

## 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

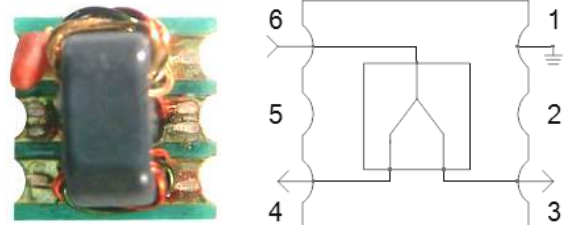
The MAPD-011050 is a 2 way 0 degree power divider in a low cost surface mount package. Ideally suited for all CATV Broadband and FTTx applications.

### Ordering Information<sup>1</sup>

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	$\pm 0.4$
	500 - 1000 MHz			0.4	$\pm 0.5$
	1000 - 1218 MHz			0.6	$\pm 0.7$
Phase Balance	5 - 500 MHz	degree	—	0.8	$\pm 2.5$
	500 - 1000 MHz			1.5	$\pm 3.0$
	1000 - 1218 MHz			1.0	$\pm 4.0$
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	

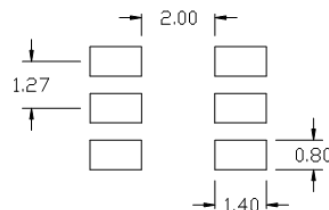
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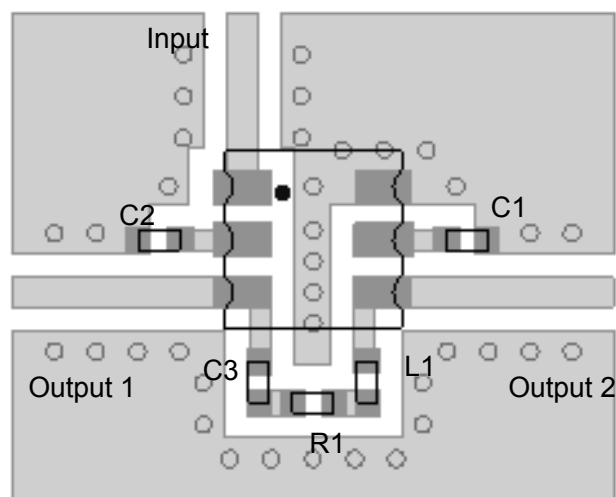
## Recommended Maximum Ratings

