

## Features

- 2-way 0 Degree
- 40 dB isolation 100 - 684 MHz
- Surface Mount Package
- Tape & Reel Packaging Available
- 260°C Reflow Compatible
- RoHS\* Compliant

## Applications

- CATV

## Description

The MAPD-011105 is a 2 way 0 degree power divider in a surface mount package.

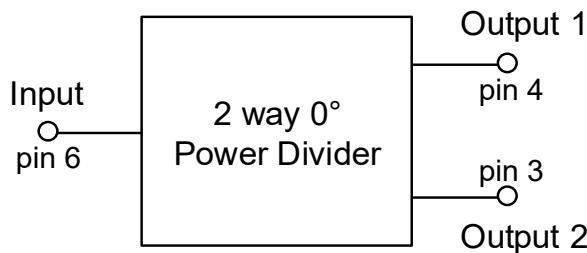
High isolation power divider for D4.0 Unified CATV applications.

## Ordering Information<sup>1,2</sup>

Part Number	Description
MAPD-011105	2000 piece reel
MAPD-011105-TB	Sample Board

1. Reference Application Note M513 for reel size information.
2. All sample boards include 5 loose parts.

## Functional Schematic



## Pin Configuration

Pin #	Function
1	Ground
2	External 0.3 pF shunt cap
3	Output 2 - Upstream
4	Output 1 - Downstream
5	External 0.5 pF shunt cap
6	Input

\* Restrictions on Hazardous Substances, compliant to current RoHS EU directive.

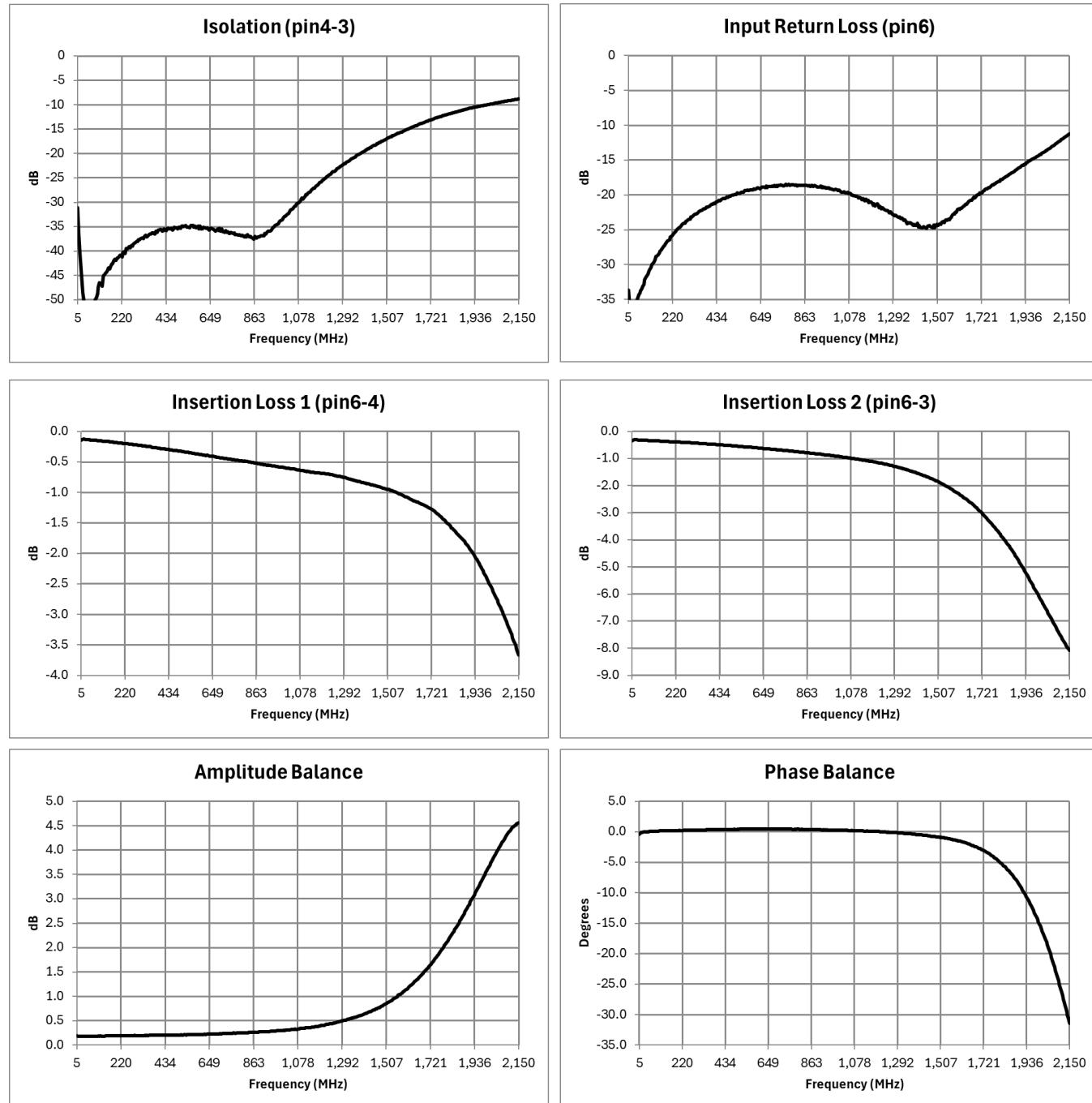
**Electrical Specifications:  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$ ,  $P_{\text{IN}} = 0 \text{ dBm}$**

