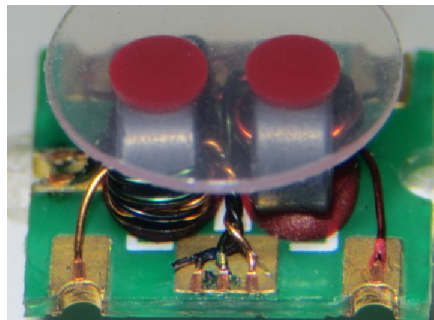


Transformer, 1:2 Transmission Line Balun 5 MHz - 1200 MHz

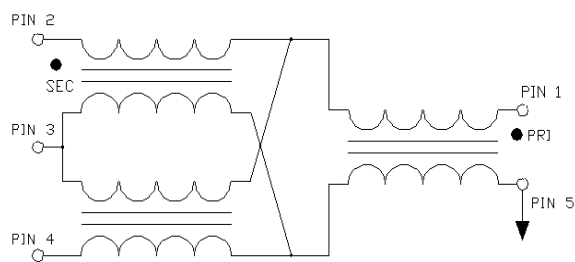
Rev. V3

Features

- 1:2 impedance ratio
- Transmission line Transformer
- Surface mount
- Available on tape and reel
- 260°C reflow compatible
- RoHS Compliant and Pb free
- Excellent temperature stability
- Can be used on 50Ω and 75Ω systems



Schematic



Pin Configuration

Pin No.	Function
1	Input (PRI dot)
2	Output 1 (SEC dot)
3	Centre tap (RF Ground)
4	Output 2 (SEC)
5	Ground (PRI)

Ordering Information

Part Number	Description
MABA-011029	Tape & Reel
MABA-011029-TB	Customer Evaluation Board

Transformer, 1:2 Transmission Line Balun 5 MHz - 1200 MHz

Rev. V3

Electrical Specifications: $Z_0 = 75\Omega$, $T_A = 25^\circ\text{C}$, $P_{in} = 0\text{dBm}$

Parameter	Conditions	Units	Min	Typ	Max
Frequency Range		MHz	5		1200
Impedance		Ω		75	
Impedance Ratio				1:2	
Insertion Loss 1 (Pin 1 to pin 2)	5 - 50 MHz	dB	-	0.30	0.40
	50 - 400 MHz	dB	-	0.50	0.80
	400 -1000 MHz	dB	-	0.90	2.00
	1000 -1200 MHz	dB	-	1.60	2.70
Insertion Loss 2 (Pin 1 to pin 4)	5 - 50 MHz	dB	-	0.50	0.60
	50 - 400 MHz	dB	-	0.70	1.20
	400 -1000 MHz	dB	-	1.50	3.00
	1000 -1200 MHz	dB	-	2.40	3.90
Amplitude Balance	5 - 50 MHz	dB	-0.30	0.10	0.30
	50 - 400 MHz	dB	-0.90	0.20	0.90
	400 -1200 MHz	dB	-2.20	0.50	2.20
Phase Balance	5 - 50 MHz	$^\circ$	-2.0	0.20	2.0
	50 - 400 MHz	$^\circ$	-6.0	0.70	6.0
	400 -1000 MHz	$^\circ$	-9.0	0.50	9.0
Input Return Loss (Pin 1)	5 - 50 MHz	dB	20	27	-
	50 - 400 MHz	dB	18	28	-
	400 -1000 MHz	dB	9	16	-
	1000 -1200 MHz	dB	7	12	-

Tape & Reel Information

Recommended Maximum Ratings

Parameter	Units	Min	Max
Input Power	mW		250
DC Current	mA		600
Operating Temperature Range	$^\circ\text{C}$	-40	+85

