

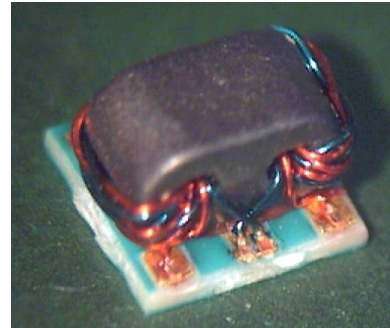
## Features

- 4:1 Impedance ratio
- Surface mount
- Can be used in both 50Ω and 75Ω systems
- Available on tape and reel
- Lead-Free open package
- RoHS\* Compliant and 260°C Reflow Compatible

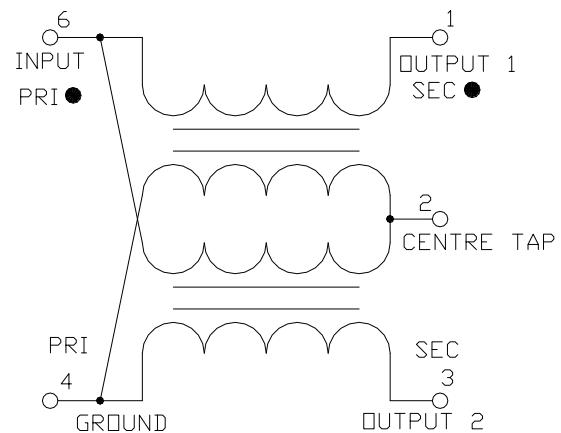
## Description

MABA-009232-CT4A4B is a 4:1 RF transmission line transformer in a low cost, surface mount package.

Ideally suited for broadband CATV applications.



## Functional Schematic



## Ordering Information<sup>1</sup>

Part Number	Package
MABA-009232-CT4A4B	2000 piece reel
MABA-009232-CT4ATB	Sample Board

1. Reference Application Note M513 for reel size information.
2. MACOM recommends connecting unused package pins to ground.

## Pin Configuration<sup>2</sup>

Pin no.	Function
1	Secondary dot (Output 1)
2	Centre tap (Ground)
3	Secondary (Output 2)
4	Primary (Ground)
6	Primary dot (Input)

\* Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

## Transformer, 4:1 Transmission Line Balun 5 to 1200 MHz

Rev. V3

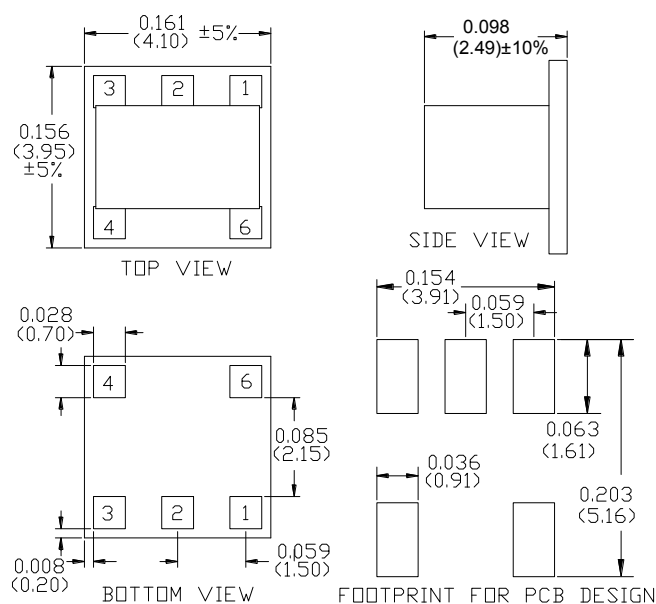
### Electrical Specifications: $T_A = 25^\circ\text{C}$ , $Z_0 = 50 \Omega$

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss 1 (Pin 6 to 1)	5 - 450 MHz	dB	—	0.8	1.2
	450 - 1200 MHz			1.3	2.6
Insertion Loss 2 (Pin 6 to 3)	5 - 450 MHz	dB	—	0.8	1.2
	450 - 870 MHz			1.3	2.5
	870 - 1200 MHz			2.2	3.8
Amplitude Unbalance (Nominal 0dB)	5 - 750 MHz	dB	—	0.05	$\pm 1.0$
	750 - 1200 MHz			0.6	$\pm 2.6$
Phase Unbalance (Nominal 180°)	5 - 50 MHz	°	—	0.4	$\pm 2$
	50 - 870 MHz			3.8	$\pm 15$
	870 - 1200 MHz			5.4	$\pm 18$
Input Return Loss	5 - 50 MHz	dB	15	23	—
	50 - 650 MHz		10	17	
	650 - 1200 MHz		7	11	

### Absolute maximum ratings

Parameter	Absolute maximum
Max input power	250 mW
DC current	200 mA
Operating Temperature	-40°C to +105°C
Storage Temperature	-40°C to +85°C

