

## Features

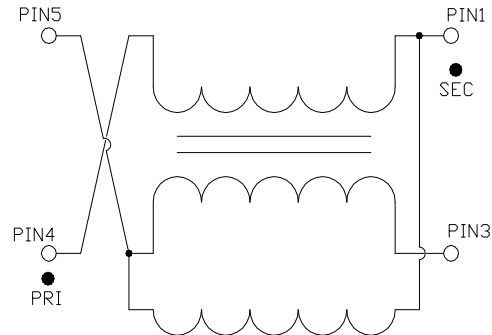
- Surface Mount
- 1:1 Impedance
- Excellent amplitude and phase balance
- 260°C Reflow Compatible
- RoHS\* Compliant
- Available on Tape and Reel.

## Description

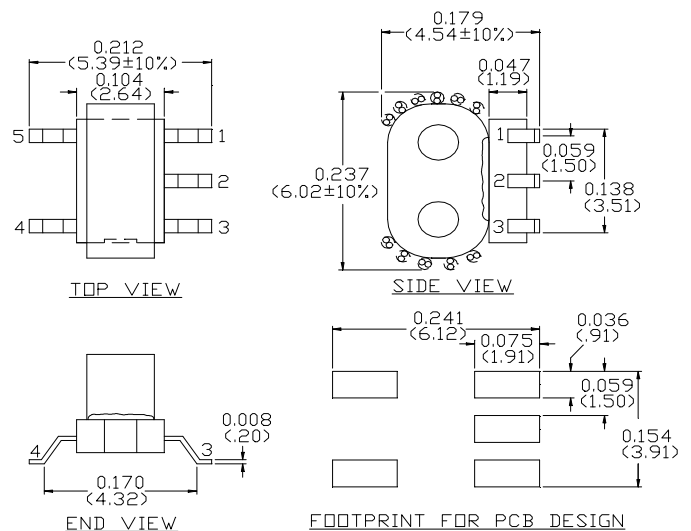
M/A-COM Technology Solutions MABACT0069 is a 1:1 RF transmission line transformer with tap in a low cost, surface mount package. Ideally suited for high volume CATV applications.



## Schematic



## Case Style: SM-158



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

## Pin Configuration

Pin No.	Function
1	Output 1: Through (Secondary dot)
2	Ground, not used
3	Output 2: Coupled (Secondary)
4	Input (Primary dot)
5	Ground (Primary)

## Ordering Information

Part Number	Description
MABACT0069	1500 piece reel
MABA-008509-CT69TB	Customer test board

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

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## 1:1 Transmission Line Transformer with tertiary winding 50-1200MHz

Rev. V2

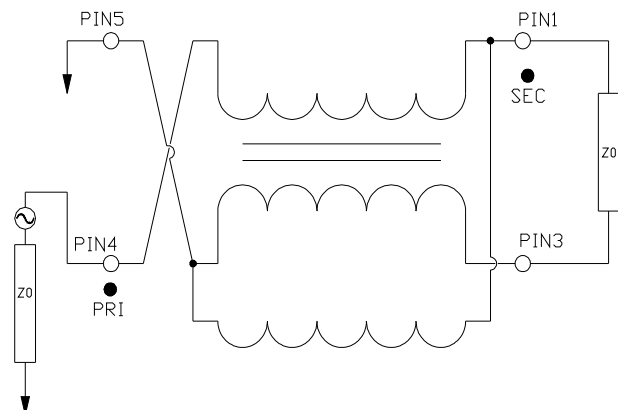
**Electrical Specifications:**  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss 1: Pin 4-1 (Through)	50 - 600 MHz	dB	-	0.4	0.8
	600-1000 MHz	dB	-	0.8	1.1
	1000-1200 MHz	dB	-	1.2	1.5
Insertion Loss 2: Pin 4-3 (Coupled)	50 - 600 MHz	dB	-	0.5	0.7
	600-1200 MHz	dB	-	0.5	1.0
Amplitude Unbalance (Nominal 0dB)	50 - 600 MHz	dB	-	$\pm 0.1$	$\pm 0.3$
	600-1200 MHz	dB	-	$\pm 0.4$	$\pm 0.9$
Phase Unbalance (Nominal 180°)	50 - 870 MHz	°	-	$\pm 1.0$	$\pm 3.0$
	870-1000 MHz	°	-	$\pm 1.5$	$\pm 5.0$
	1000-1200 MHz	°	-	$\pm 4.5$	$\pm 10.0$
Input Return Loss	5 - 1200 MHz	dB	12	16	-

