

## 1:1 Transmission Line with Tap Transformer 50 - 1200 MHz

Rev. V6

### Features

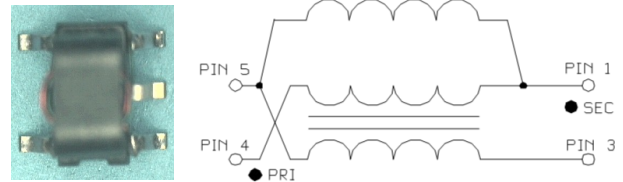
- Surface Mount
- 1:1 Impedance Ratio
- Available on Tape & Reel
- RoHS\* Compliant
- 260°C Reflow Compatible

### Description

The MABAES0029 is a 1:1 transmission line transformer with tap in a low cost surface mount package.

Ideally suited for CATV Broadband applications.

### Functional Schematic



### Pin Configuration

Pin #	Function
1	Output Thru Leg
2	No Connection
3	Output Coupled Leg
4	Input
5	Ground

### Electrical Specifications: Freq. = 50 - 1200 MHz, $T_A = 25^\circ\text{C}$ , $Z_0 = 75 \Omega$ , $P_{in} = 0 \text{ dBm}$

Parameter	Conditions	Units	Min.	Typ.	Max.
Impedance Ratio	—	ratio	—	1:1	—
Insertion Loss (Pin4 - Pin3)	50 - 600 MHz	dB	—	0.8	1.0
	600 - 1200 MHz			1.2	1.5
Insertion Loss (Pin4 - Pin1)	50 - 600 MHz	dB	—	0.8	1.0
	600 - 1200 MHz			1.2	1.5
Amplitude Balance	50 - 600 MHz	dB	—	0.1	0.2
	600 - 1200 MHz			0.4	0.8
Phase Balance	50 - 600 MHz	deg.	—	1.0	3.0
	600 - 1200 MHz			4.0	10.0

### Ordering Information

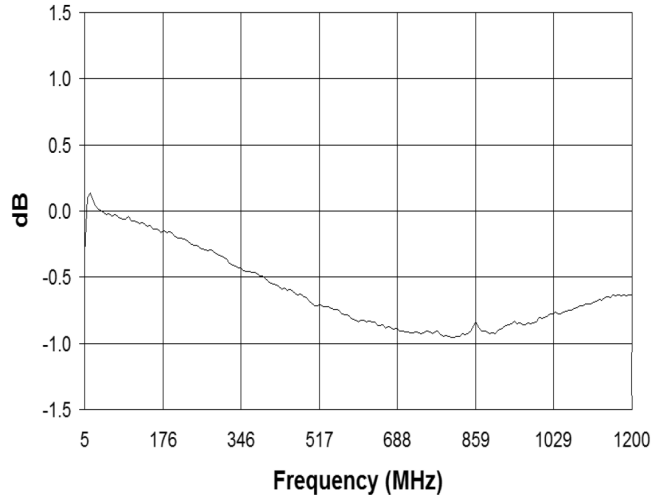
Part Number	Description
MABAES0029	2000 piece reel

### Absolute Maximum Ratings

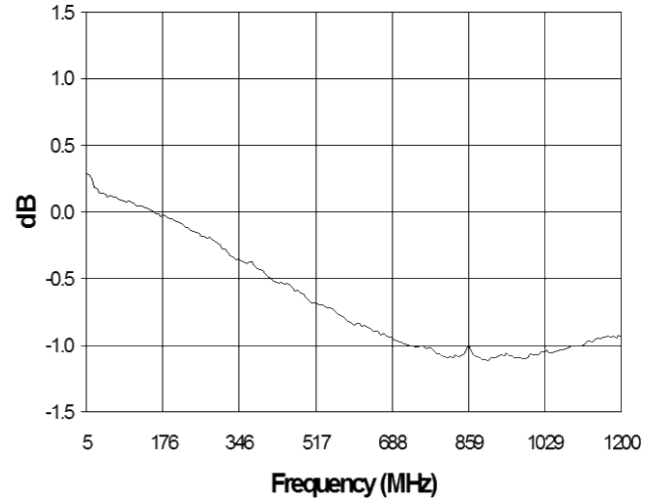
Parameter	Absolute Maximum
RF Input Power	0.5 W
DC Current	500 mA
Operating Temperature	-40°C to +85°C

