

2-Way 0° Power Divider, Surge Compliant 5 - 1218 MHz

Rev. V1

Features

- 2 way 0 Degree
- Surface Mount
- Available on Tape and Reel
- 260°C Reflow Compatible
- RoHS Compliant and Pb free
- Surge Compliant as per IEC 60728-4,4.8

Description

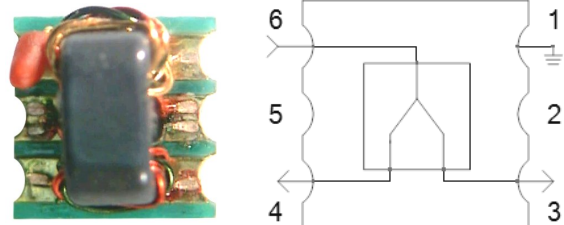
The MAPD-011050 is a 2 way 0 degree power divider in a low cost surface mount package. Ideally suited for all CATV Broadband and FTTx applications.

Ordering Information¹

Part Number	Description
MAPD-011050-PPR	2000 piece reel
MAPD-011050-TB	sample board

1. All sample boards include 5 loose parts.

Functional Schematic



Pin Configuration

Pin No.	Function
1	Ground
2, 5	External Capacitor
3	Output 2
4	Output 1
6	Input

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

Parameter	Conditions	Units	Min.	Typ.	Max.
Power Split	—	dB	—	3	—
Insertion Loss 1 (pin 6 - pin 4)	5 - 500 MHz	dB	—	0.2	0.3
	500 - 1000 MHz			0.5	0.7
	1000 - 1218 MHz			0.7	0.9
Insertion Loss 2 (pin 6 - pin 3)	5 - 500 MHz	dB	—	0.3	0.6
	500 - 1000 MHz			0.7	0.9
	1000 - 1218 MHz			1.1	1.3
Amplitude Balance	5 - 500 MHz	dB	—	0.2	± 0.4
	500 - 1000 MHz			0.4	± 0.5
	1000 - 1218 MHz			0.6	± 0.7
Phase Balance	5 - 500 MHz	degree	—	0.8	± 2.5
	500 - 1000 MHz			1.5	± 3.0
	1000 - 1218 MHz			1.0	± 4.0
Input Return Loss (pin 6)	5 - 500 MHz	dB	23	25	—
	500 - 1000 MHz		19	23	
	1000 - 1218 MHz		16	20	
Output Return Loss (pin 4)	5 - 500 MHz	dB	22	26	—
	500 - 1000 MHz		19	22	
	1000 - 1218 MHz		16	19	
Output Return Loss (pin 3)	5 - 500 MHz	dB	19	21	—
	500 - 1000 MHz		18	20	
	1000 - 1218 MHz		15	18	
Isolation (pin 4 - pin 3)	5 - 500 MHz	dB	27	33	—
	500 - 1000 MHz		23	30	
	1000 - 1218 MHz		22	30	

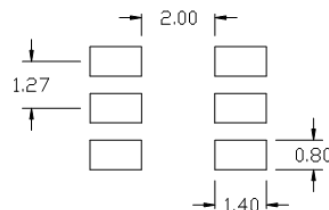
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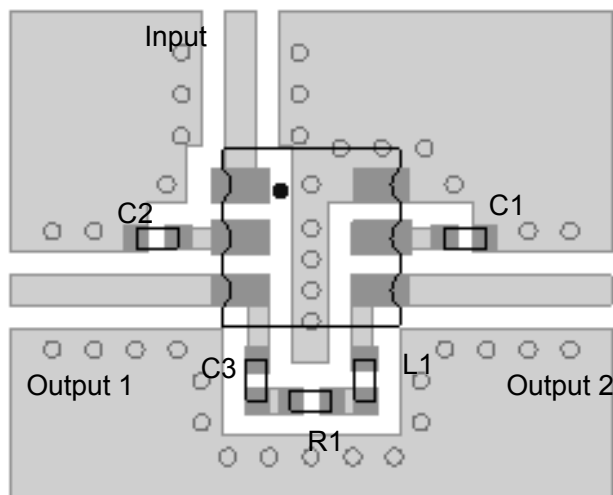
Recommended Maximum Ratings

