

# MABA-009231-CT1A4B



Transformer, 1:1 transmission line balun  
5 to 1200 MHz

M/A-COM Products  
Released, Rev. V1

## Features

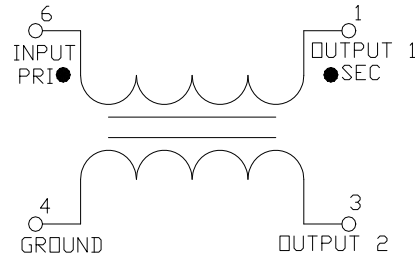
- Surface mount
- 1:1 Impedance ratio
- Can be used in both 50Ω and 75Ω systems
- 260°C reflow compatible
- RoHS\* compliant, lead free
- Available on tape and reel.

## Description

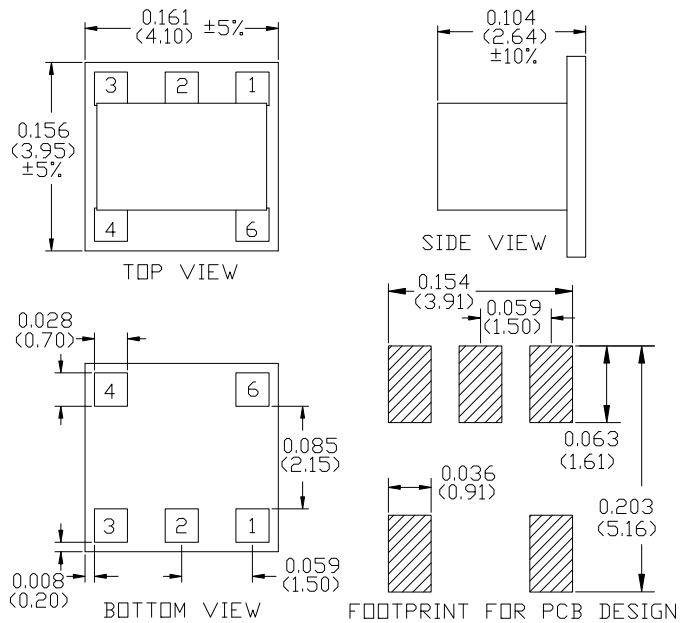
M/A Com's MABA-009231-CT1A4B is a 1:1 RF transmission line transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.



## Schematic



## Case style: SM-187



## Pin configuration

Pin no.	Function
1	Secondary dot (Output 1)
2	Not used (Ground)
3	Secondary (Output 2)
4	Primary (Ground)
6	Primary dot (Input)

## Ordering information

Part number	Description
MABA-009231-CT1A4B	2000 piece reel
MABA-009231-CT1ATB	Customer Test Board

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

\* Restrictions on Hazardous Substances, European Union Directive 2002/95/EC.

Note: Reference Application Note **M513** for reel size information.

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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 (pin6 - pin1)	5 - 50 MHz	dB	-	0.23	0.0
	50 - 400 MHz	dB	-	0.01	0.5
	400 - 870 MHz	dB	-	0.74	1.5
	870 - 1200 MHz	dB	-	1.28	2.4
Insertion loss 2 (pin6 - pin3)	5 - 50 MHz	dB	-	0.21	0.5
	50 - 450 MHz	dB	-	0.29	0.6
	450 - 1000 MHz	dB	-	0.51	1.0
	1000 - 1200 MHz	dB	-	0.67	1.8
Input return loss	5 - 50 MHz	dB	20	30.6	-
	50 - 1000 MHz	dB	8	12.4	-
	1000 - 1200 MHz	dB	7	12.9	-
Amplitude unbalance (nominal 0dB)	5 - 50 MHz	dB	-	0.44	$\pm 0.9$
	50 - 700 MHz	dB	-	0.14	$\pm 0.8$
	700 - 1200 MHz	dB	-	0.67	$\pm 1.5$
Phase unbalance (nominal 180°)	5 - 50 MHz	°	-	2.3	$\pm 20$
	50 - 1050 MHz	°	-	1.9	$\pm 8$
	1050 - 1200 MHz	°	-	3.4	$\pm 20$

