

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

Rev. V3

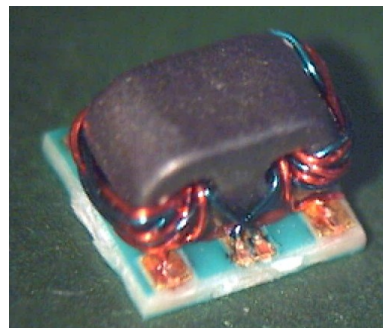
Features

- 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

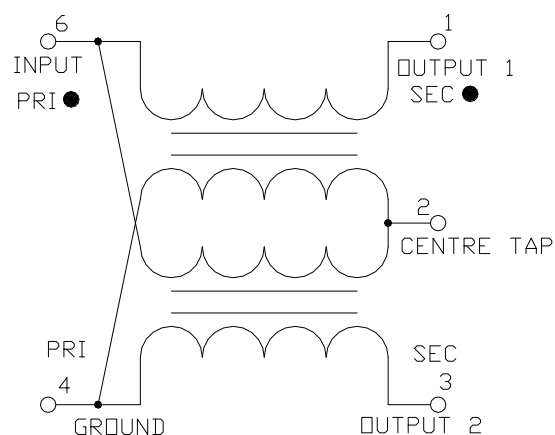
Description

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 Information¹

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 Configuration²

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.

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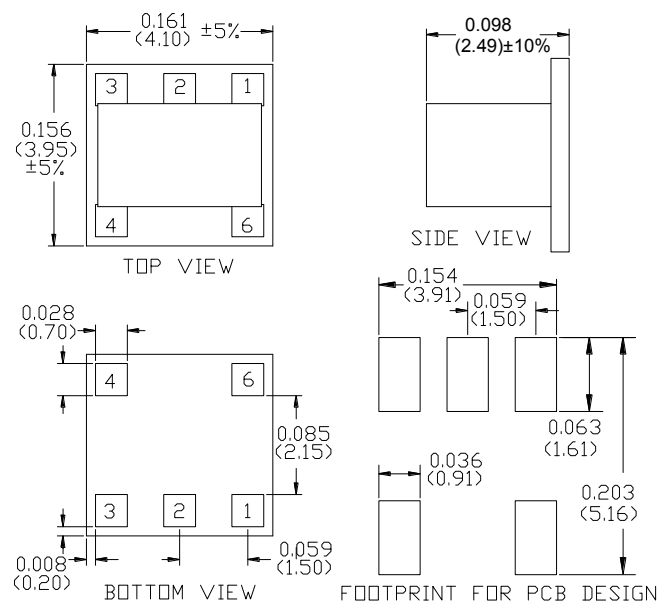
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 50\ \Omega$

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



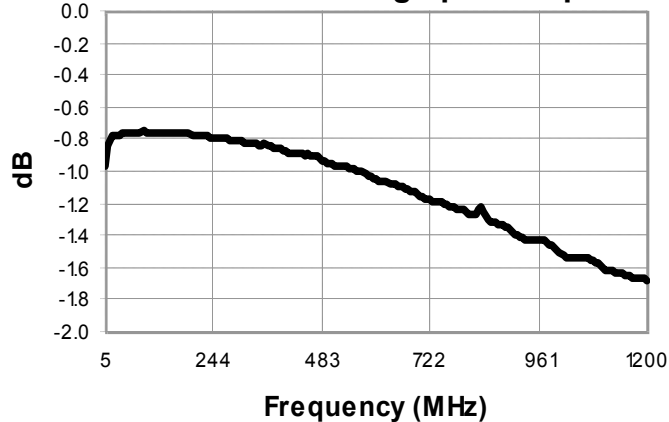
Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, unless otherwise stated