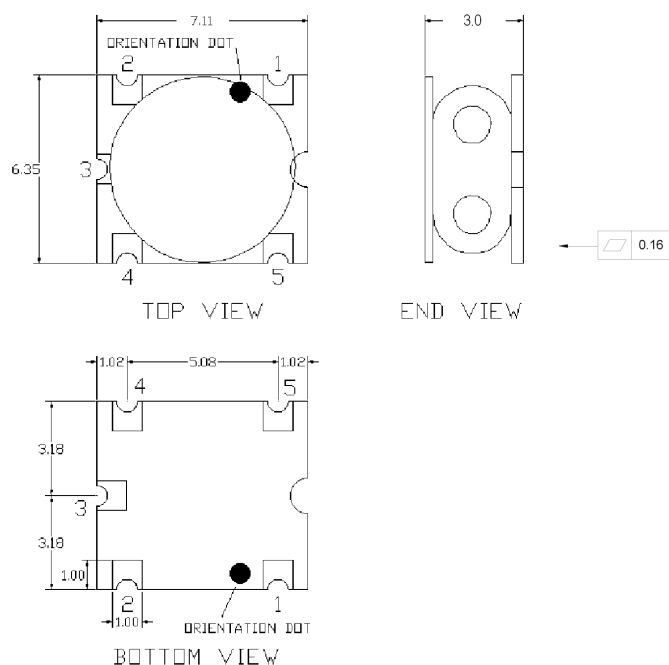
Temperature data available on request

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Ao	mm	6.70
Bo	mm	7.50
Ko	mm	3.60
Orientation	-	F33
Reference Application Note ANI-019 for orientation		

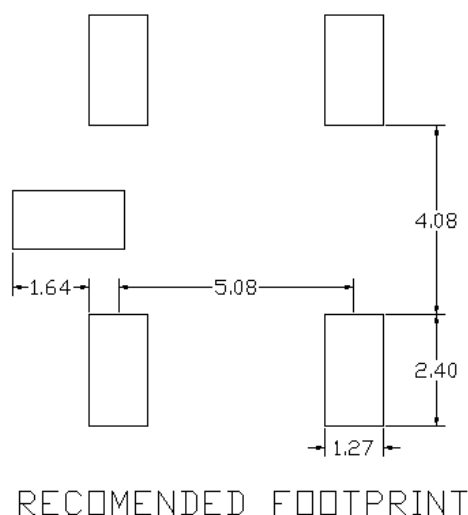
Transformer, 1:2 Transmission Line Balun 5 MHz - 1200 MHz

Rev. V3

Outline Drawing

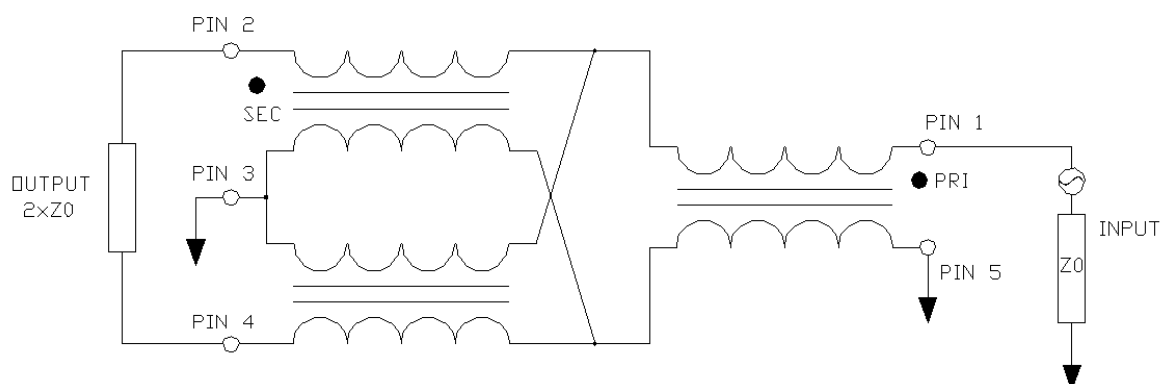


Recommended Footprint



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1 μ m gold over 3 to 6 μ m nickel