## Absolute maximum ratings

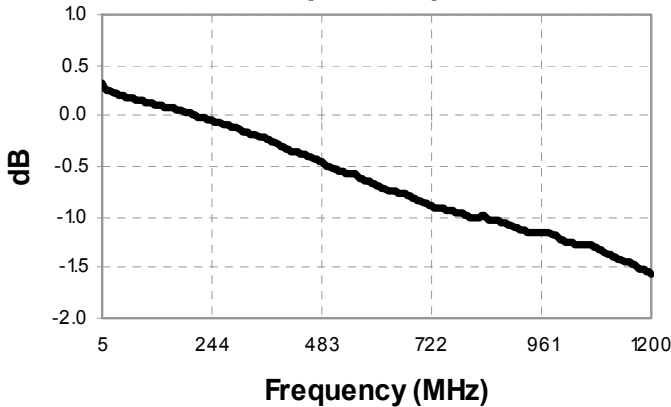
Parameter	Absolute maximum
Max input power	250mW
DC current	200mA
Operating temperature	-40°C to +85°C
Storage temperature	-40°C to +85°C

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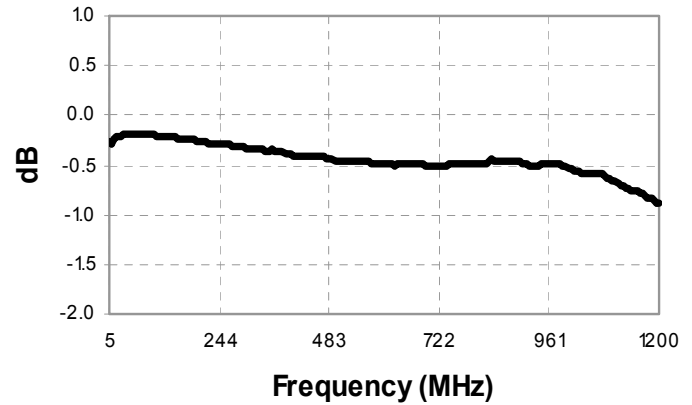
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Typical performance curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$

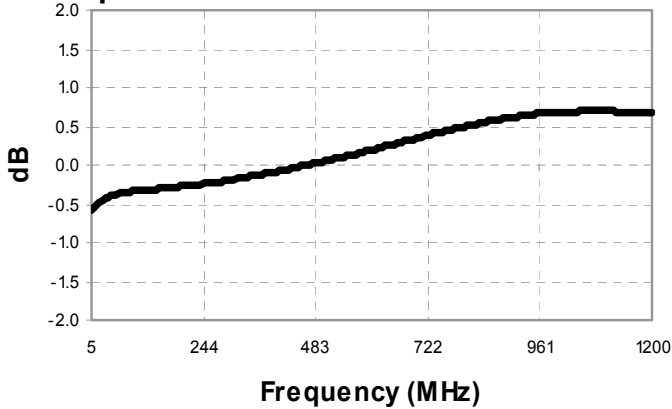
Insertion loss 1: pin 6 to pin 1



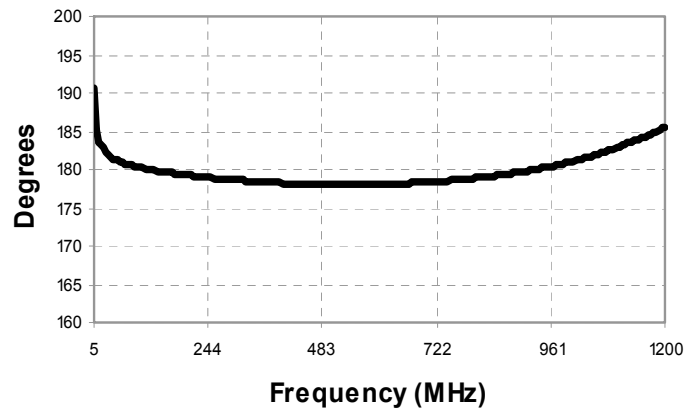
Insertion loss 2: pin 6 to pin 3



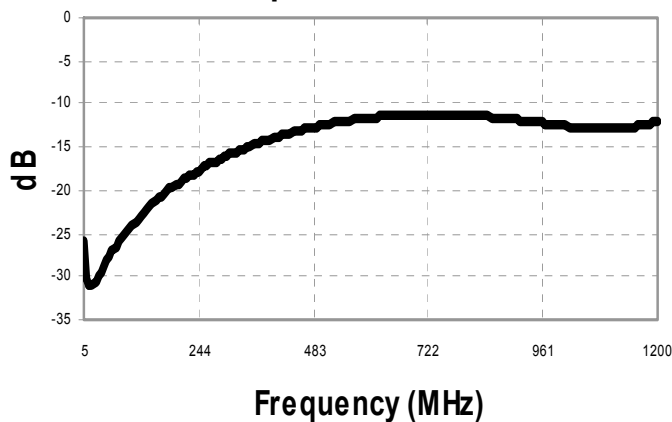
Amplitude balance



Phase balance



Return loss: Input



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