

1.33:1 Transmission Line Balun Transformer 5 - 1000 MHz

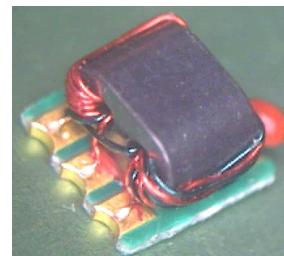
Rev. V2

Features

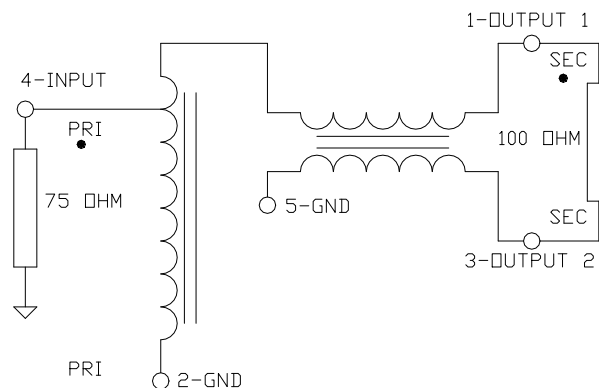
- Surface Mount
- 1.33:1 Impedance
- 75 Ω single ended to 100 Ω Balance
- RoHS Compliant and Pb Free
- Available on Tape and Reel

Description

MABA-009092-CT1A40 is a 1.33:1 RF Transmission Line Transformer in a low cost surface mount package. Ideally suited for high volume CATV/ Broadband applications.



Functional Schematic



Ordering Information^{1,2}

Part Number	Package
MABA-009092-CT1A40	2000
MABA-009092-CT1ATB	Customer Test Board

Pin Configuration³

Pin No.	Function
1	Secondary Dot (output 1)
2	Primary (ground)
3	Secondary (output 2)
4	Primary Dot (Input)
5	(ground)

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Electrical Specifications: Freq. = 5 - 1000 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$

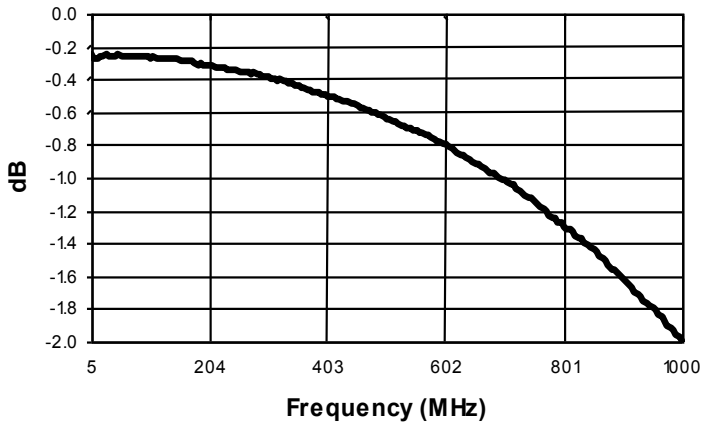
Parameter	Test Conditions	Units	Min.	Typ.	Max.
Insertion Loss 1 (Pin 4 to Pin 1)	5 - 50 MHz	dB	—	0.3	0.4
	50 - 870 MHz			0.6	1.8
	870 - 1000 MHz			1.75	2.4
Insertion Loss 2 (Pin 4 to Pin 3)	5 - 50 MHz	dB	—	0.94	1.4
	50 - 870 MHz			0.7	1.2
	870 - 1000 MHz			1.0	1.5
Amplitude Balance	5 - 50 MHz	dB	—	0.7	± 1.3
	50 - 870 MHz			0.13	± 1.0
	870 - 1000 MHz			0.74	± 1.4
Phase Balance	5 - 50 MHz	°	—	4	± 16
	50 - 1000 MHz			5	± 9
Input Return Loss (Pin 4)	5 - 50 MHz	dB	13	23	—
	50 - 400 MHz		17	27	
	400 - 870 MHz		9	17	
	870 - 1000 MHz		8	12	

Absolute Maximum Ratings

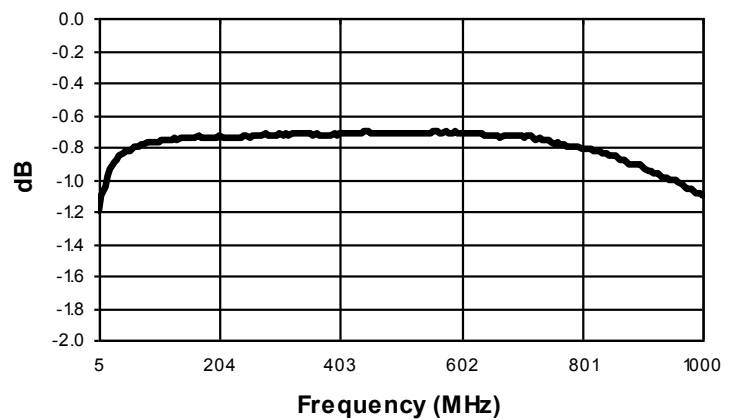
Parameter	Absolute Maximum
RF Power	250 mW
DC Current	30 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