Parameter	Conditions	Units	Min.	Typ.	Max.
Power Split	-	dB	-	3	-
Insertion Loss 1 (pin 6 - pin 4)	5 - 700 700 - 1200 1200 - 1800	dB	-	0.3 0.7 1.1 2.2	0.7 1.1 2.2
Insertion Loss 2 (pin 6 - pin 3)	5 - 700 700 - 1200 1200 - 1800	dB	-	0.5 1.0 2.2	1.2 1.8 5.3
Amplitude Balance	5 - 1000 1000 - 1800 5 - 1800	dB	- 0.5	0.2 1.0 1.0	1.0 3.3 -
Phase Balance	5 - 1800 5 - 1000 1000 - 1800	°	- 5 14	0.6 0.6 1.0	5 - -
Return Loss: Input (pin 6)	5 - 700 700 - 1800	dB	16 12	22 20	-
Return Loss: Output 1 (pin 4)	5 - 700 700 - 1200 1200 - 1800	dB	16 13 11	24 17 16	-
Return Loss: Output 2 (pin 3)	5 - 700 700 - 1200 1200 - 1800	dB	14 12 8	20 14 13	-
Isolation (pin 3 - pin 4)	5 - 100 100 - 684 684 - 1200 1200 - 1800	dB	27 30 20 8	45 36 30 15	-

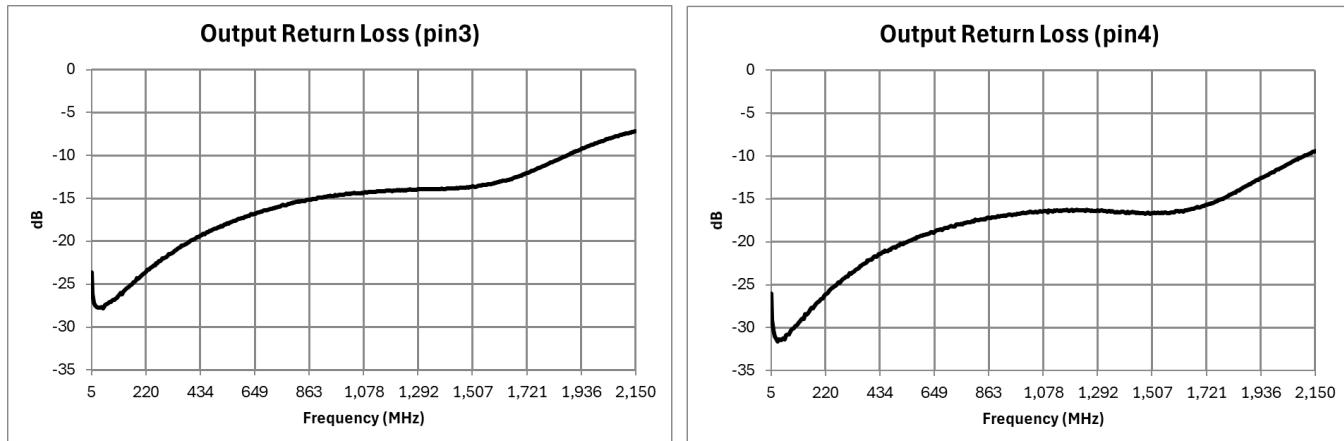
**Recommended Maximum Ratings**

Parameter	Absolute Maximum
Input RF Power	2 W
DC Current	500 mA
Operating Temperature	-40°C to +85°C