## Typical Performance Curves

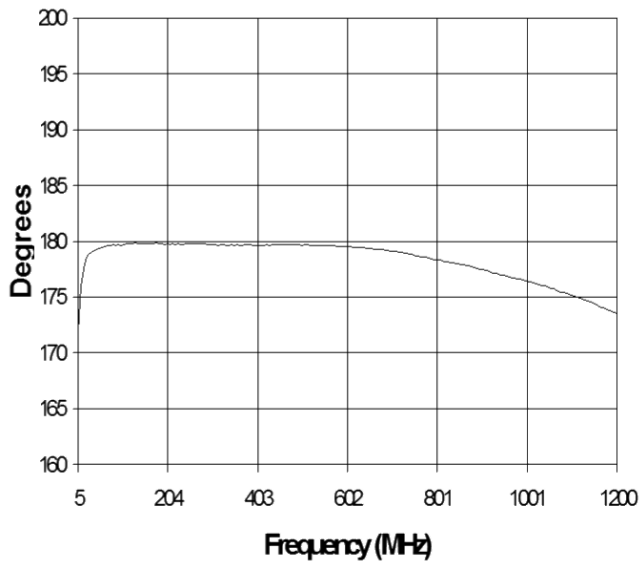
**Insertion Loss (Pin 4-1)**



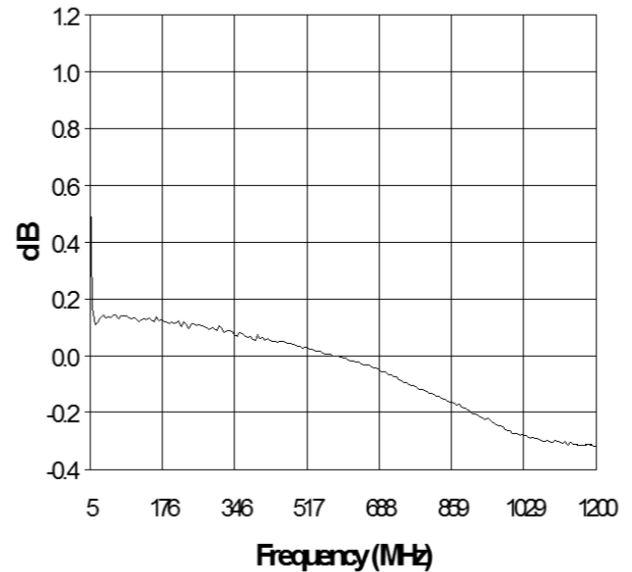
**Insertion Loss (Pin 4-3)**



**Phase Balance**

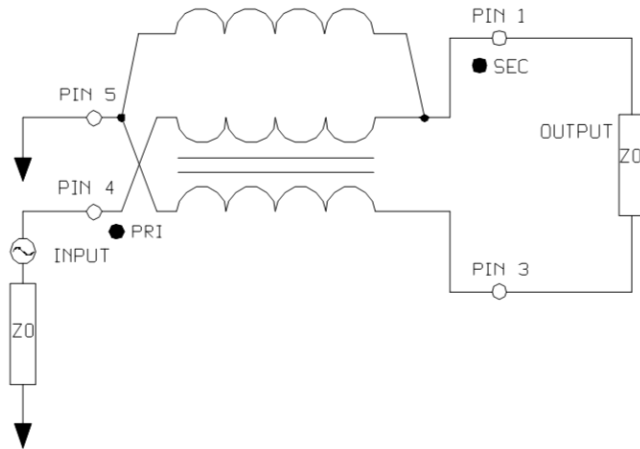


**Amplitude Balance**

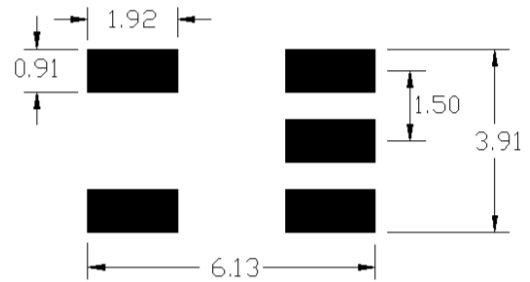


Electrical Specifications:  $Z_0 = 75\Omega$ ,  $T_A = 25^\circ\text{C}$ ,  $P_{in} = 0\text{dBm}$

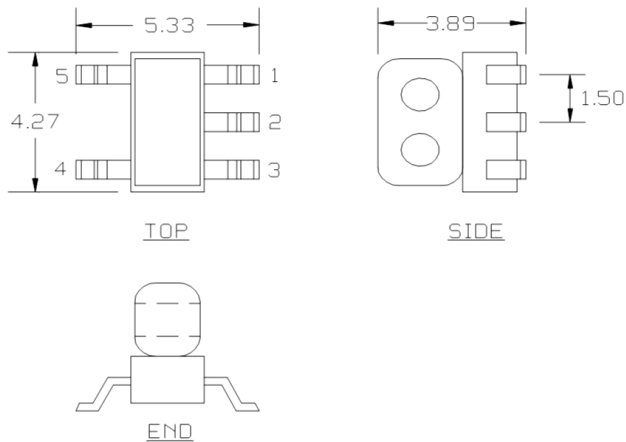
## Application Circuit



## PCB Layout



## Lead-Free Outline Drawing



Dimensions in mm.  
 Tolerance:  $\pm 0.2$  mm unless otherwise noted.  
 Model number and lot code are printed on the reel.  
 Lead plating: SAC-305.

## Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel size	mm	330
Tape width (W)	mm	16.00
Pitch (P <sub>1</sub> )	mm	8.00
A <sub>0</sub>	mm	5.8
B <sub>0</sub>	mm	7.0
K <sub>0</sub>	mm	5.0
Orientation	-	F26
Reference Application note ANI-019 for orientation		

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