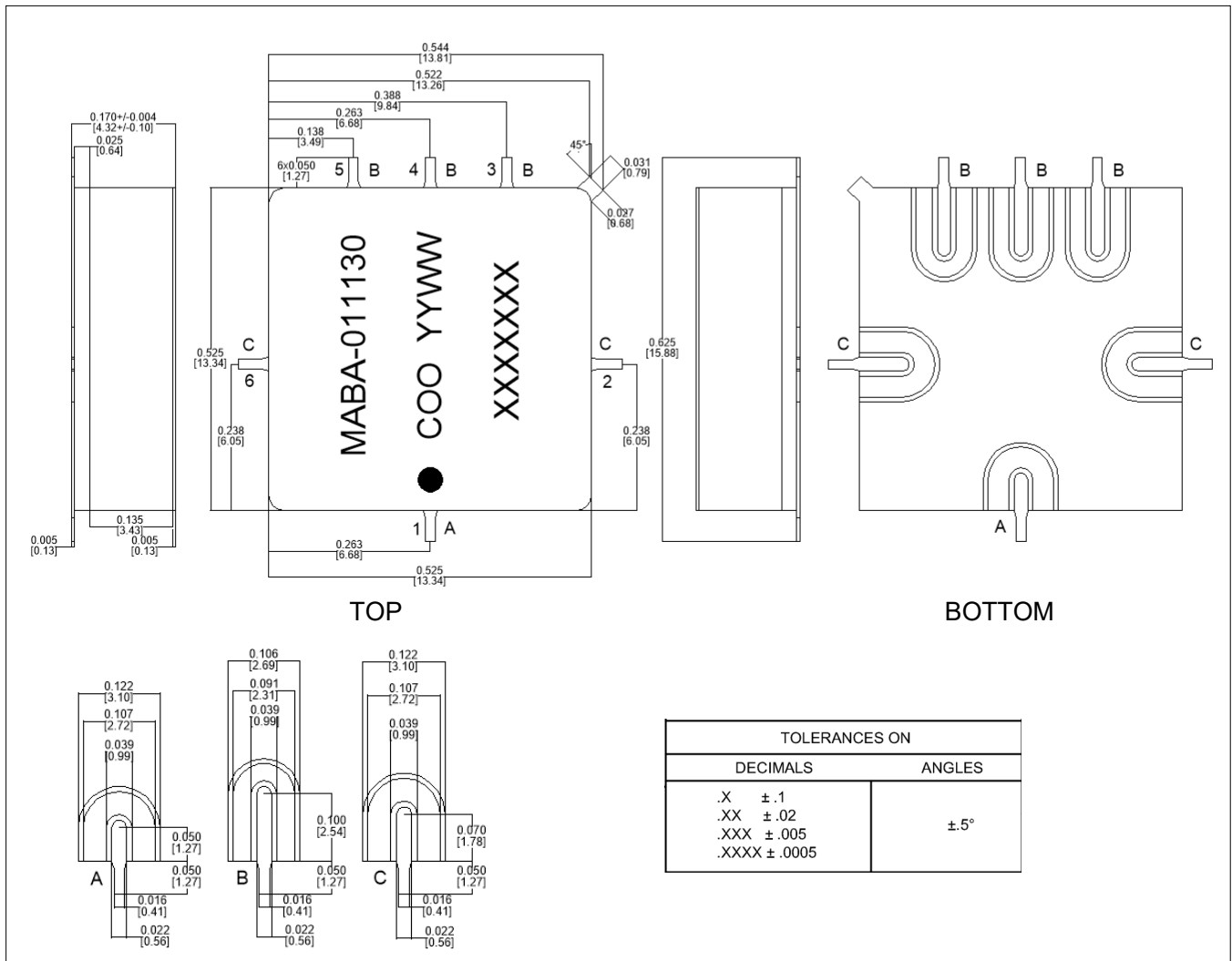
MABA-011130

Rev. V3

Application Circuit



Outline Drawing^{6,7,8,9}



- 7. Dimensions in inches[mm].
- 8. Model number and lot code are printed on the tray
- 9. Weight (approx.): 2 Grams

1:2 Transmission Line Balun

5 - 3000 MHz



MABA-011130

Rev. V3

MACOM Technology Solutions Inc. ("MACOM"). All rights reserved.

These materials are provided in connection with MACOM's products as a service to its customers and may be used for informational purposes only. Except as provided in its Terms and Conditions of Sale or any separate agreement, MACOM assumes no liability or responsibility whatsoever, including for (i) errors or omissions in these materials; (ii) failure to update these materials; or (iii) conflicts or incompatibilities arising from future changes to specifications and product descriptions, which MACOM may make at any time, without notice. These materials grant no license, express or implied, to any intellectual property rights.

THESE MATERIALS ARE PROVIDED "AS IS" WITH NO WARRANTY OR LIABILITY, EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHT, ACCURACY OR COMPLETENESS, OR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM 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.