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

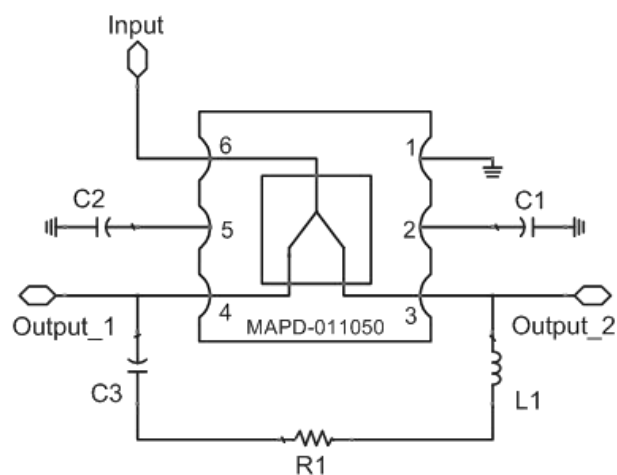
## Recommended Land Pattern



## Recommended Board Layout



## Application Schematic



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

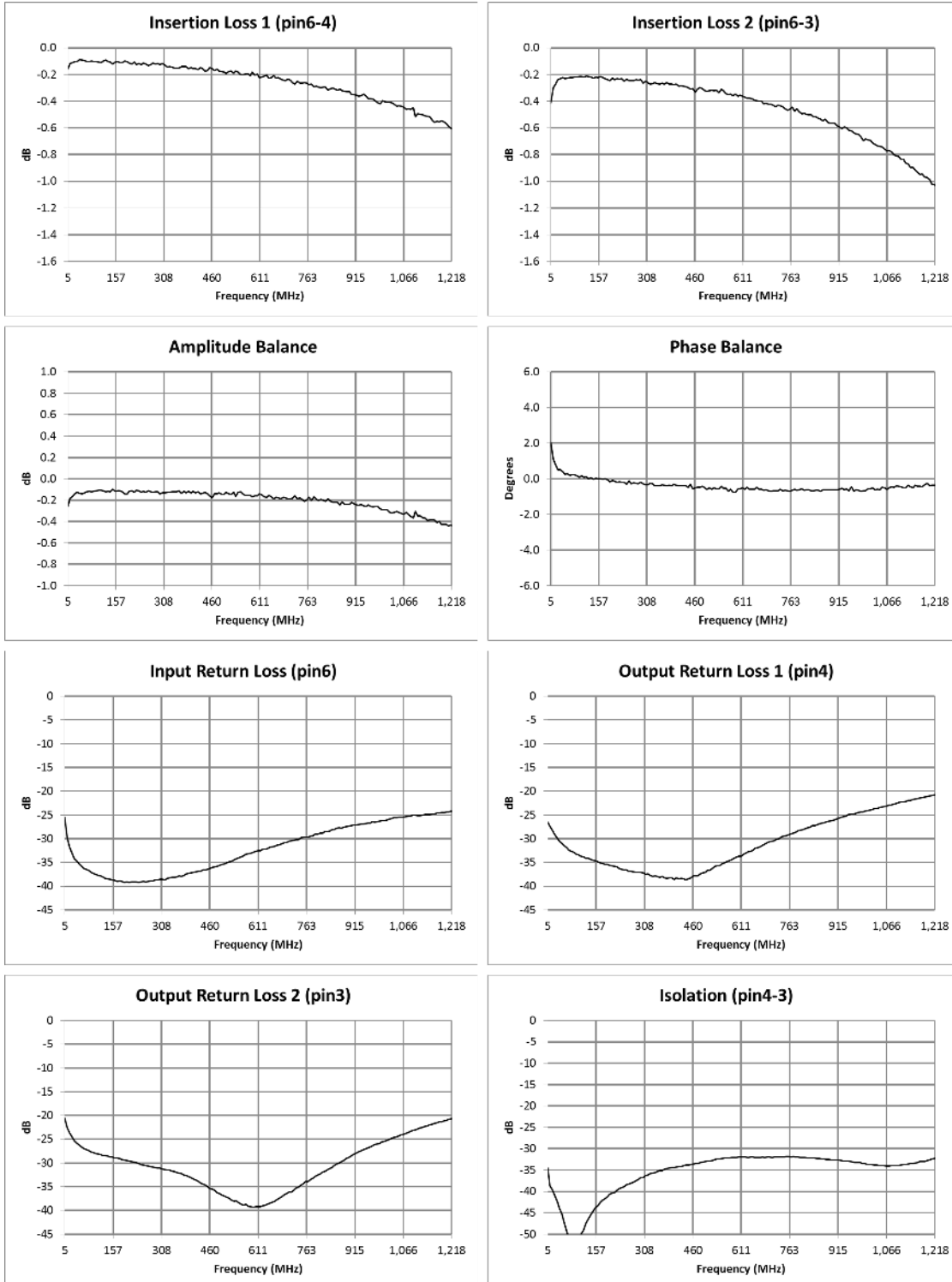
## Component List

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 $\Omega$	0402

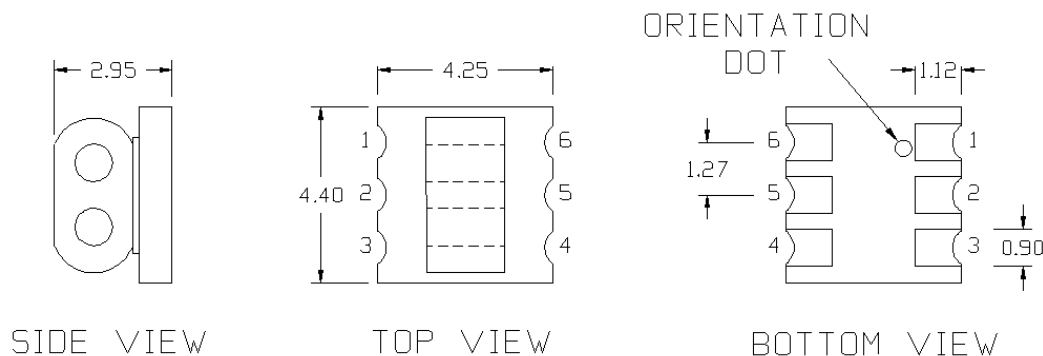
## 2-Way 0° Power Divider, Surge Compliant 5 - 1218 MHz

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

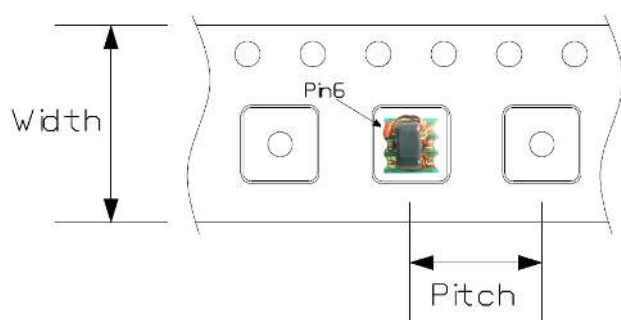


## Outline Drawing



1. Dimensions in mm.
2. Tolerance:  $\pm 0.2$  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  $\mu\text{m}$  gold over 3 to 6  $\mu\text{m}$  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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