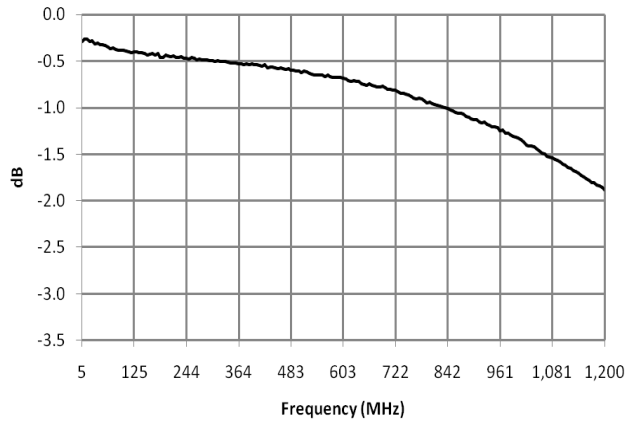
Application Circuit



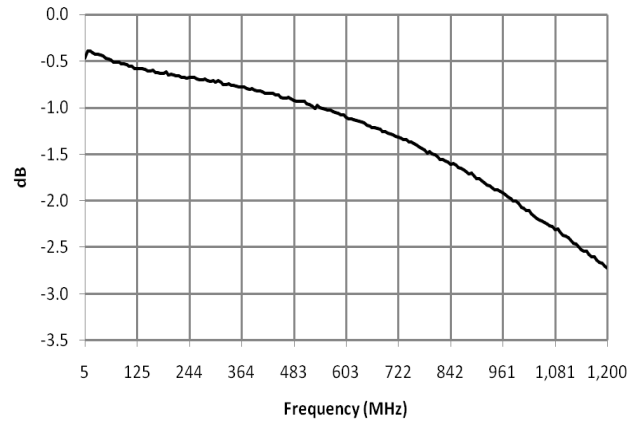
Transformer, 1:2 Transmission Line Balun 5 MHz - 1200 MHz

Rev. V3

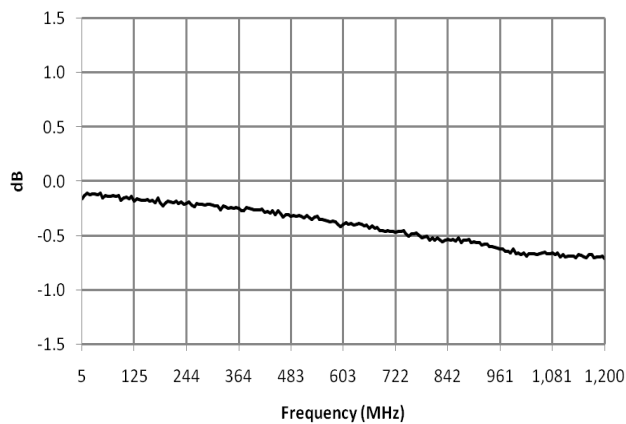
Insertion Loss 1 (pin1-2)



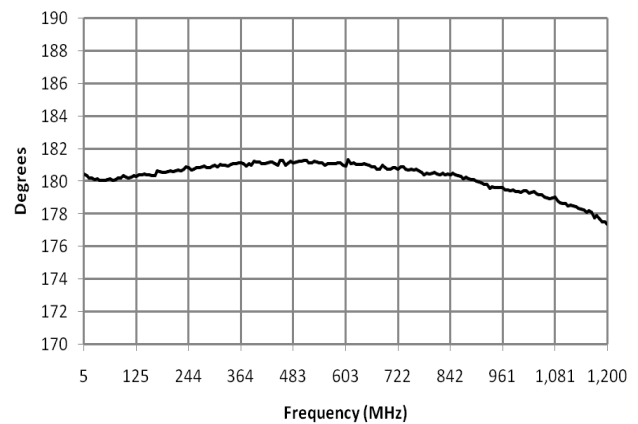
Insertion Loss 2 (pin1-4)



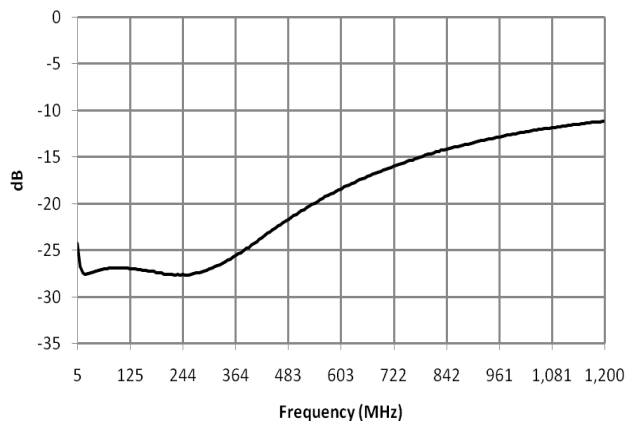
Amplitude Balance



Phase Balance



Input Return Loss (pin1)



Transformer, 1:2 Transmission Line Balun 5 MHz - 1200 MHz

Rev. V3

M/A-COM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with M/A-COM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE 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.