

1:4 Transmission Line Transformer 10 - 1900 MHz

Rev. V3

Features

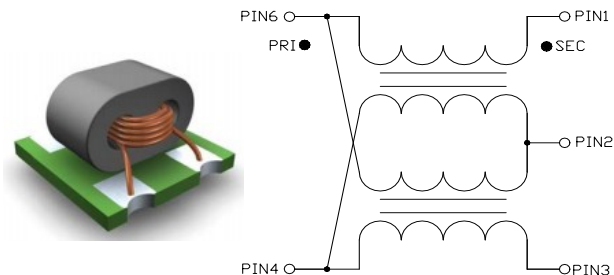
- 1:4 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Can Be Used on 50 Ω & 75 Ω Systems
- Available on Tape & Reel
- RoHS Compliant & Lead Free
- 260°C Reflow Compatible

Description

The MABA-010374-CT4A40 is a 1:4 transmission line transformer in a surface mount package.

Ideally suited for all CATV Broadband and FTTx applications.

Functional Schematic



Pin Configuration

Pin #	Function
1	Secondary Dot
2	Center Tap
3	Secondary
4	Primary
6	Primary Dot

Electrical Specifications: Freq. = 10 - 1900 MHz, $T_A = 25^\circ\text{C}$, $Z_0 = 50 \Omega$, $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	—	dB	—	1:4	—
Insertion Loss 1: (Pin 4-1)	10 - 600	dB	—	0.1	1.3
	600 - 1300			1.1	1.6
	1300 - 1900			2.2	3.0
Insertion Loss 1: (Pin 4-3)	10 - 600	dB	—	1.0	1.3
	600 - 1300			0.8	1.5
	1300 - 1900			1.3	2.2
Amplitude Balance	10 - 615	dB	—	0.0	± 0.5
	615 - 1300			0.3	± 1.2
	1300 - 1900			1.0	± 2.3
Phase Balance	10 - 250	°	—	2.7	± 5
	250 - 1000			7.3	± 15
	1000 - 1900			5.8	± 20
Input Return Loss (Pin 4)	10 - 1000	dB	19	28	—
	1000 - 1900		8	12	

Ordering Information

Part number	Description
MABA-010374-CT4A40	2000 piece reel
MABA-010374-CT4ATB	customer evaluation board

Recommended Maximum Ratings

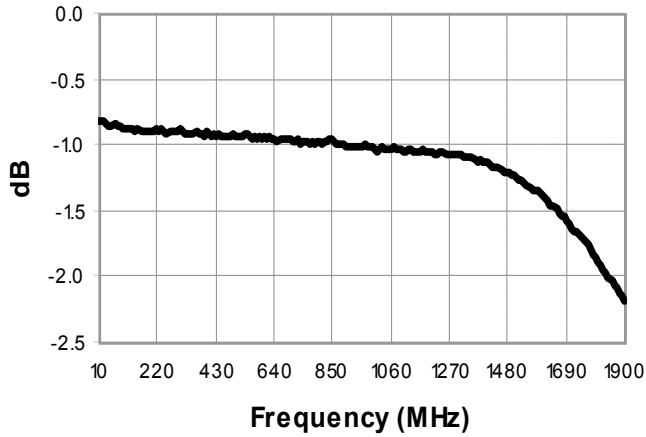
Parameter	Value
Input Power	250 mW
DC Current	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

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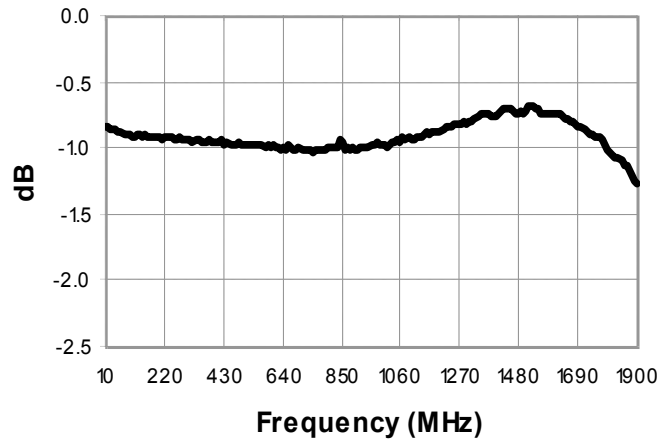
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 50 \Omega$, $P_{IN} = 0 \text{ dBm}$