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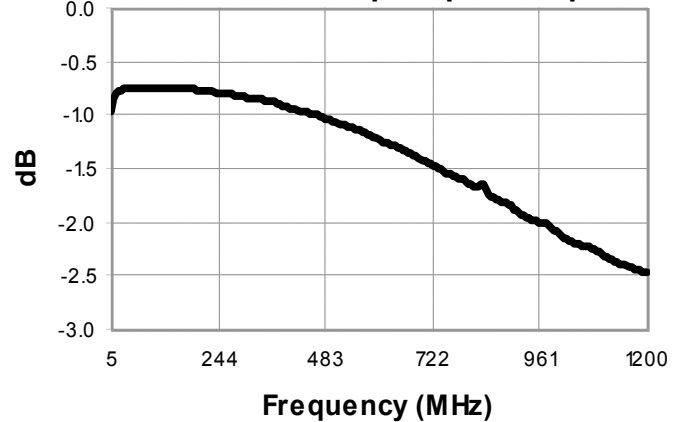
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 50\ \Omega$

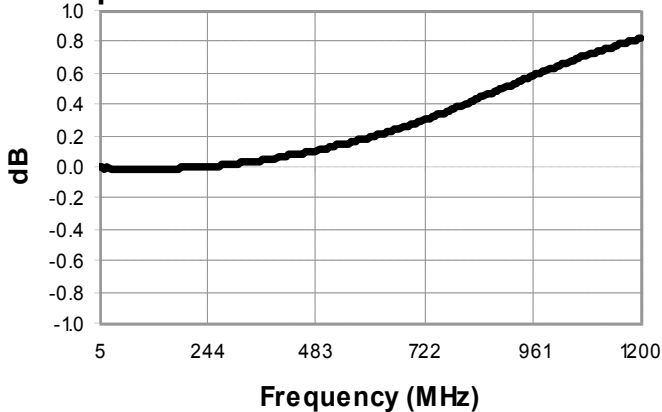
Insertion Loss 1: through pin 6 to pin 1



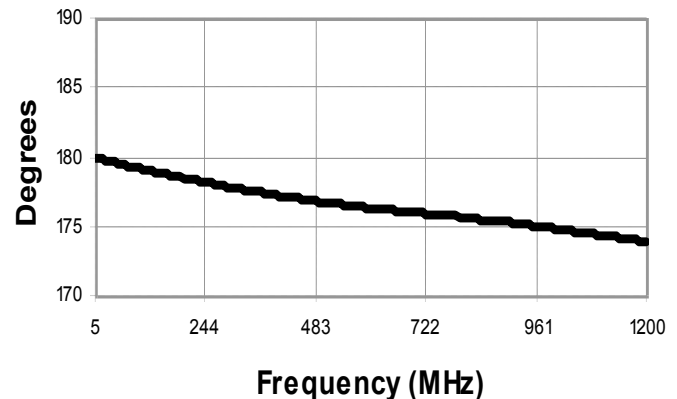
Insertion Loss 2: coupled pin 6 to pin 3



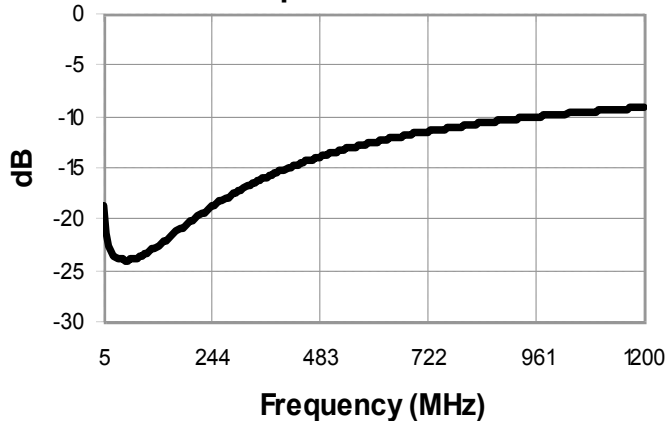
Amplitude Balance



Phase Balance



Return Loss: Input



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