

## 1:1 Transmission Line Transformer 5 - 1200 MHz

Rev. V2

### Features

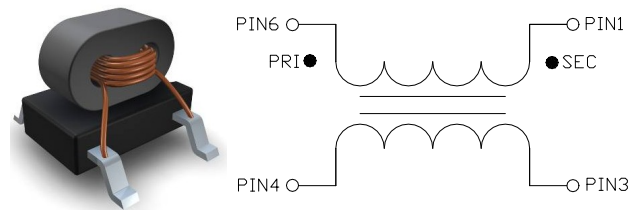
- 1:1 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Can Be Used on 50  $\Omega$  & 75  $\Omega$  Systems
- Suitable for all CATV, Broadband and FTTx Applications
- RoHS Compliant & Lead Free
- 260°C Reflow Compatible
- Available on Tape & Reel

### Description

The MABA-010392-CT18A0 is a 1:1 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	Not Connected
3	Secondary
4	Primary
5	No Connection
6	Primary Dot

### Electrical Specifications: Freq. = 5 - 1200 MHz, T<sub>A</sub> = 25°C, Z<sub>0</sub> = 50 $\Omega$ , P<sub>IN</sub> = 0 dBm

Parameter	Frequency (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	—	dB	—	1:1	—
Insertion Loss 1: (Pin 4-1)	5 - 870	dB	—	-0.4	-0.7
	870 - 1000			-0.7	-1.1
	1000 - 1200			-1.5	-2.6
Insertion Loss 1: (Pin 4-3)	5 - 870	dB	—	-0.9	-1.2
	870 - 1000			-1.2	-1.6
	1000 - 1200			-2.1	-3.0
Phase Balance	5 - 1000	°	—	2.0	±4
	1000 - 1200			-6.0	±12
Input Return Loss (Pin 4)	5 - 300	dB	-15	17	—
	300 - 800		-10	-12	
	800 - 1200		-5	-8	

### Ordering Information

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

### Recommended Maximum Ratings

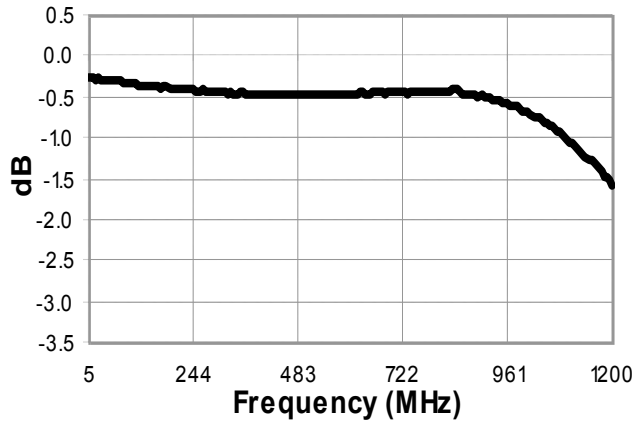
Parameter	Value
Input Power	250 mW
DC Current	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

## 1:1 Transmission Line Transformer 5 - 1200 MHz

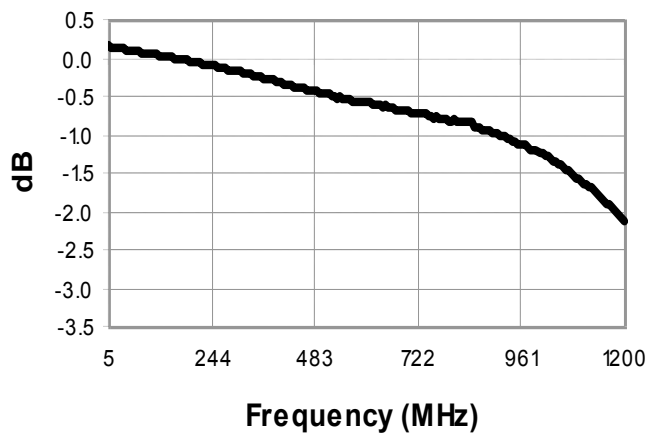
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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\ \Omega$ ,  $P_{IN} = 0\ \text{dBm}$

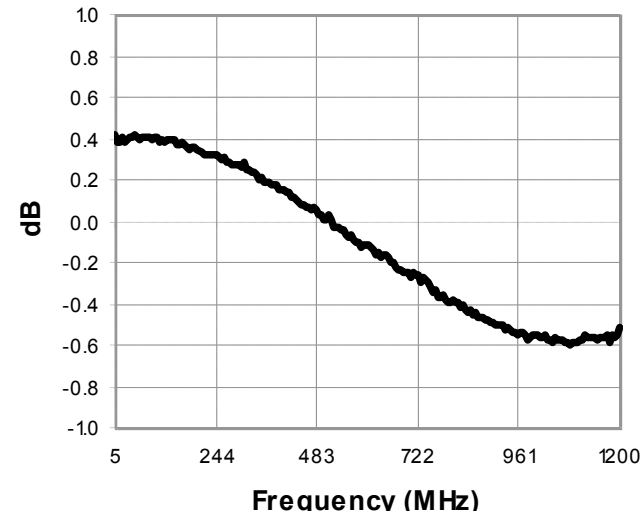
Insertion Loss 1: (Pin 4 to 1)



