

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

Rev. V6

Features

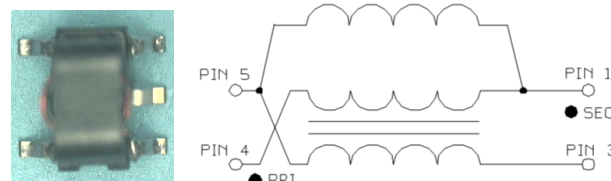
- Surface Mount
- 1:1 Impedance Ratio
- Available on Tape & Reel
- RoHS* Compliant
- 260°C Reflow Compatible

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 600 - 1200 MHz	dB	—	0.8 1.2	1.0 1.5
Insertion Loss (Pin4 - Pin1)	50 - 600 MHz 600 - 1200 MHz	dB	—	0.8 1.2	1.0 1.5
Amplitude Balance	50 - 600 MHz 600 - 1200 MHz	dB	—	0.1 0.4	0.2 0.8
Phase Balance	50 - 600 MHz 600 - 1200 MHz	deg.	—	1.0 4.0	3.0 10.0

Ordering Information

Part Number	Description
MABAES0029	2000 piece reel

Absolute Maximum Ratings

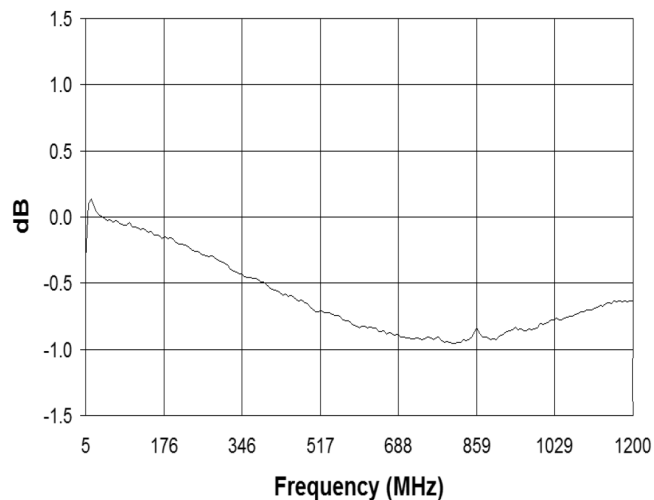
Parameter	Absolute Maximum
RF Input Power	0.5 W
DC Current	500 mA
Operating Temperature	-40°C to +85°C

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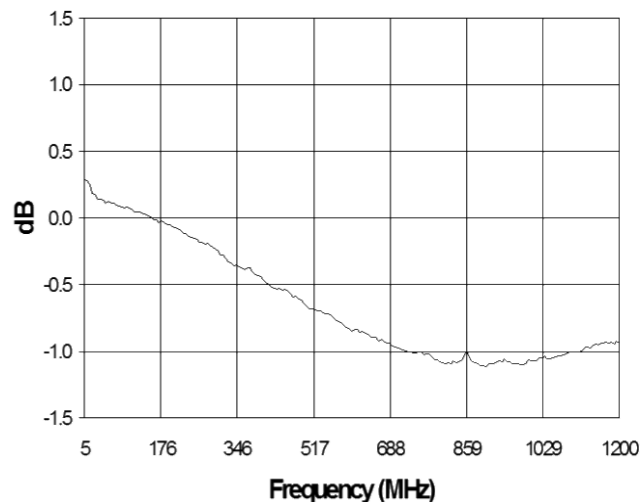
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Typical Performance Curves

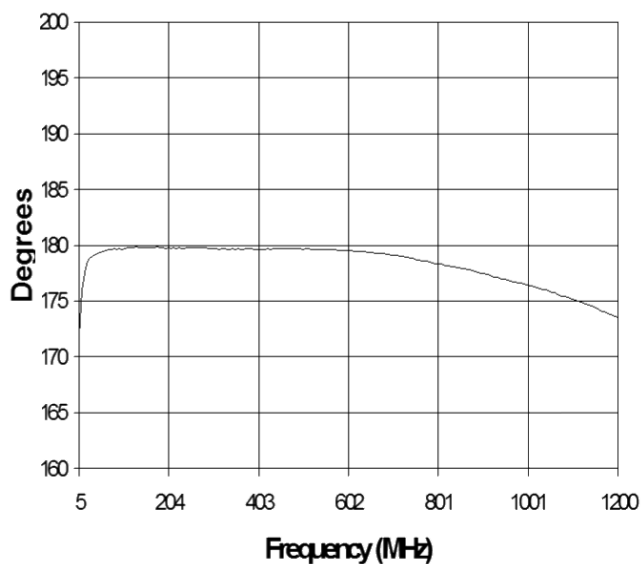
Insertion Loss (Pin 4-1)



