

## RoHS Compliant



MABACT0069

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

#### **Features**

- Surface Mount
- 1:1 Impedance
- · Excellent amplitude and phase balance
- 260°C Reflow Compatible
- RoHS\* Compliant
- Available on Tape and Reel. Reel quantity 1500

## **Description**

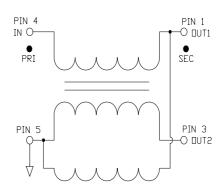
M/A-COM's MABACT0069 is a 1:1 RF transmission line transformer with tap in a low cost, surface mount package. Ideally suited for high volume CATV applications



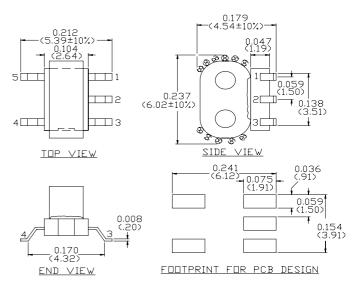
## **Pin Configuration**

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)		

## **Schematic**



## Case Style: SM-158



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

## **Ordering Information**

Part Number	Package		
MABACT0069	1500 piece reel		
MABA-008509-CT69TB	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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MABACT0069 V1

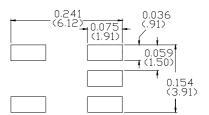
## Electrical Specifications: $T_A = 25$ °C, $Z_0 = 75\Omega$

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

## **Absolute Maximum Ratings <sup>1,2</sup>**

Parameter	Absolute Maximum		
Max Input Power	250mW		
DC current	30mA		
Operating Temperature	-40°C to +85°C		
Storage Temperature	-55°C to +100°C		

## **Recommended PCB Configuration**



- Exceeding any one or combination of these limits may cause permanent damage to this device.
- M/A-COM does not recommend sustained operation near these survivability limits.

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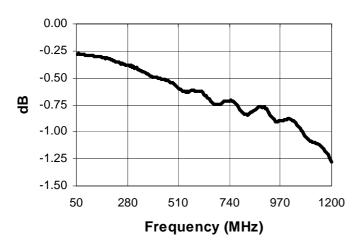


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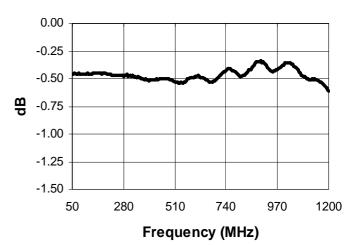
MABACT0069

## Typical Performance Curves: $T_A = 25^{\circ}C$ , $Z_0 = 75\Omega$

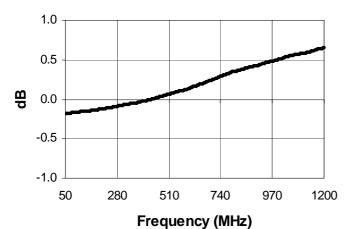
### Insertion Loss 1 (Through pin 4 to pin 1)



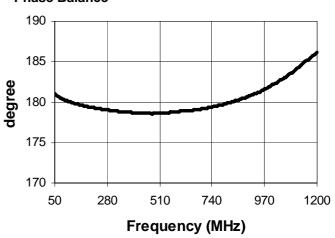
### Insertion Loss 2 (Coupled pin 4 to pin 3)



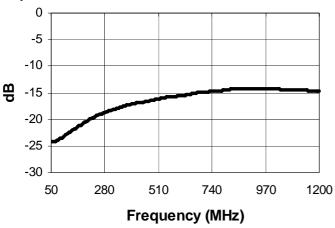
### **Amplitude Unbalance**



#### **Phase Balance**



## **Input Return Loss**



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