Typical Performance Curves

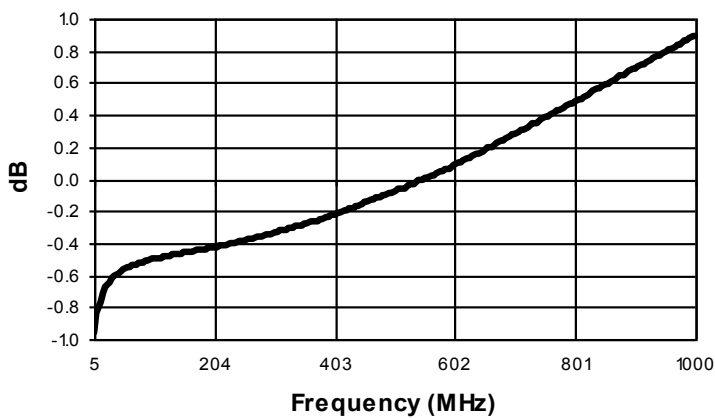
Insertion Loss 1 (Pin4 - Pin1)



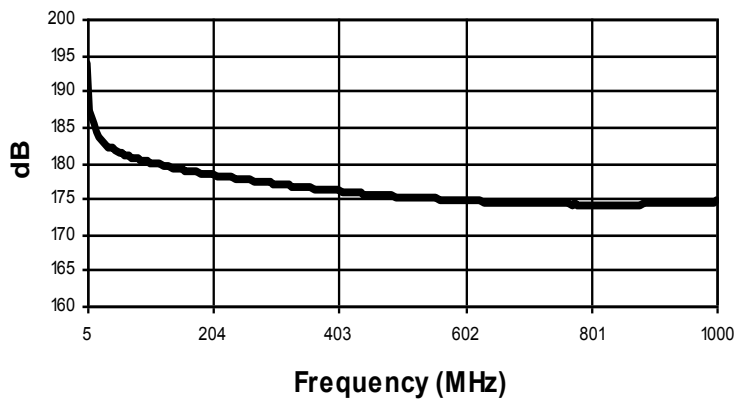
Insertion Loss 2 (Pin4 - Pin3)



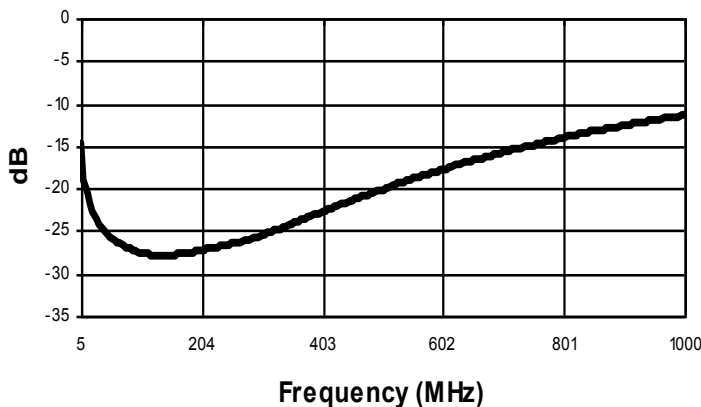
Amplitude Balance



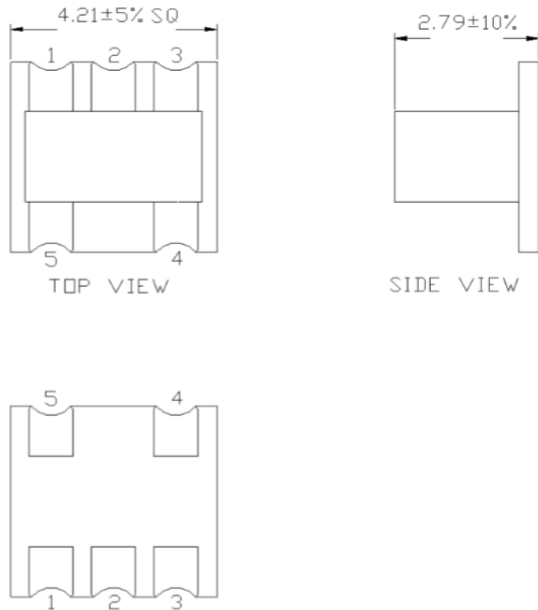
Phase Balance



Return Loss: Input (Pin4)

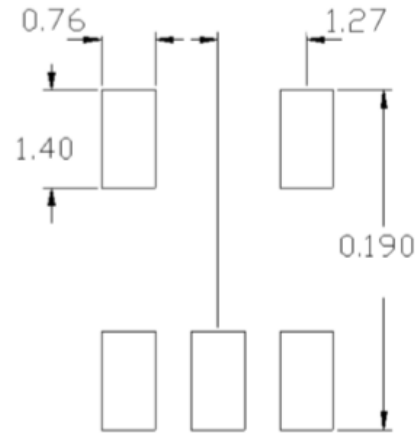


Outline Drawing



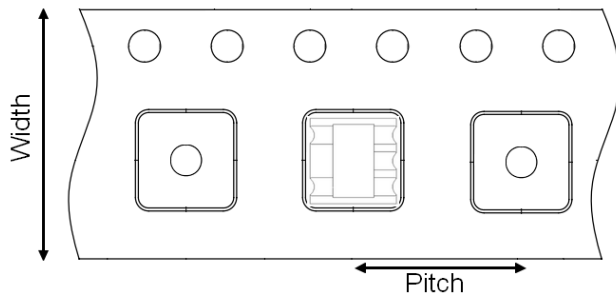
1. Dimensions in mm.
2. Tolerance: $\pm 0.2\text{mm}$ unless otherwise noted.
3. Model number and lot code printed on reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1 μm gold over 3 to 6 μm nickel

PCB Layout



Dimensions are millimetres ± 0.38 unless otherwise specified.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

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