

## 1:1 Transmission Line Transformer 40 - 200 MHz

Rev. V2

### Features

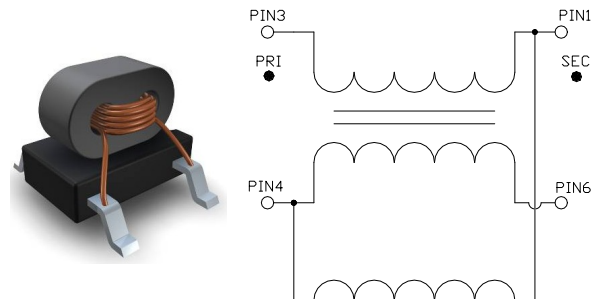
- 1:1 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Can Be Used on 50  $\Omega$  & 75  $\Omega$  Systems
- Suitable for all CATV, Broadband and FTTx Applications
- RoHS Compliant & Lead Free
- 260°C Reflow Compatible
- Available on Tape & Reel

### Description

The MABA-010400-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 (output 1)
2,5	Not Connected
3	Primary Dot (Input)
4	Primary (Ground)
6	Secondary (Output 2)

### Electrical Specifications: Freq. = 40 - 200 MHz, $T_A = 25^\circ\text{C}$ , $Z_0 = 75 \Omega$ , $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency (MHz)	Units	Min.	Typ.	Max.
Impedance Ratio	—	dB	—	1:1	—
Insertion Loss 1: (Pin 3-1)	40 - 120 120 - 200	dB	—	0.4 0.5	0.5 0.6
Insertion Loss 1: (Pin 3-6)	40 - 200	dB	—	0.4	0.5
Amplitude Balance	40 - 200	dB	—	0.1	$\pm 0.2$
Phase Balance	40 - 200	$^\circ$	—	0.5	$\pm 2.0$
Input Return Loss (Pin 3)	40 - 200	dB	20	23	—

### Ordering Information

Part number	Description
MABA-010400-CT18A0	2000 piece reel
MABA-010400-CT18TB	customer evaluation board

### Recommended Maximum Ratings

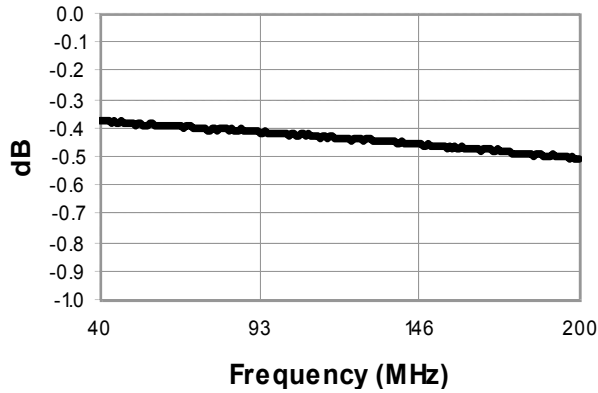
Parameter	Value
Input Power	250 mW
DC Current	200 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +125°C

## 1:1 Transmission Line Transformer 40 - 200 MHz

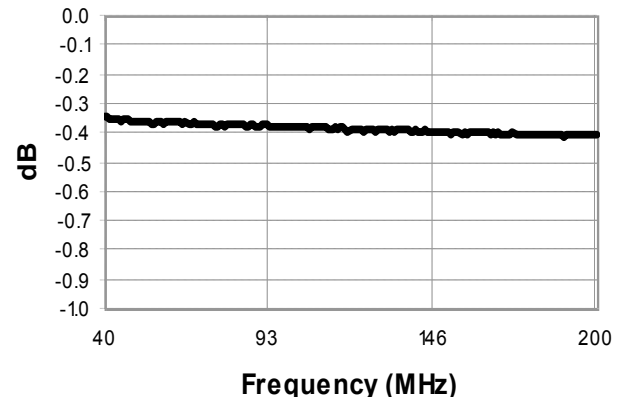
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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{IN} = 0 \text{ dBm}$