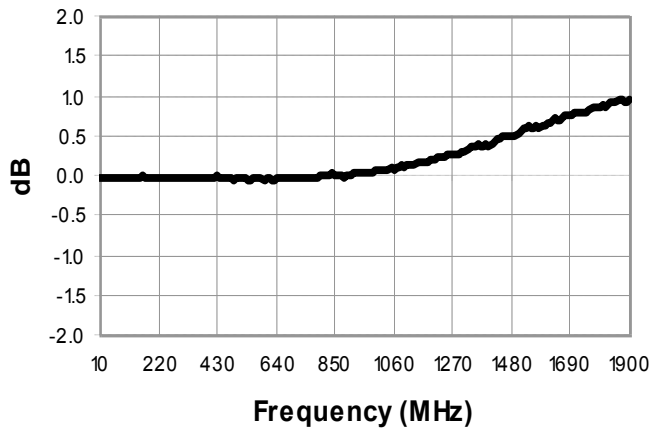
Insertion Loss 1: (Pin 4 to 1)



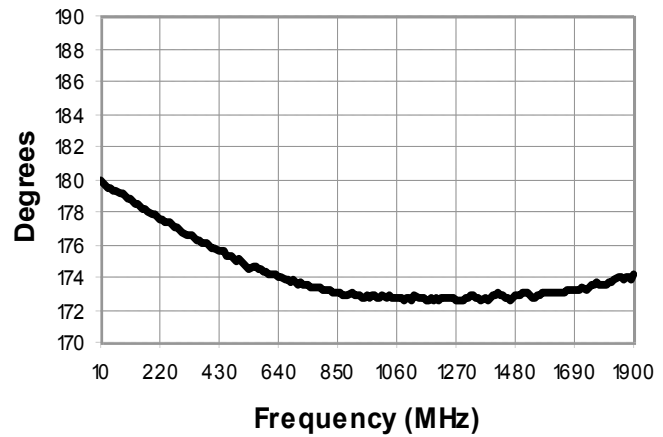
Insertion Loss 2: (Pin 4 to 3)



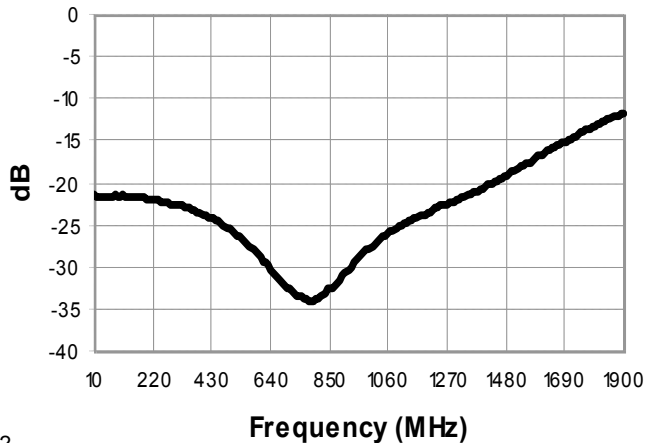
Amplitude Balance



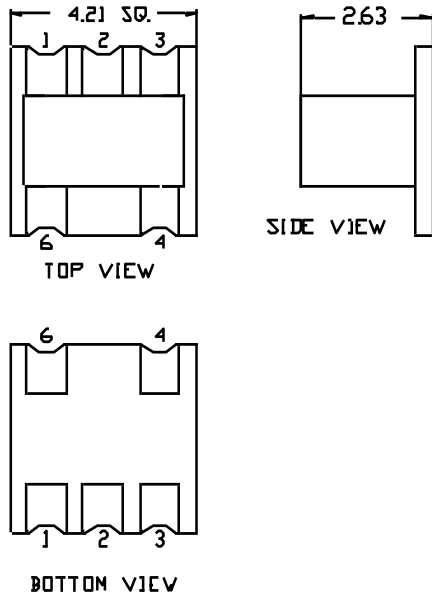
Phase Balance



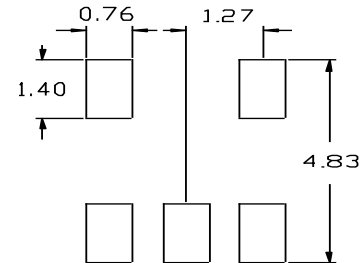
Return Loss: Input (Pin 4)



Outline Drawing

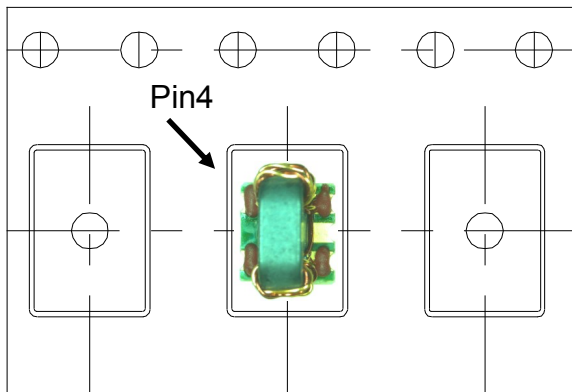


PCB Layout



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Finish: Electroless nickel immersion gold.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.0
Pitch	mm	8.0
Ao	mm	4.5
Bo	mm	4.5
Ko	mm	2.73
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

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