

1:1 Transmission Line Transformer  
5 to 1200 MHz

M/A-COM Products  
Released, Rev. V2

## Features

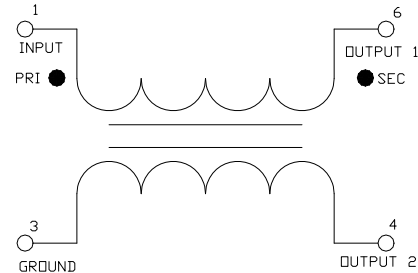
- Surface mount
- 1:1 Impedance ratio
- Excellent amplitude and phase balance
- Can be used in both 50Ω and 75Ω systems
- 260°C reflow compatible
- RoHS\* compliant
- Available on tape and reel.

## Description

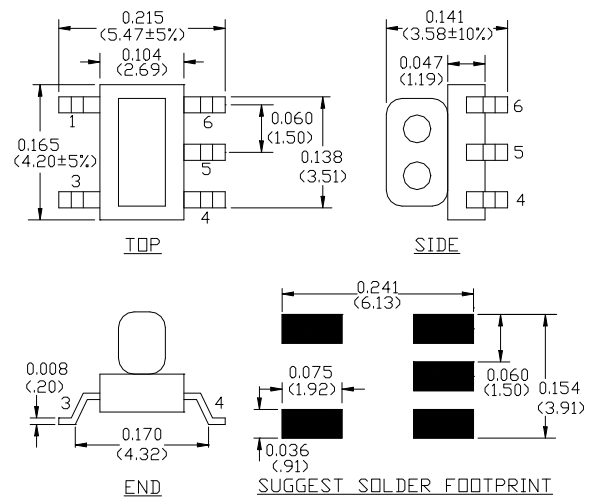
M/A-COM's MABACT0043 is a 1:1 Transmission Line Transformer in a low cost, surface mount package. Ideally suited for broadband CATV applications.



## Schematic



## Case style: SM-138



## Pin configuration

Pin no.	Function
1	Primary Dot (input)
3	Primary (ground)
4	Secondary (output 2)
5	Not used (ground)
6	Secondary Dot (output 1)

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

## Ordering information

Part number	Description
MABACT0043	2000 piece reel
MABA-008800-CT18TB	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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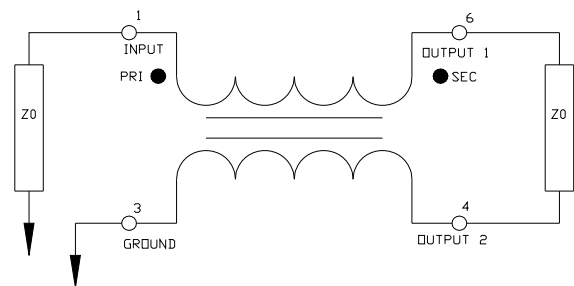
**Electrical Specifications:  $T_A = 25^\circ\text{C}$ , 0dBm,  $Z_0 = 75\Omega$   $P_{in} = 0\text{dBm}$**

Parameter	Test Conditions	Units	Min	Typ	Max
Insertion Loss	5 - 700 MHz	dB	-	0.56	0.70
	700 - 870 MHz	dB	-	0.51	1.10
	870 - 1000 MHz	dB	-	0.55	1.50
	1000 - 1200 MHz	dB	-	0.79	2.40
Amplitude Unbalance	5 - 870 MHz	dB	-	$\pm 0.33$	$\pm 1.0$
	870 - 1200 MHz	dB	-	$\pm 0.47$	$\pm 1.3$
Phase Unbalance	5 - 450 MHz	$^\circ$	-	1.6	$\pm 5$
	450 - 1200 MHz	$^\circ$	-	4.2	$\pm 7$
Input Return Loss	5 - 90 MHz	dB	30	38	-
	90 - 550 MHz	dB	15	22	-
	550 - 1200 MHz	dB	5	11	-