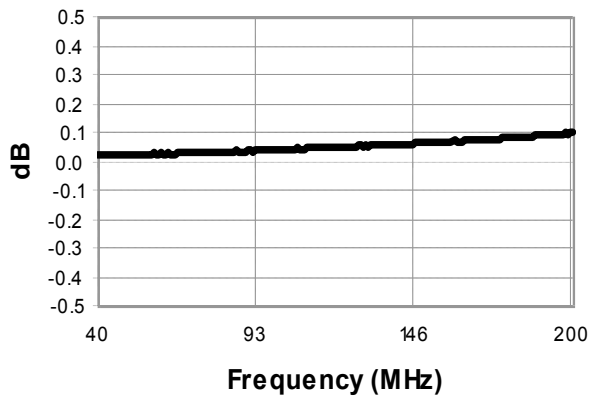
Insertion Loss 1: (Pin 3 to 1)



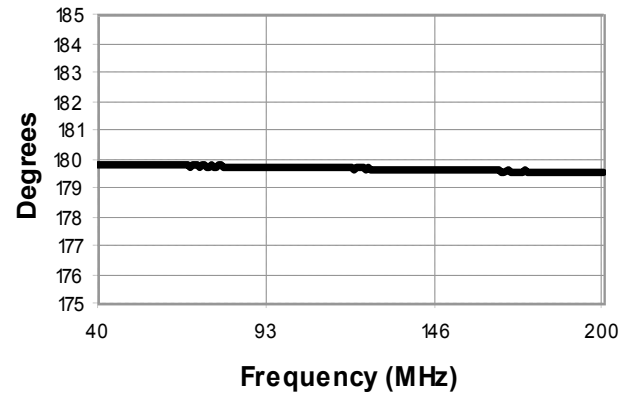
Insertion Loss 2: (Pin 3 to 6)



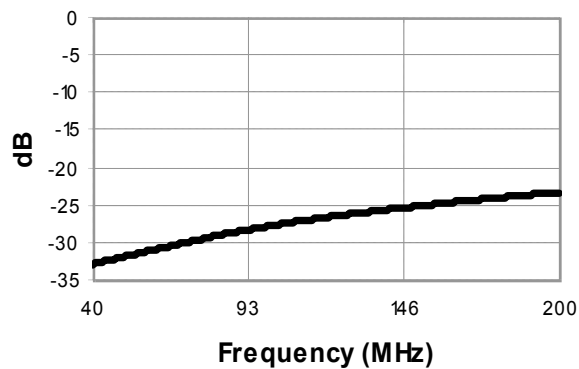
Amplitude Balance



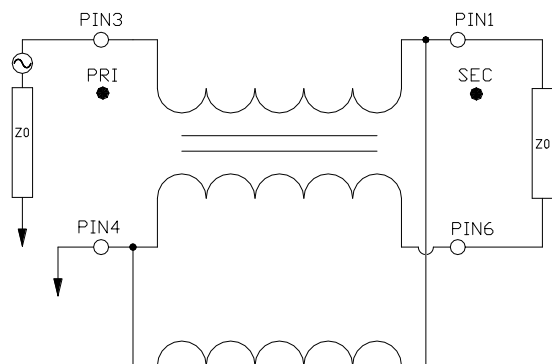
Phase Balance



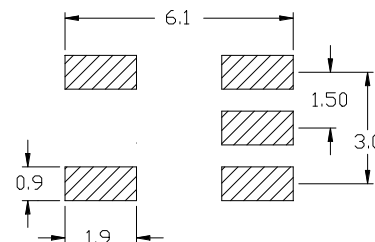
Return Loss: Input (Pin 3)



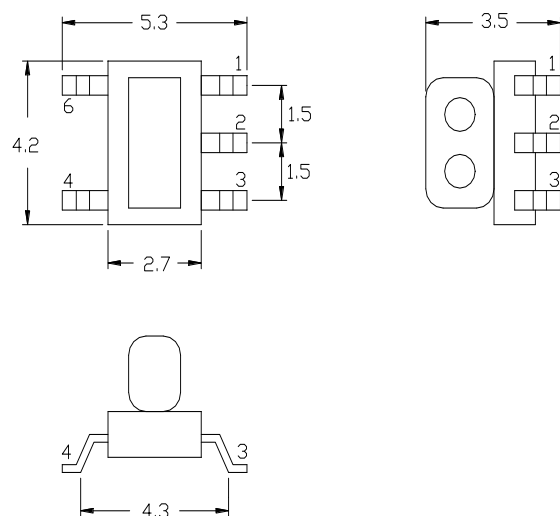
## Application Circuit



## PCB Layout



## Outline Drawing



## 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
Reference Application Note ANI-019 for orientation		

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.

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