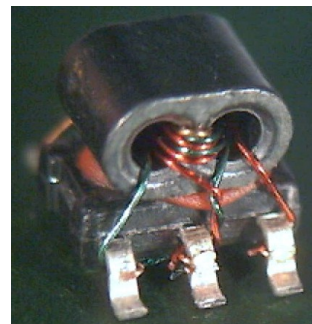


## Features

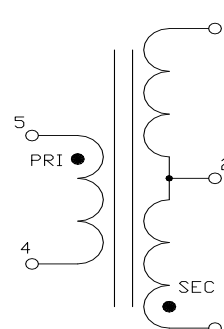
- Surface mount
- 4:1 Impedance ratio
- Can be used in both 50Ω and 75Ω systems
- RoHS\* compliant and lead-free
- RoHS version of the MABAES0031
- Available on tape and reel.

## Description

MABA-009298-CT48A0 is a 4:1 RF flux coupled step up transformer in a low cost, surface mount package. Ideally suited for high volume CATV/ Broadband applications.



## Schematic



## Ordering information

Part number	Description
MABA-009298-CT48A0	2000 piece reel
MABA-009298-CT48TB	Customer Test Board

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

## Pin configuration

Pin No.	Function
1	Secondary (output 2)
2	Centre Tap (ground)
3	Secondary Dot (output 1)
4	Primary (Input)
5	Primary Dot (Ground)

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

## Transformer, 4:1 Flux Coupled Balun Transformer 1 to 650 MHz

Rev. V2

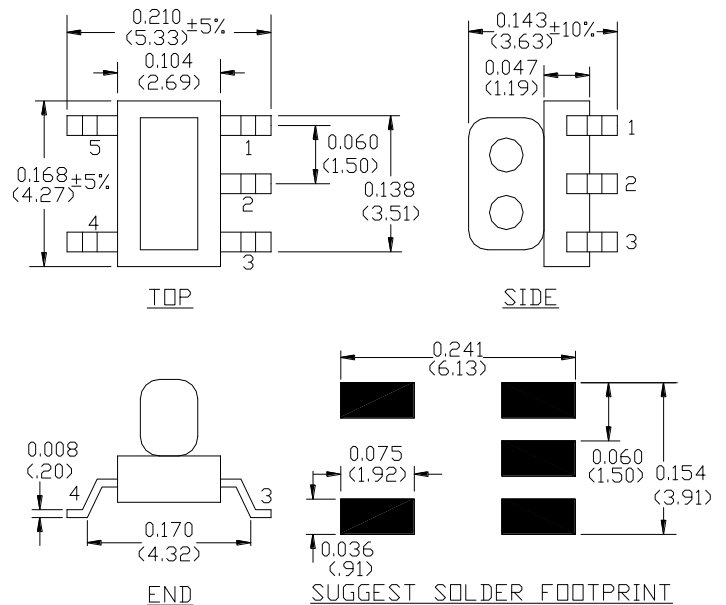
Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss 1 (pin4 - pin3)	1 - 10 MHz	dB	—	1.43	3.6
	10 - 250 MHz			1.12	1.6
	250 - 520 MHz			1.49	2.5
	520 - 650 MHz			2.23	3.9
Insertion Loss 2 (pin4 - pin1)	1 - 10 MHz	dB	—	1.44	3.6
	10 - 250 MHz			1.14	1.6
	250 - 450 MHz			1.55	2.5
	450 - 650 MHz			2.43	3.9
Input Return Loss	1 - 10 MHz	dB	5	14.6	—
	10 - 170 MHz		14	18.8	
	170 - 320 MHz		10	14.1	
	320 - 650 MHz		4	8.4	
Amplitude Unbalance (Nominal 0dB)	1 - 300 MHz	dB	—	0.03	$\pm 0.2$
	300 - 650 MHz			0.24	$\pm 0.8$
Phase Unbalance (Nominal 180°)	1 - 100 MHz	°	—	0.34	$\pm 2$
	100 - 400 MHz			1.25	$\pm 5$
	400 - 600 MHz			0.79	$\pm 15$
	600 - 650 MHz			2.91	$\pm 20$

### Absolute maximum ratings

Parameter	Absolute maximum
Max input power	250 mW
DC current	200 mA
Operating Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$

