

## 1:4 Transmission Line Transformer 5 - 1200 MHz

Rev. V2

### Features

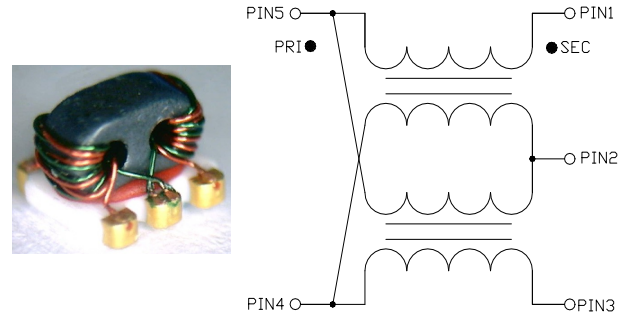
- 1:4 Impedance Ratio
- Surface Mount Package
- Excellent Temperature Stability
- Excellent Amplitude & Phase Balance
- Can Be Used In Both 50  $\Omega$  & 75  $\Omega$  Systems
- 260°C Reflow Compatible
- RoHS\* Compliant & Lead Free
- Available on Tape & Reel

### Description

The MABA-010268-CT4160 is a 1:4 RF transmission line transformer in a surface mount package.

Ideally suited for broadband CATV applications.

### Schematic



### Pin Configuration

Pin #	Function
1	Secondary Dot
2	Secondary Centre Tap
3	Secondary
4	Primary
5	Primary Dot

### Electrical Specifications: $T_A = 25^\circ\text{C}$ , $Z_0 = 50 \Omega$ , $P_{IN} = 0 \text{ dBm}$

Parameter	Frequency (MHz)	Units	Min.	Typ.	Max.
Insertion Loss 1 (Pin 4 to Pin 1)	5 - 50	dB	—	0.5	0.7
	50 - 879			0.7	1.5
	879 - 1200			1.2	2.0
Insertion Loss 2 (Pin 4 to Pin 3)	5 - 50	dB	—	0.5	0.7
	50 - 879			0.6	1.2
	879 - 1200			0.8	1.6
Amplitude Balance (Nominal 0 dB)	5 - 500	dB	—	0.05	$\pm 0.6$
	500 - 1200			0.23	$\pm 2.1$
Phase Balance (Nominal 180°)	5 - 500	°	—	1.4	$\pm 6$
	500 - 1000			2.8	$\pm 8$
	1000 - 1200			0.2	$\pm 22$
Input Return Loss (Pin4)	5 - 50	dB	20	25	—
	50 - 500		15	23	
	500 - 1200		11	16	

### Ordering Information

Part number	Description
MABA-010268-CT4160	2000 piece reel

### Recommended Maximum Ratings

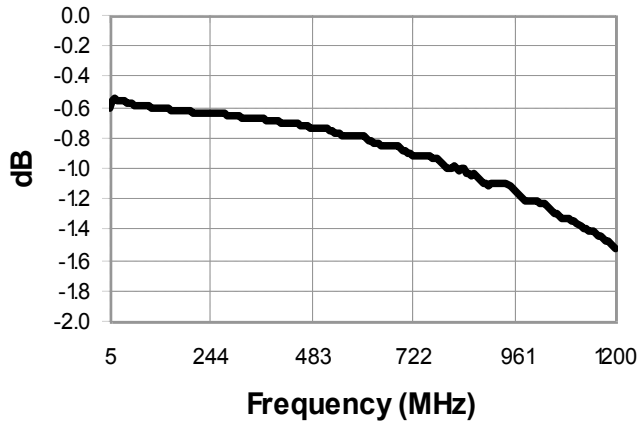
Parameter	Value
Input Power	>28 dBm (631 mW)
DC Current, (tested @ 5 V)	>600 mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C

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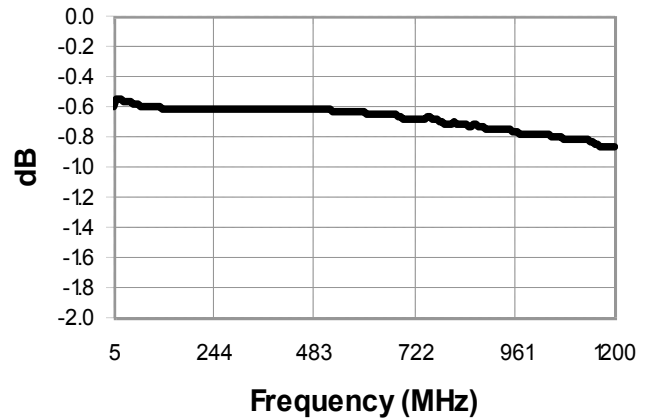
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Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\ \Omega$ ,  $P_{IN} = 0\ \text{dBm}$

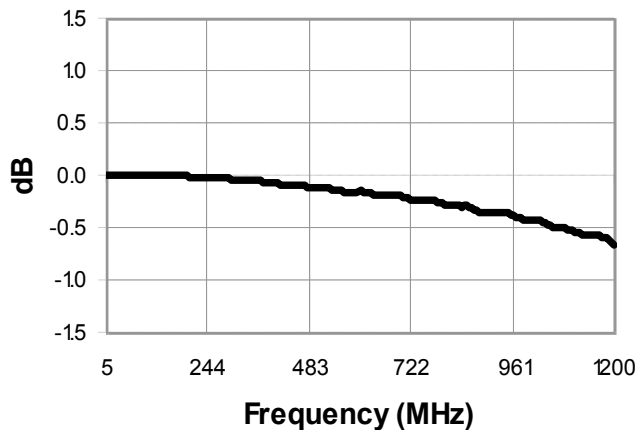
Insertion Loss 1: (Pin 4 to 1)



