

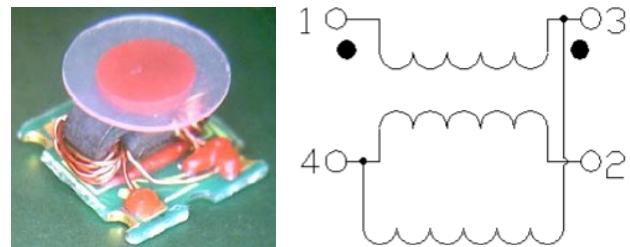
Features

- Surface Mount
- 1:1 Impedance
- Excellent temperature stability
- RoHS Compliant
- 260°C Reflow compatible

Description

The MABA-009210-CT1760 is a 1:1 RF transmission line Transformer in a low cost surface mount package. Ideally suited for high volume CATV/ Broadband application. Suitable for use in 50 Ohm and 75 Ohm systems.

Functional Schematic



Ordering Information

Part Number	Package
MABA-009210-CT1760	900 piece reel
MABA-009210-CT17TB	Sample Board

Pin Configuration

Pin Number	Function
1	Primary Dot (input)
2	Secondary (o/p coupled)
3	Secondary Dot (o/p through)
4	Primary (ground)

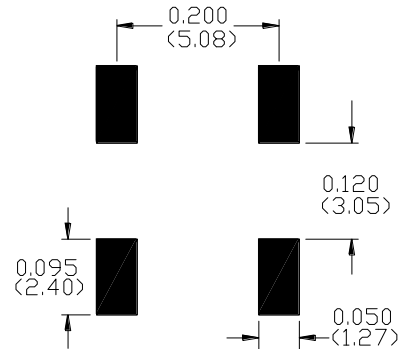
Electrical Specifications: Freq. = 50 - 1200 MHz, T_A = +25°C, Z₀ = 75 Ω

Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss 1 (Through) Pin 3 to pin 1	50 MHz	dB	—	0.13	0.33
	870 MHz			0.53	0.93
	1002 MHz			0.63	1.18
	1200 MHz			0.83	1.93
Insertion Loss 2 (Coupled) Pin 2 to pin 1	50 MHz	dB	—	0.43	0.62
	870 MHz			0.33	0.63
	1002 MHz			0.43	0.78
	1200 MHz			0.63	1.33
Amplitude Balance	50 MHz	dB	—	0.3	-0.6
	870 MHz			-0.1	+0.7
	1002 MHz			-0.2	+0.7
	1200 MHz			-0.2	+0.8
Phase Balance	50 - 1002 MHz	°	—	1.2	± 4.0
	1002 - 1200 MHz			3.2	± 8.0
Input Return Loss	50 - 500 MHz	dB	18.0	23.0	—
	500 - 1002 MHz		17.5	19.0	
	1002 - 1200 MHz		11.0	18.0	

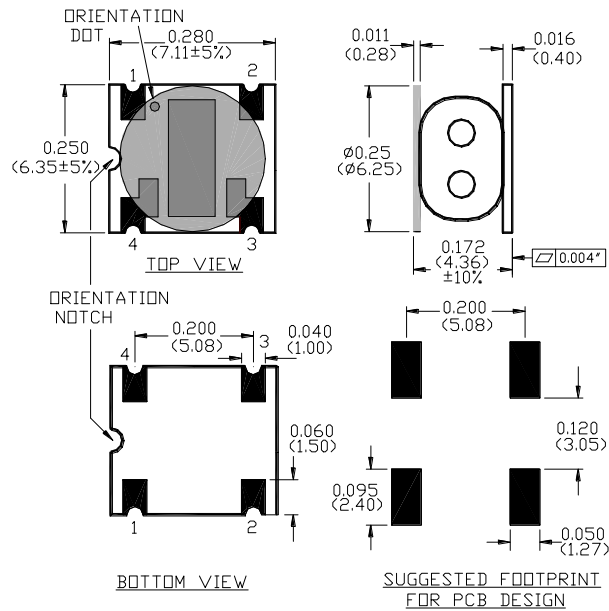
Absolute Maximum Ratings

Parameter	Absolute Maximum
RF Power	500 mW
DC Current	500 mA
Operating/Storage Temperature	-40°C to +85°C

