

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



MABAES0029

Rev. V7

Features

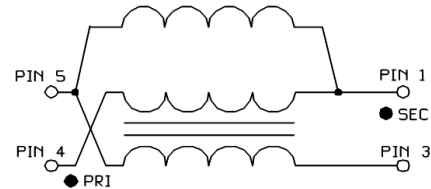
- Surface Mount
- 1:1 Impedance Ratio
- Available on Tape & Reel
- RoHS* Compliant
- 260°C Reflow Compatible

Description

The MABAES0029 is a 1:1 transmission line transformer with tap in a 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	1500 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

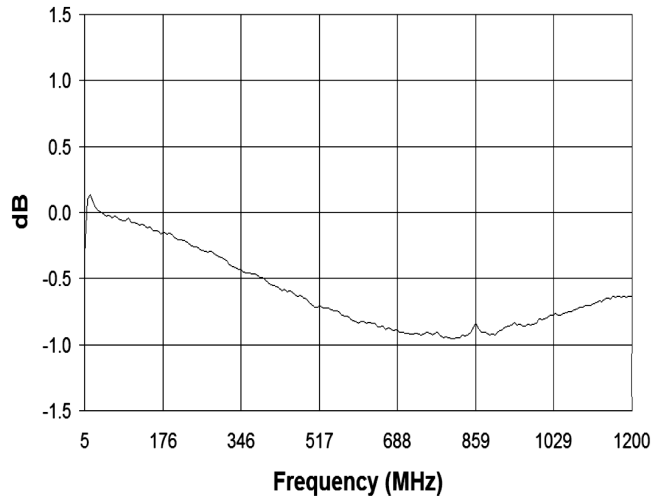
1:1 Transmission Line with Tap Transformer 50 - 1200 MHz



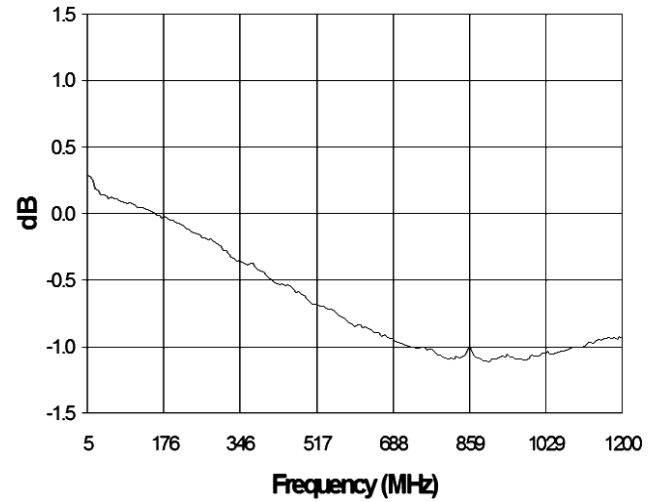
MABAES0029
Rev. V7

Typical Performance Curves

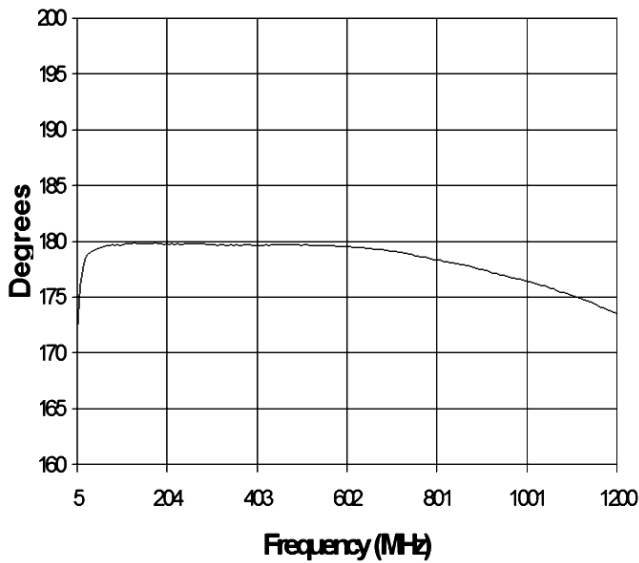
Insertion Loss (Pin 4-1)