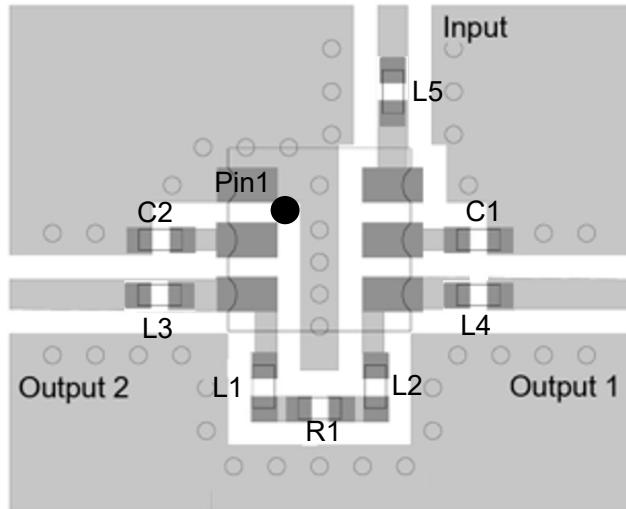
Typical Performance Curves:  $P_{IN} = 0 \text{ dBm}$ ,  $T_A = 25^\circ\text{C}$ ,  $Z_0 = 75 \Omega$



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### Recommended Board Layout<sup>7,8</sup>



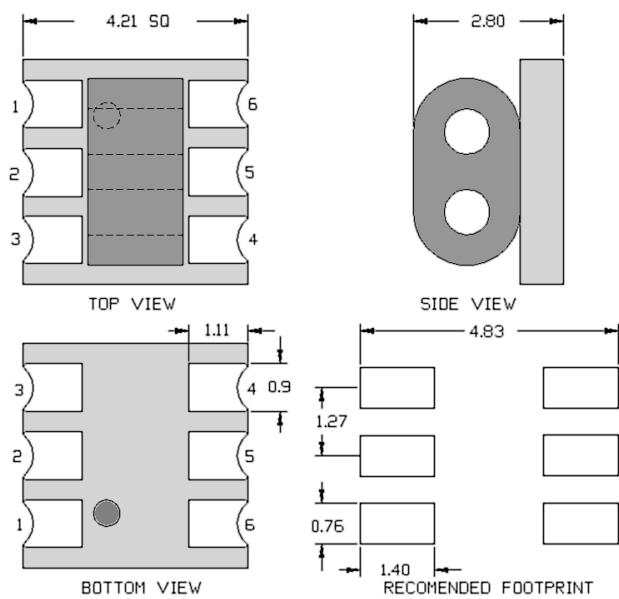
7 .Tolerance:  $\pm 0.2\text{mm}$  unless otherwise noted

8 .Recommended PCB layout shown above uses 1.6mm FR4, CPWG transmission line. Width 0.70mm, Gap 0.57mm

### Component List

Ref. Des.	Value	Tolerance	Size
C1	0.5 pF	2%	0402
C2	0.3 pF	2%	0402
L1	120 $\Omega$	1%	0402
L2	68 $\Omega$	1%	0402
R1	18 nH	5%	0402
L3-L5	3.0 nH	10%	0402

**Outline Drawing<sup>3,4,5,6</sup>**



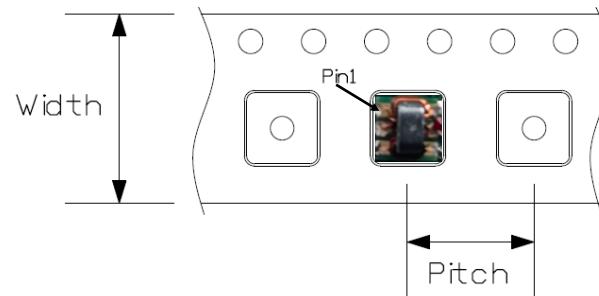
3. Dimensions in mm

4. Tolerance:  $\pm 0.2$ mm unless otherwise noted

5. Model number and lot code are printed on the reel

6. Plating finish: ENIG on both sides, 0.05 to 0.1  $\mu$ m gold over 3 to 6  $\mu$ m nickel

**Carrier Tape Orientation**



**Tape & Reel Information**

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12
Pitch	mm	8

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