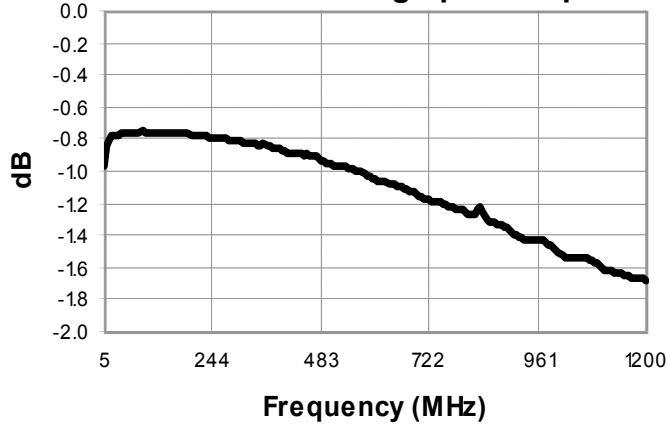
### Case style: SM-187



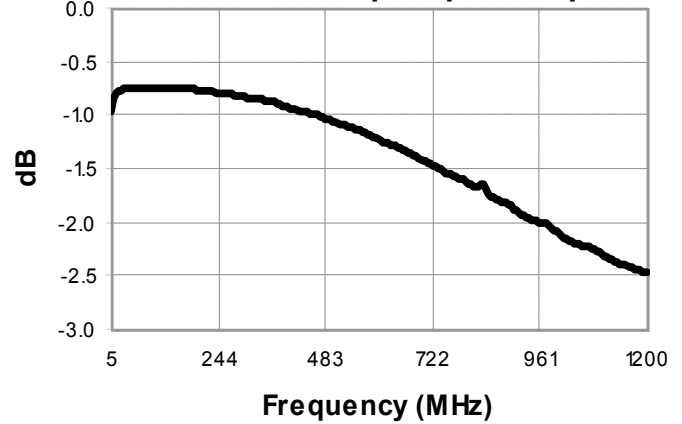
Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

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

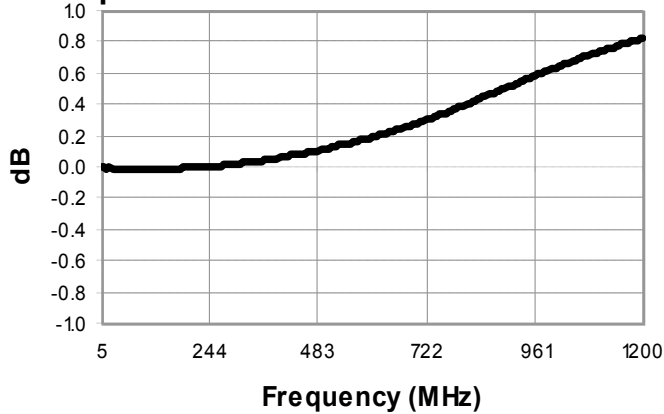
**Insertion Loss 1: through pin 6 to pin 1**



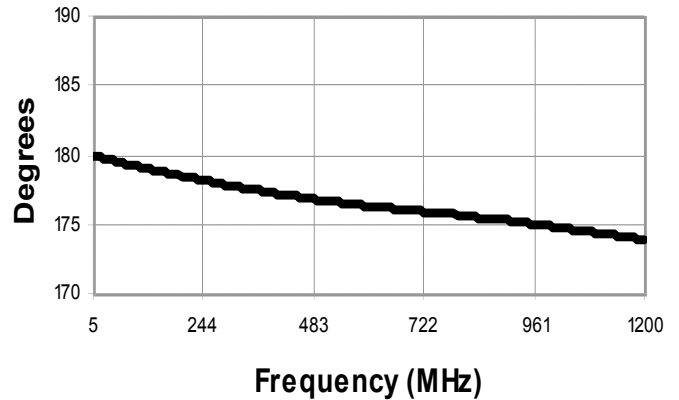
**Insertion Loss 2: coupled pin 6 to pin 3**



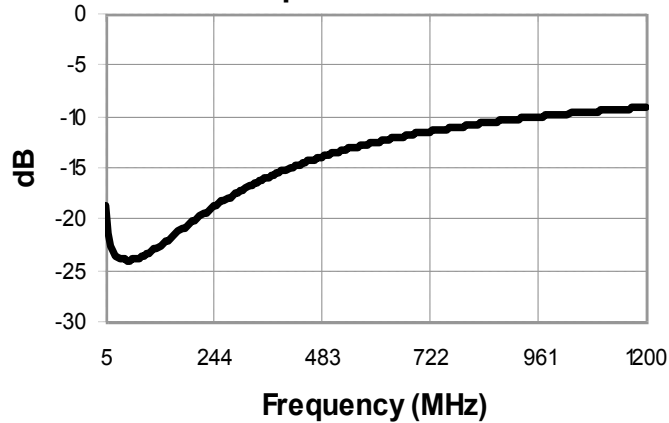
**Amplitude Balance**



**Phase Balance**



**Return Loss: Input**



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