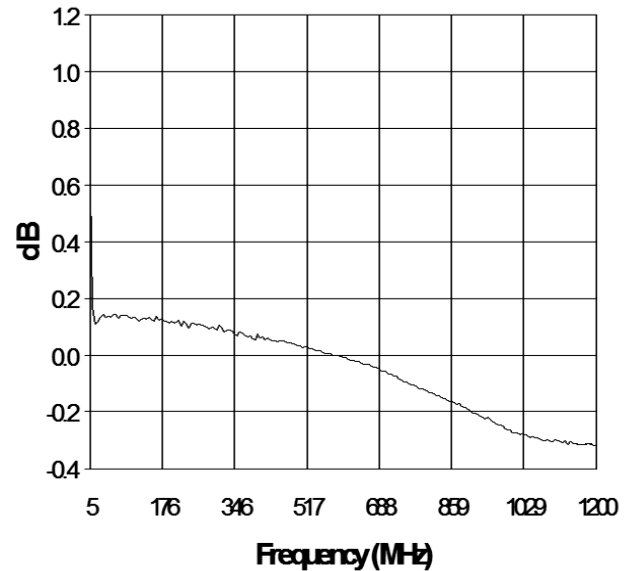
Insertion Loss (Pin 4-3)



Phase Balance



Amplitude Balance

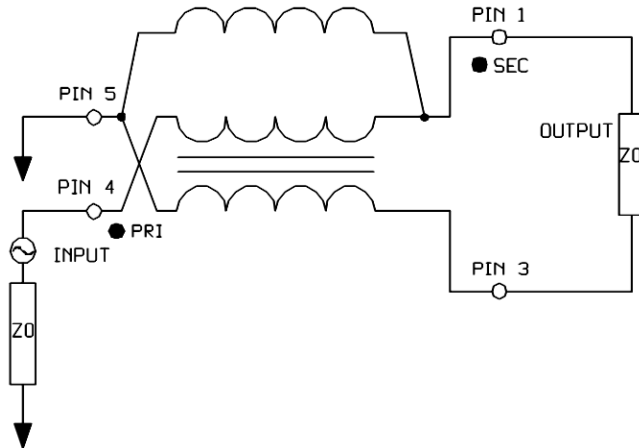


1:1 Transmission Line with Tap Transformer 50 - 1200 MHz

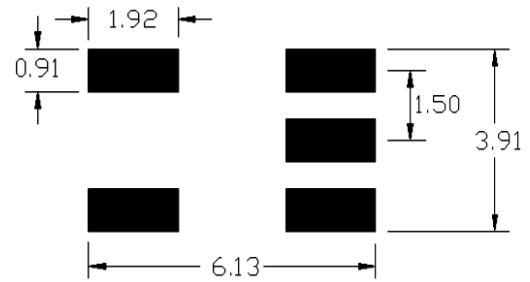


MABAES0029
Rev. V7

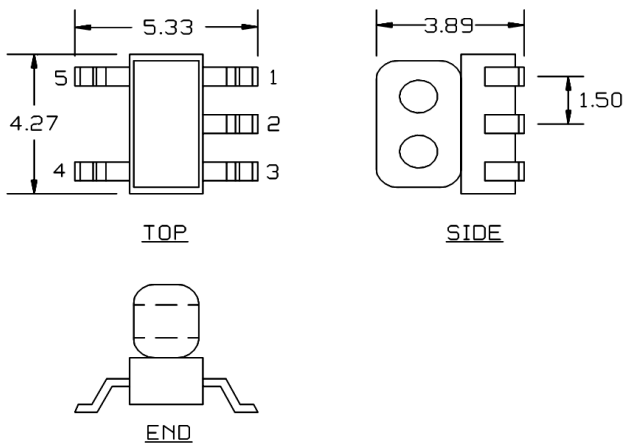
Application Circuit



PCB Layout



Lead-Free Outline Drawing



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	1500
Reel size	mm	330
Tape width (W)	mm	16.00
Pitch (P ₁)	mm	8.00
Orientation	-	F28
Reference Application note ANI-019 for orientation		

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

1:1 Transmission Line with Tap Transformer

50 - 1200 MHz



MABAES0029

Rev. V7

MACOM Technology Solutions Inc. ("MACOM"). All rights reserved.

These materials are provided in connection with MACOM's products as a service to its customers and may be used for informational purposes only. Except as provided in its Terms and Conditions of Sale or any separate agreement, MACOM assumes no liability or responsibility whatsoever, including for (i) errors or omissions in these materials; (ii) failure to update these materials; or (iii) conflicts or incompatibilities arising from future changes to specifications and product descriptions, which MACOM may make at any time, without notice. These materials grant no license, express or implied, to any intellectual property rights.

THESE MATERIALS ARE PROVIDED "AS IS" WITH NO WARRANTY OR LIABILITY, EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHT, ACCURACY OR COMPLETENESS, OR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES WHICH MAY RESULT FROM USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.