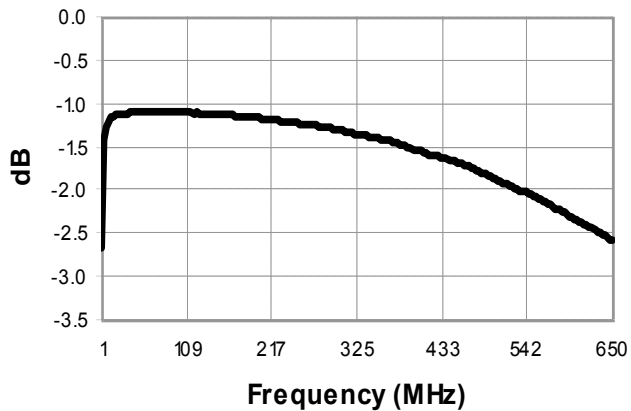
### Case style: SM-138



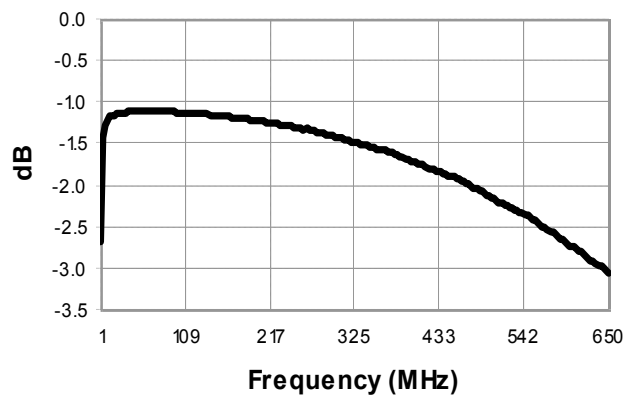
Dimensions in inches [mm] Tolerance: .xx ± .02, .xxx ± .010, Unless otherwise stated

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

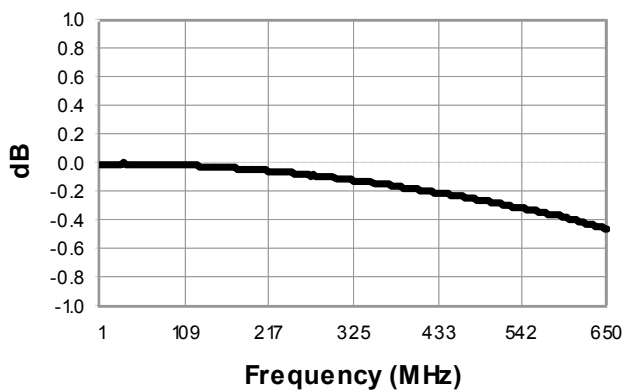
**Insertion Loss 1: through pin 4 to pin 3**



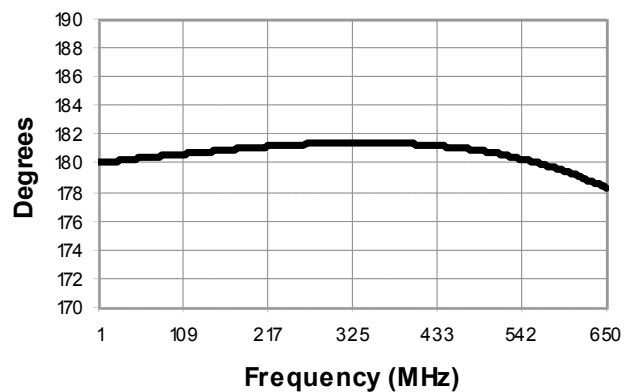
**Insertion Loss 2: coupled pin 4 to pin 1**



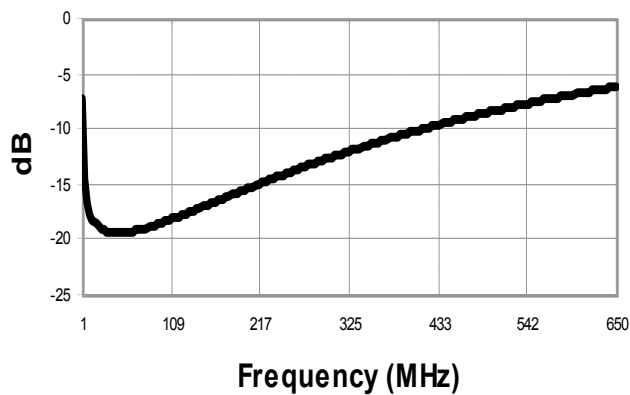
**Amplitude Balance**



**Phase Balance**



**Input Return Loss**



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