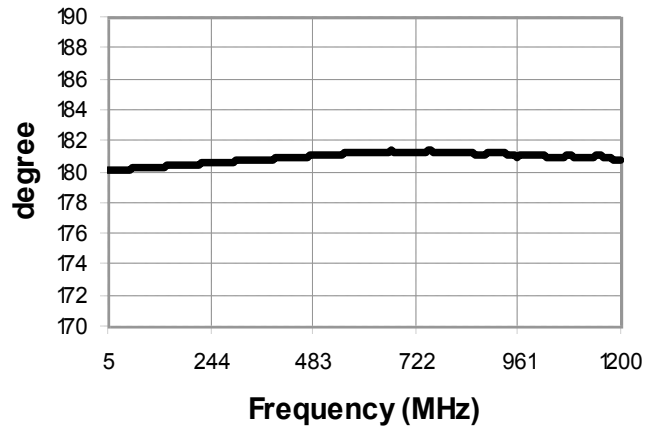
Insertion Loss 2: (Pin 4 to 3)



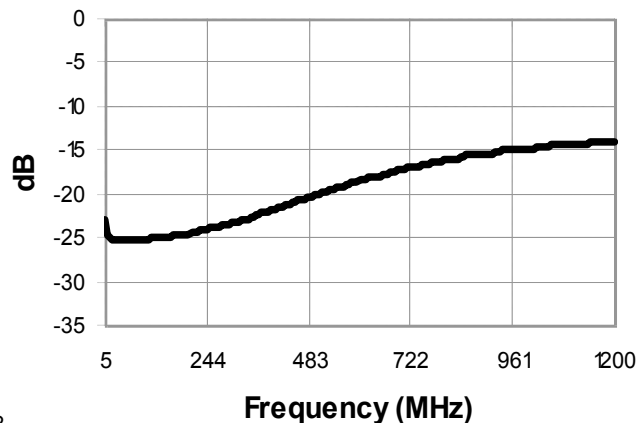
Amplitude Balance



Phase Balance



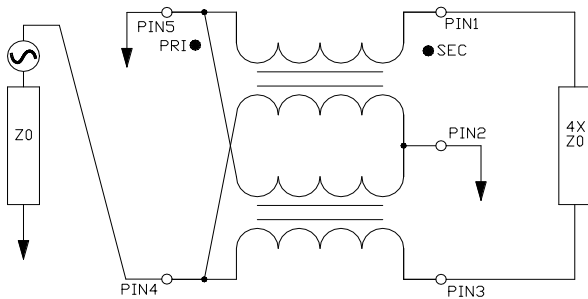
Return Loss: Input (Pin 4)



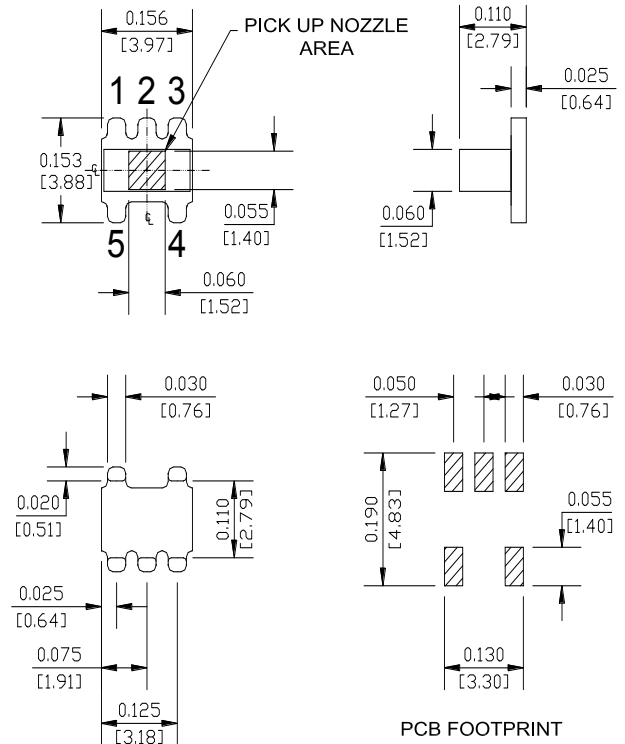
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### Application Circuit



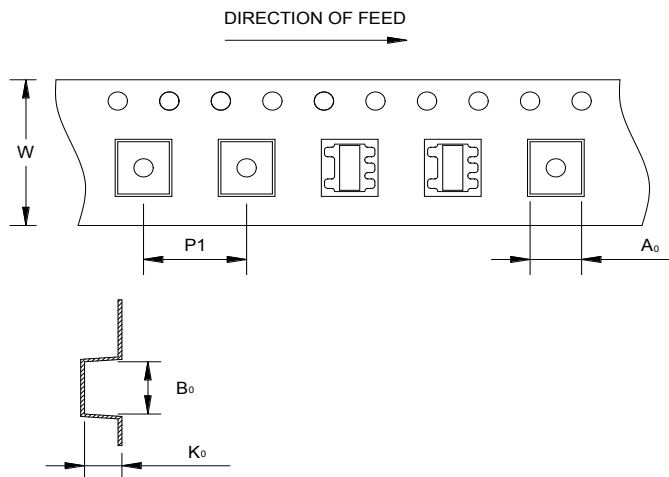
### Outline Drawing



Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

### Tape & Reel Information

Item	Dimension
Ao	4.00 mm, +/-0.1 mm
Bo	4.30 mm, +/-0.1 mm
Ko	2.90 mm, +/-0.1 mm
W	12.0 mm, +/-0.3 mm
P1	8.00 mm, +/-0.1 mm



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