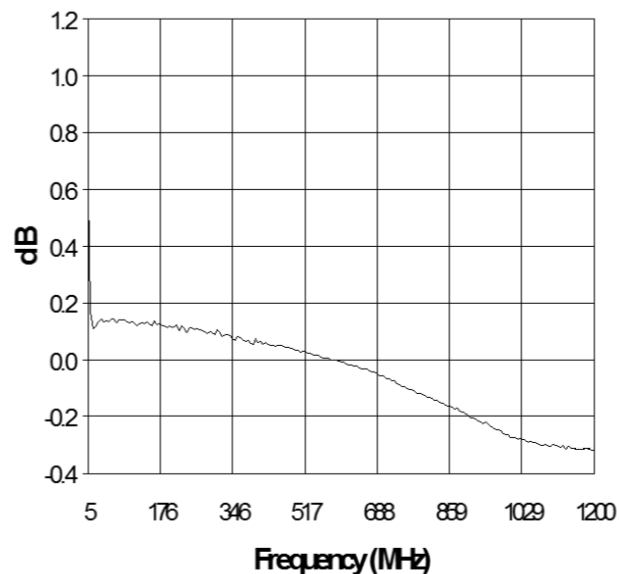
Insertion Loss (Pin 4-3)



Phase Balance



Amplitude Balance

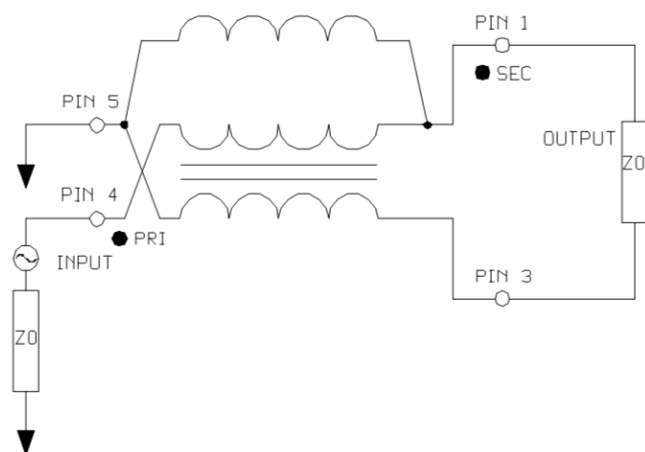


Electrical Specifications: $Z_0 = 75\Omega$, $T_A = 25^\circ\text{C}$, $P_{in} = 0\text{dBm}$

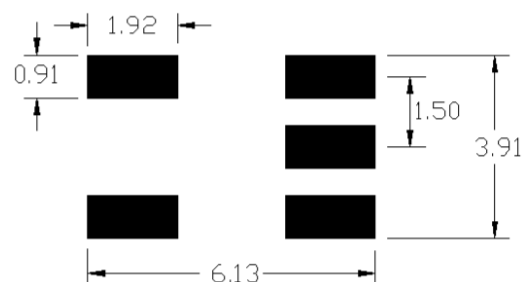
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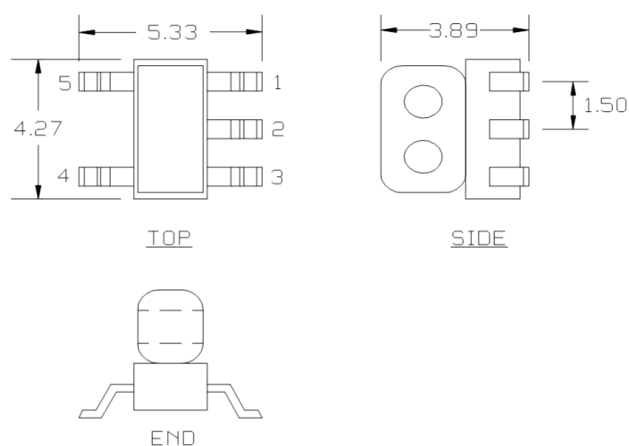
Application Circuit



PCB Layout



Lead-Free Outline Drawing



Dimensions in mm.
Tolerance: ± 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 ₁)	mm	8.00
A ₀	mm	5.8
B ₀	mm	7.0
K ₀	mm	5.0
Orientation	-	F26
Reference Application note ANI-019 for orientation		

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