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

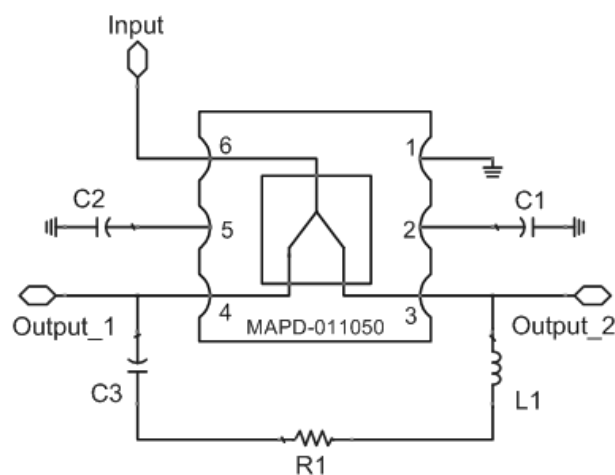
Recommended Land Pattern



Recommended Board Layout



Application Schematic



1. Dimensions in mm
2. Tolerance: ± 0.2 mm unless otherwise noted
3. Recommended PCB layout shown above uses 1.6mm FR4, CPWG transmission line. Width 0.70mm, Gap 0.57mm

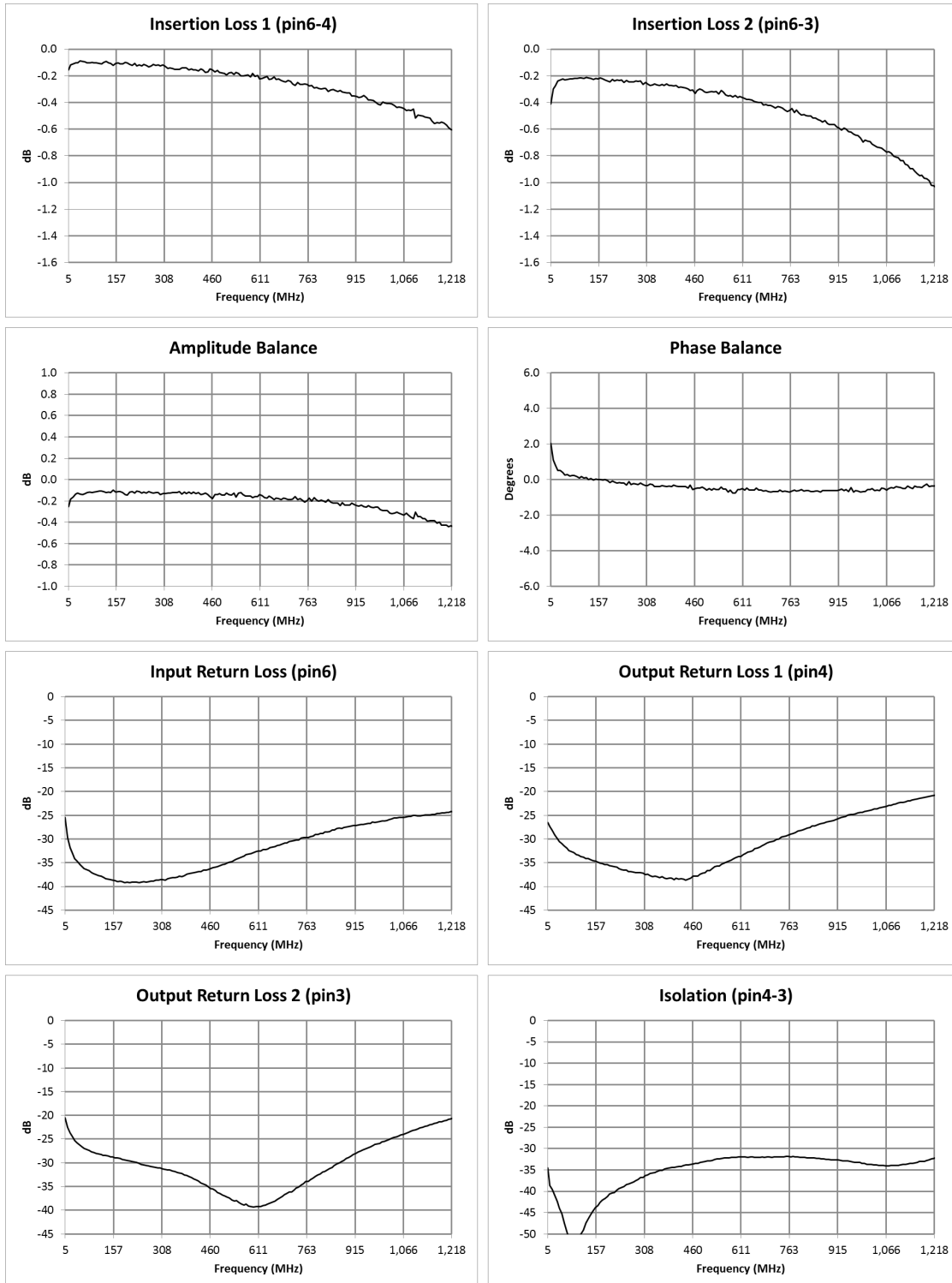
Component List

Part	Value	Case Style
C1	0.9 pF	0402
C2	0.9 pF	0402
C3	330 pF	0402
L1	8.2 nH	0402
R1	180 Ω	0402

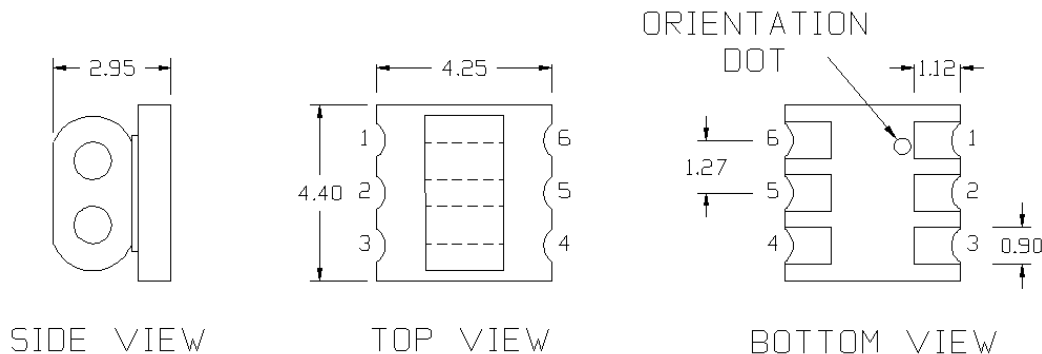
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Typical Performance Curves: $T_A = 25^\circ\text{C}$, $Z_0 = 75\ \Omega$, $P_{IN} = 0\ \text{dBm}$

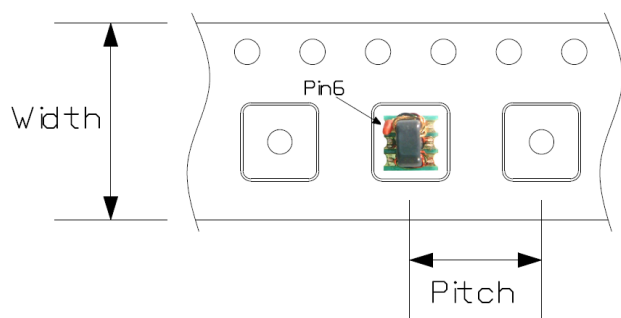


Outline Drawing



1. Dimensions in mm.
2. Tolerance: ± 0.2 mm unless otherwise noted.
3. Model number and lot code are printed on the reel.
4. Plating finish: ENIG on both sides, 0.05 to 0.1 μm gold over 3 to 6 μm nickel.

Carrier Tape Orientation



Tape & Reel Information

Parameter	Units	Value
Qty Per Reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.00
Pitch	mm	8.00
Orientation	-	F31
Reference Application Note ANI-019 for orientation		

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