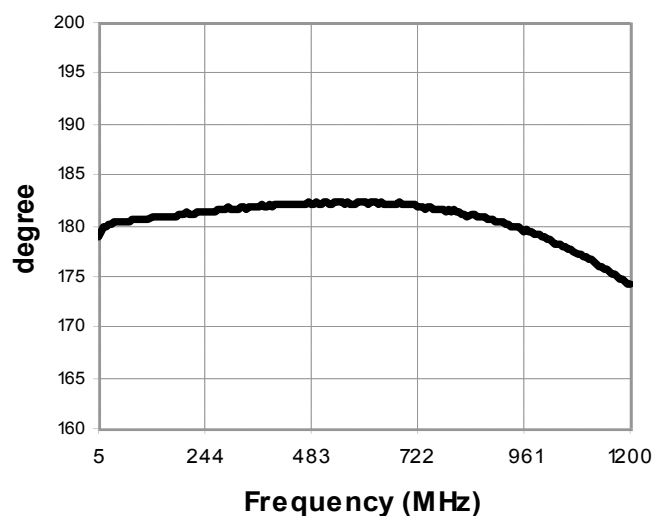
Insertion Loss 2: (Pin 4 to 3)



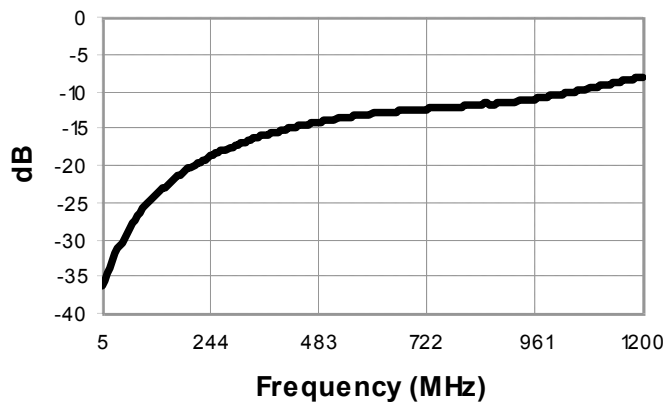
Amplitude Balance



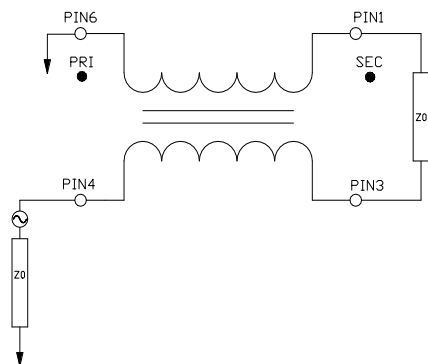
Phase Balance



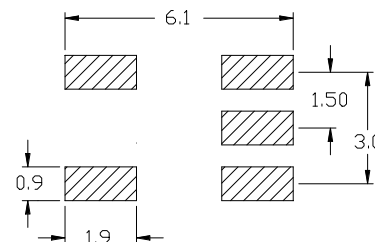
Return Loss: Input (Pin 4)



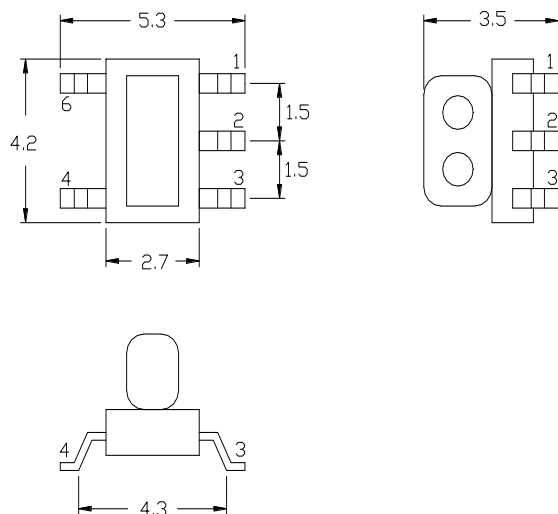
## Application Circuit



## PCB Layout



## Outline Drawing



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  mm unless otherwise noted.
3. Model number and lot code printed on reel.
4. Pin material CuSn6.

## 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	5.6
Bo	mm	4.5
Ko	mm	4.0
Orientation	-	F26

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