

1:4 Transmission Line Transformer 10 - 1900 MHz

Rev. V3

Features

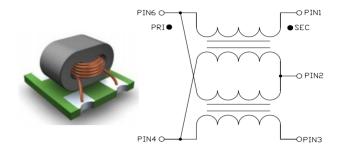
- 1:4 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Can Be Used on 50 Ω & 75 Ω Systems
- Available on Tape & Reel
- · RoHS Compliant & Lead Free
- 260°C Reflow Compatible

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, $T_A = 25$ °C, $Z_0 = 50 \Omega$, $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency (MHz)	Units	Min.	Тур.	Max.
Impedance Ratio	_	dB	_	1:4	
Insertion Loss 1: (Pin 4-1)	10 - 600 600 - 1300 1300 - 1900	dB	_	0.1 1.1 2.2	1.3 1.6 3.0
Insertion Loss 1: (Pin 4-3)	10 - 600 600 - 1300 1300 - 1900	dB	_	1.0 0.8 1.3	1.3 1.5 2.2
Amplitude Balance	10 - 615 615 - 1300 1300 - 1900	dB	_	0.0 0.3 1.0	±0.5 ±1.2 ±2.3
Phase Balance	10 - 250 250 - 1000 1000 - 1900	0	_	2.7 7.3 5.8	±5 ±15 ±20
Input Return Loss (Pin 4)	10 - 1000 1000 - 1900	dB	19 8	28 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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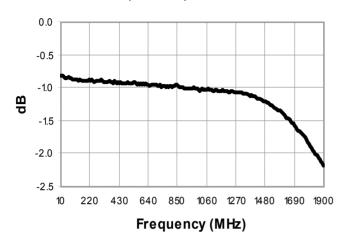


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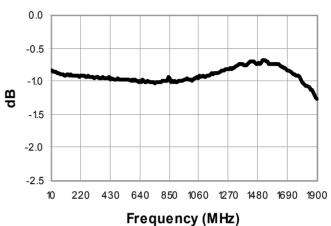
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Typical Performance Curves: $T_A = 25^{\circ}C$, $Z_0 = 50 \Omega$, $P_{IN} = 0 \text{ dBm}$

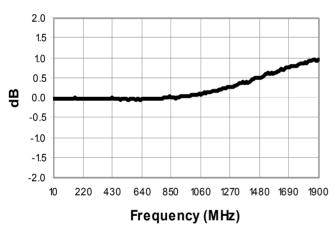
Insertion Loss 1: (Pin 4 to 1)

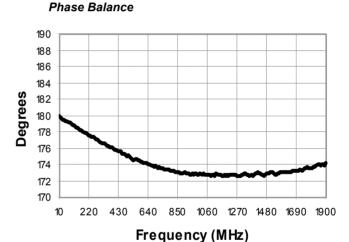


Insertion Loss 2: (Pin 4 to 3)

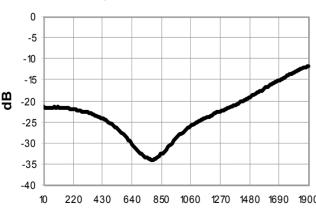


Amplitude Balance





Return Loss: Input (Pin 4)



Frequency (MHz)

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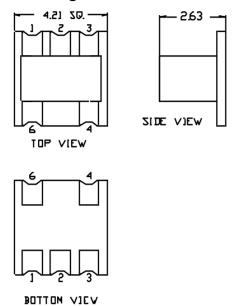
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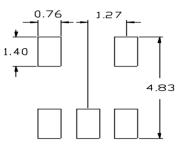
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Outline Drawing

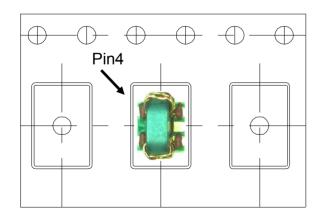


PCB Layout



- 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		
Во	mm	4.5		
Ko	mm	2.73		
Orientation	-	F31		
Reference Application Note ANI-019 for orientation				



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