Recommended Footprint



Outline Drawing



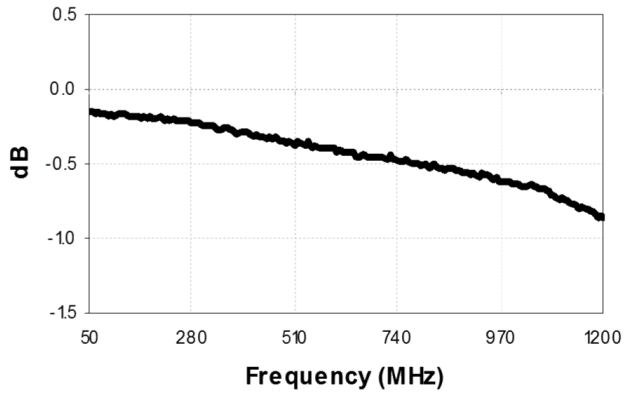
Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	900
Reel Size	mm	330
Tape Width	mm	16.00
Pitch	mm	12.00
Ao	mm	6.80
Bo	mm	7.60
Ko	mm	5.30
Orientation	-	F24
Reference Application Note ANI-019 for orientation		

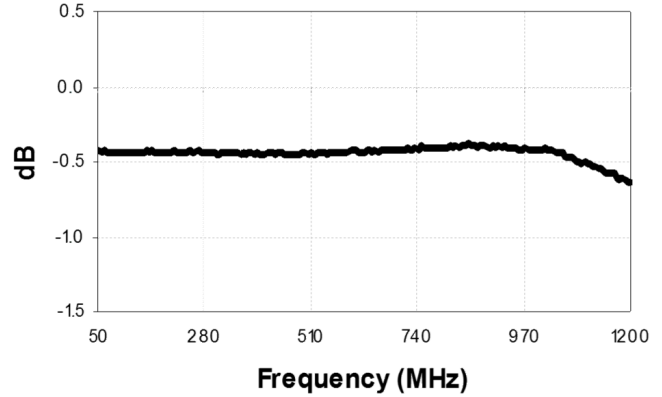
1. Dimensions in inches (mm).
2. Tolerance: .xx ±0.02, .xxx 0.01 unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1 µm gold over 3 to 6 µm nickel

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

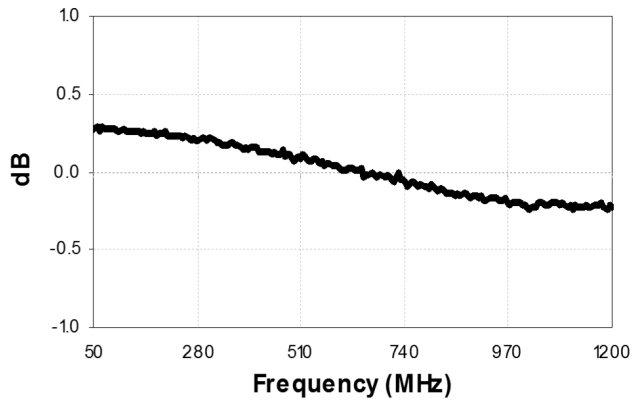
Insertion Loss 1: (through Pin 3-1)



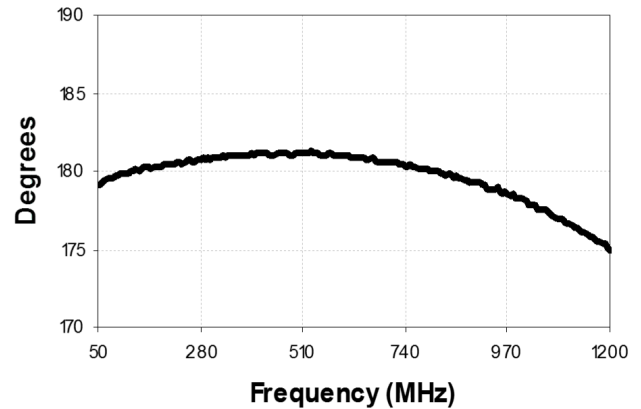
Insertion Loss 2: (coupled Pin 2-1)



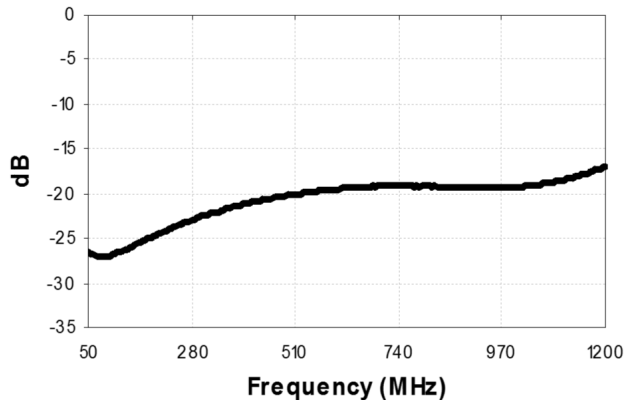
Amplitude Balance



Phase Balance



Return Loss: Input (Pin 1)



Note: The insertion loss graphs have minimum loss pad loss value subtracted from data. Loss value = -10.67dB.

Full temperature plots available on request

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM 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.