## Recommended Maximum Ratings

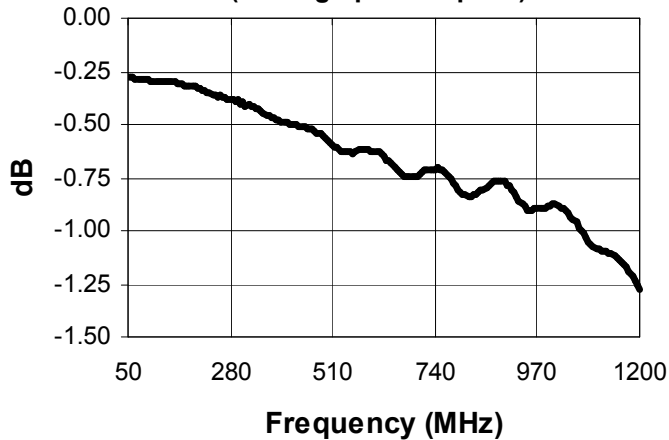
Parameter	Value
Max Input Power	250mW
DC current	30mA
Operating Temperature	$-40^\circ\text{C}$ to $+85^\circ\text{C}$
Storage Temperature	$-55^\circ\text{C}$ to $+100^\circ\text{C}$

## Application Circuit

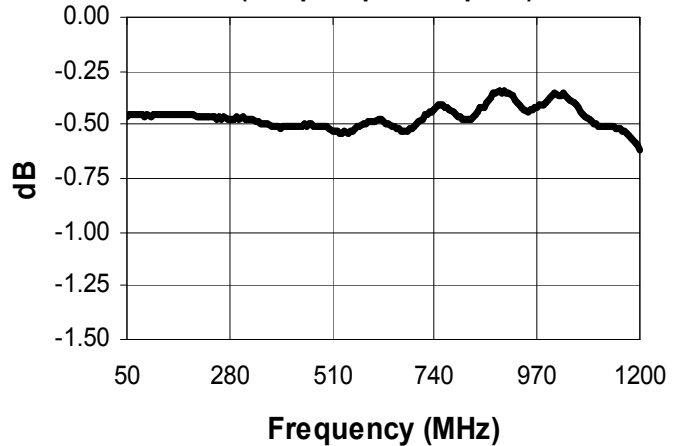


Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$

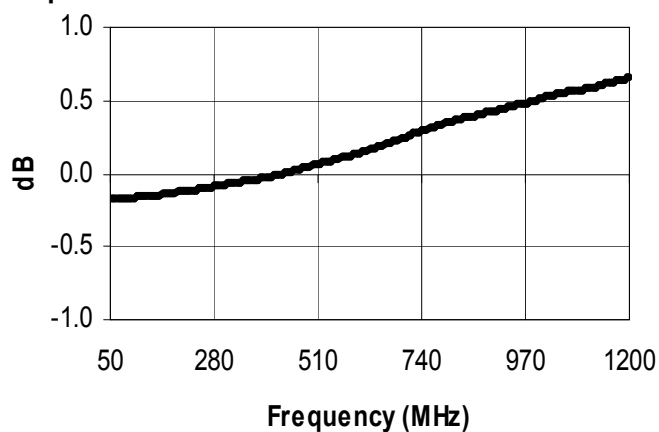
Insertion Loss 1 (Through pin 4 to pin 1)



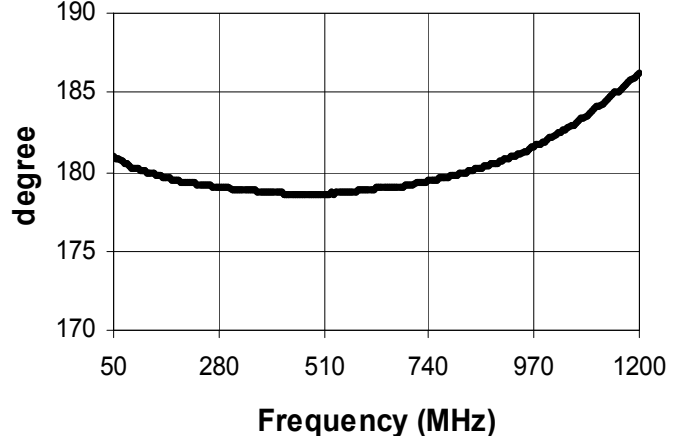
Insertion Loss 2 (Coupled pin 4 to pin 3)



Amplitude Unbalance



Phase Balance



Input Return Loss

