

# MABA-009298-CT48A0



Transformer, 4:1 Flux coupled balun transformer  
1 to 650 MHz

M/A-COM Products  
Released, Rev. V1

## Features

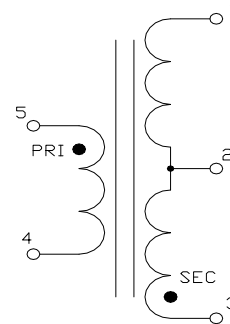
- Surface mount
- 4:1 Impedance ratio
- Can be used in both 50Ω and 75Ω systems
- RoHS\* compliant and lead-free
- RoHS version of the MABAES0031
- Available on tape and reel.

## Description

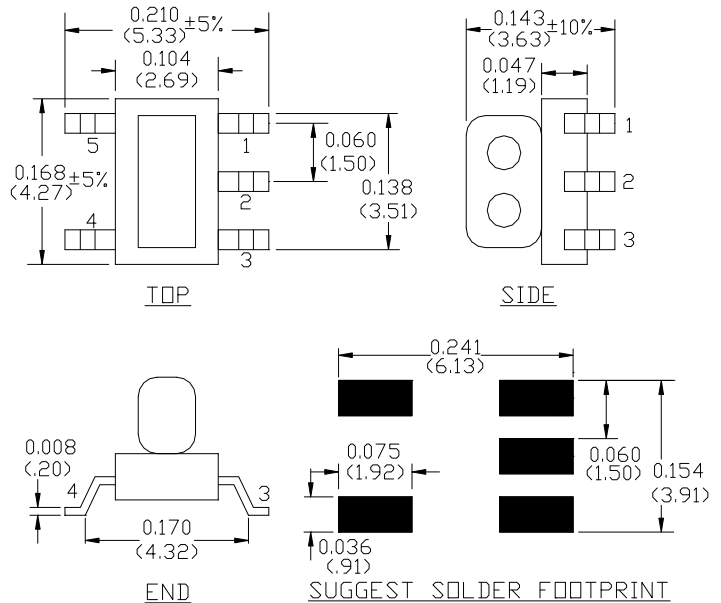
M/A Com's MABA-009298-CT48A0 is a 4:1 RF flux coupled step up transformer in a low cost, surface mount package. Ideally suited for high volume CATV/Broadband applications.



## Schematic



## Case style: SM-138



## 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)

## 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.

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

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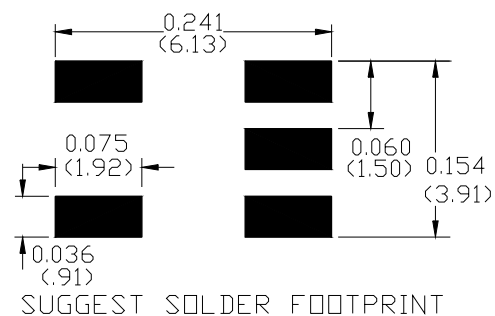
## Electrical Specifications: $T_A = 25^\circ\text{C}$ , $Z_0 = 50\Omega$

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss 1 (pin4 - pin3)	1 - 10 MHz	dB	-	1.43	3.6
	10 - 250 MHz	dB	-	1.12	1.6
	250 - 520 MHz	dB	-	1.49	2.5
	520 - 650 MHz	dB	-	2.23	3.9
Insertion Loss 2 (pin4 - pin1)	1 - 10 MHz	dB	-	1.44	3.6
	10 - 250 MHz	dB	-	1.14	1.6
	250 - 450 MHz	dB	-	1.55	2.5
	450 - 650 MHz	dB	-	2.43	3.9
Input Return Loss	1 - 10 MHz	dB	5	14.6	-
	10 - 170 MHz	dB	14	18.8	-
	170 - 320 MHz	dB	10	14.1	-
	320 - 650 MHz	dB	4	8.4	-
Amplitude Unbalance (Nominal 0dB)	1 - 300 MHz	dB	-	0.03	$\pm 0.2$
	300 - 650 MHz	dB	-	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

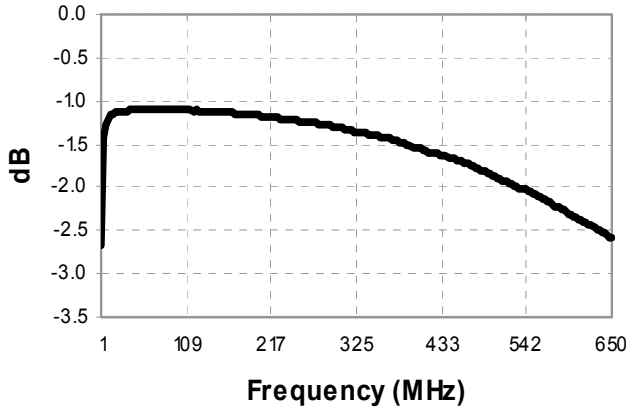
Parameter	Absolute maximum
Max input power	250mW
DC current	200mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

## Recommended PCB Configuration

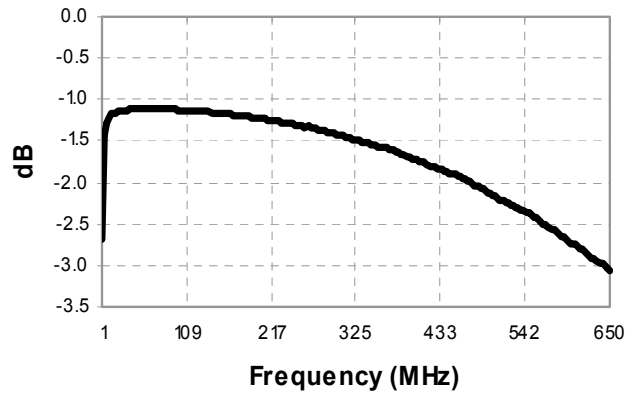


Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 50\Omega$

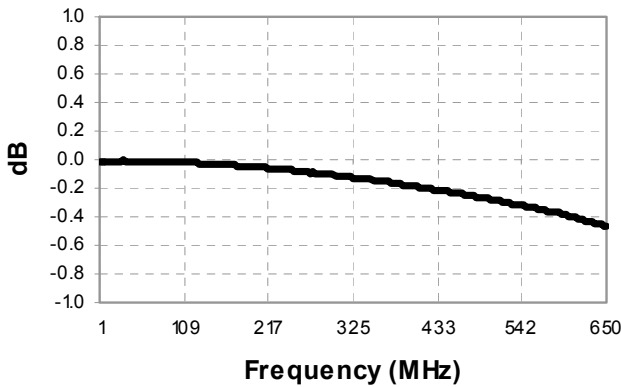
Insertion Loss 1: through pin 4 to pin 3



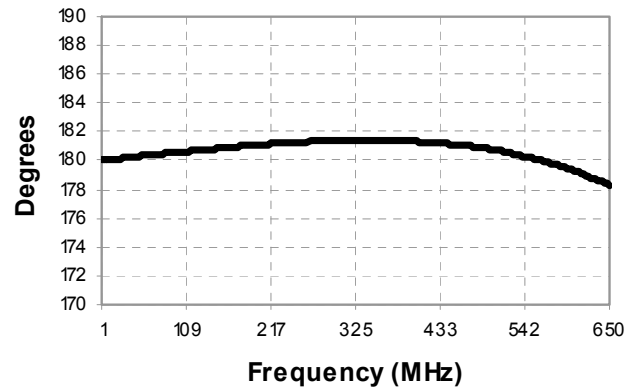
Insertion Loss 2: coupled pin 4 to pin 1



Amplitude Balance



Phase Balance



Input Return Loss