### Recommended Maximum Ratings

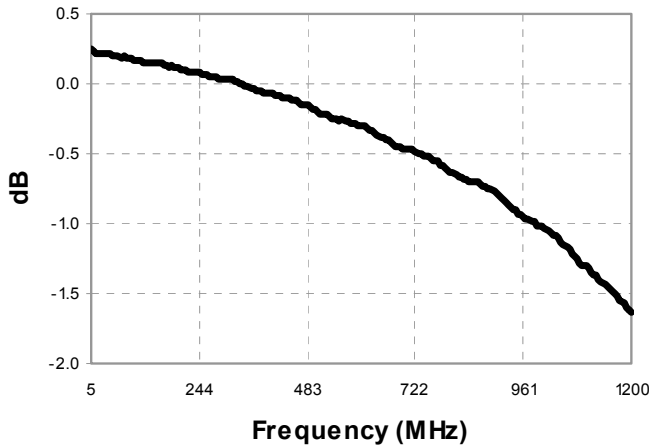
Parameter	Value
Max Input power	+24dBm (250mW)
DC current	40mA
Operating Temperature	-40°C to +85°C
Storage Temperature	-40°C to +85°C

### Application Circuit

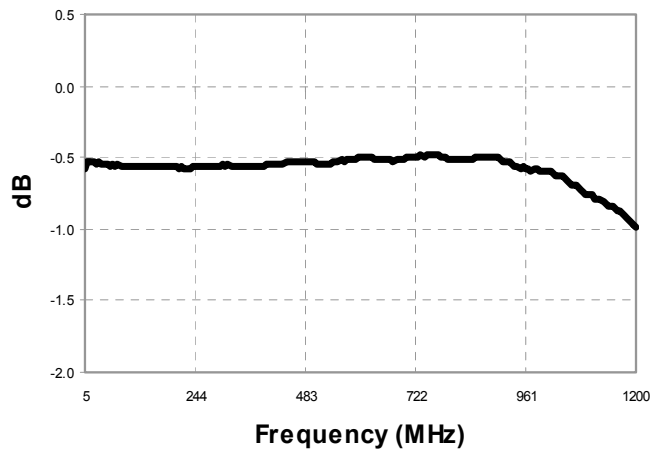


Typical Performance Curves:  $T_A = 25^\circ\text{C}$ ,  $0\text{dBm}$ ,  $Z_0 = 75\Omega$ ,  $P_{in} = 0\text{dBm}$

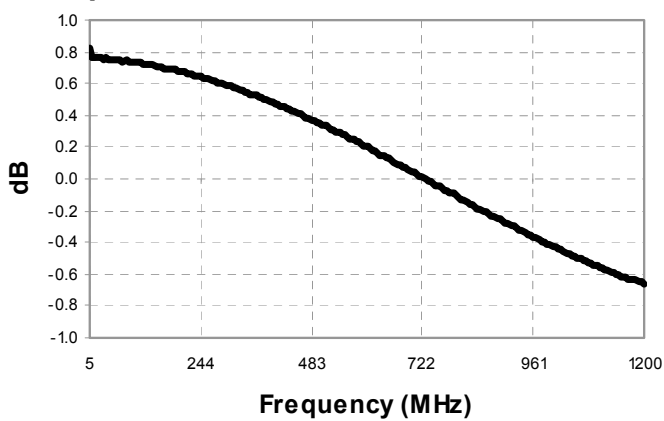
Insertion Loss 1: (Pin 1 to 6)



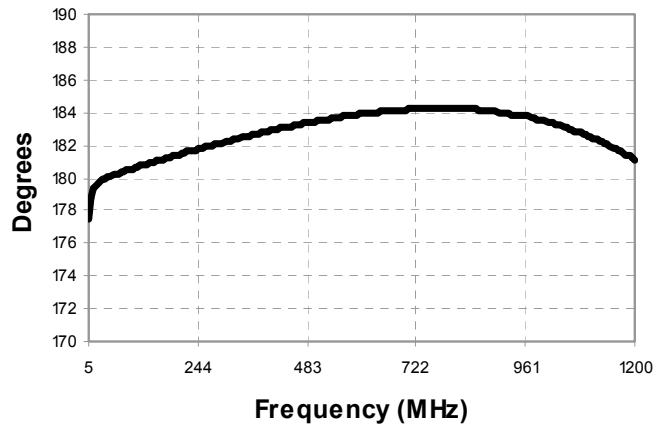
Insertion Loss 2: (Pin 1 to 4)



Amplitude Balance



Phase Balance



Return Loss: Input

