

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

**MABACT0069
V1**

Features

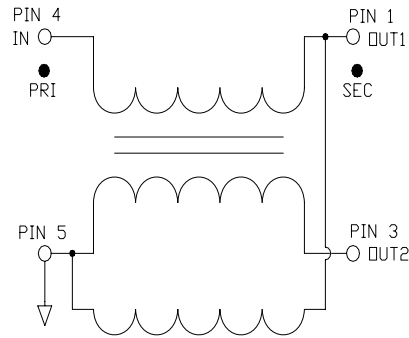
- Surface Mount
- 1:1 Impedance
- Excellent amplitude and phase balance
- 260°C Reflow Compatible
- RoHS* Compliant
- Available on Tape and Reel. Reel quantity 1500

Description

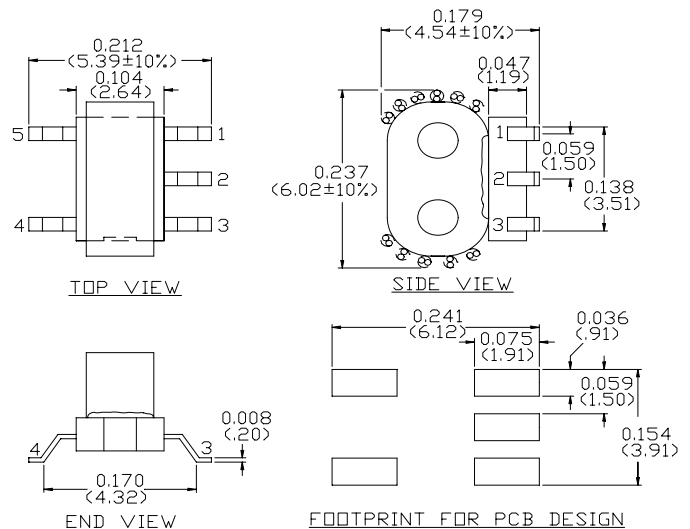
M/A-COM's MABACT0069 is a 1:1 RF transmission line transformer with tap in a low cost, surface mount package. Ideally suited for high volume CATV applications.



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	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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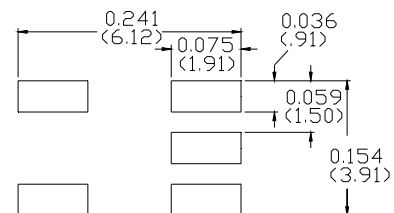
Electrical Specifications: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

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	-	± 0.1	± 0.3
	600-1200 MHz	dB	-	± 0.4	± 0.9
Phase Unbalance (Nominal 180°)	50 - 870 MHz	°	-	± 1.0	± 3.0
	870-1000 MHz	°	-	± 1.5	± 5.0
	1000-1200 MHz	°	-	± 4.5	± 10.0
Input Return Loss	5 - 1200 MHz	dB	12	16	-

Absolute Maximum Ratings ^{1,2}

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



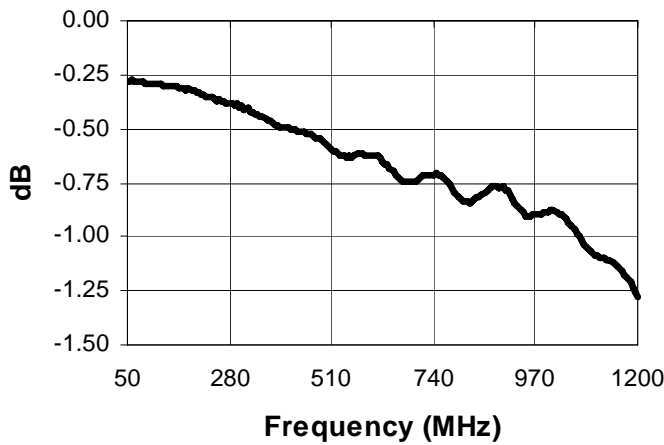
1. Exceeding any one or combination of these limits may cause permanent damage to this device.
2. M/A-COM does not recommend sustained operation near these survivability limits.

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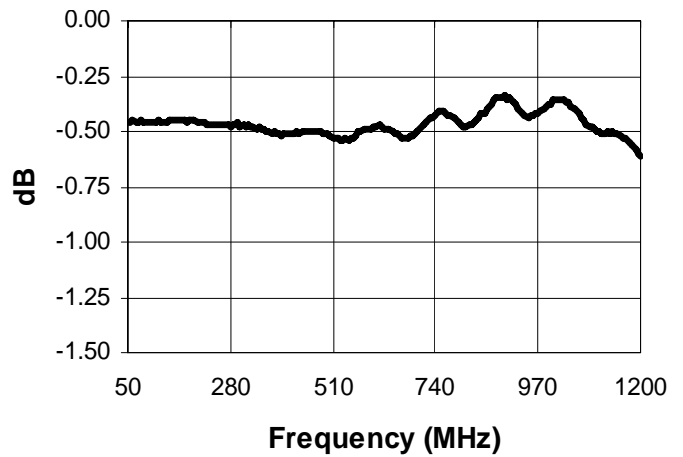
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 75\Omega$

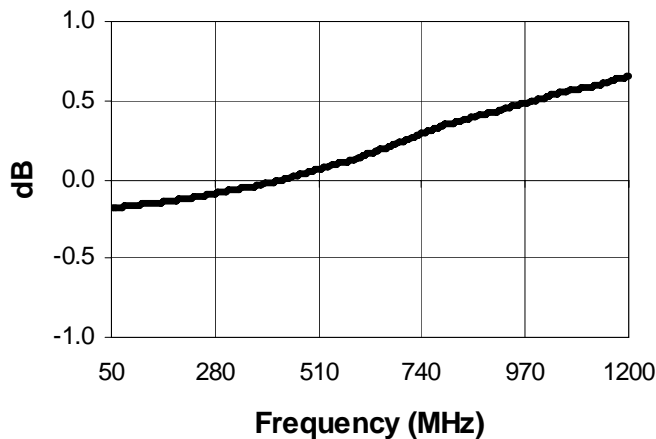
Insertion Loss 1 (Through pin 4 to pin 1)



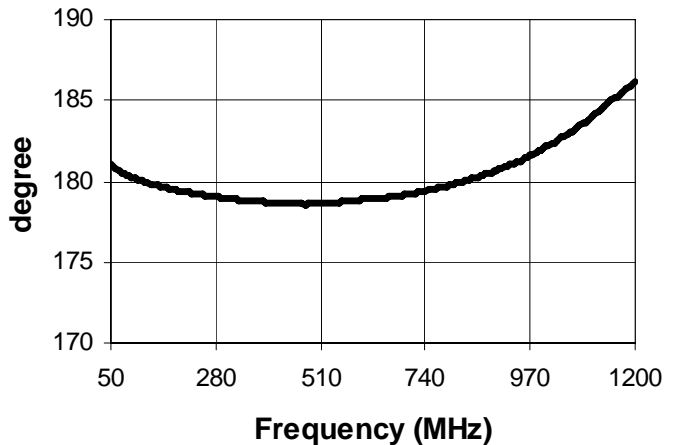
Insertion Loss 2 (Coupled pin 4 to pin 3)



Amplitude Unbalance



Phase Balance



Input Return Loss

