

2-Way 0° Power Divider

5 - 1800 MHz



MAPD-011105
Rev. V1

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.

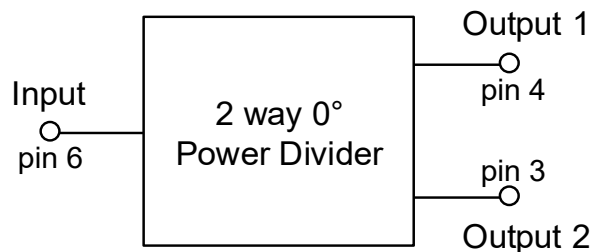
Ordering Information^{1,2}

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.

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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 - 700 700 - 1200 1200 - 1800	dB	-	0.3 0.7 1.1	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

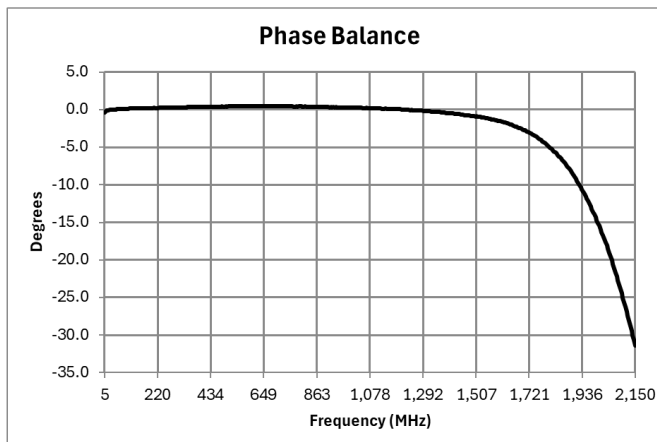
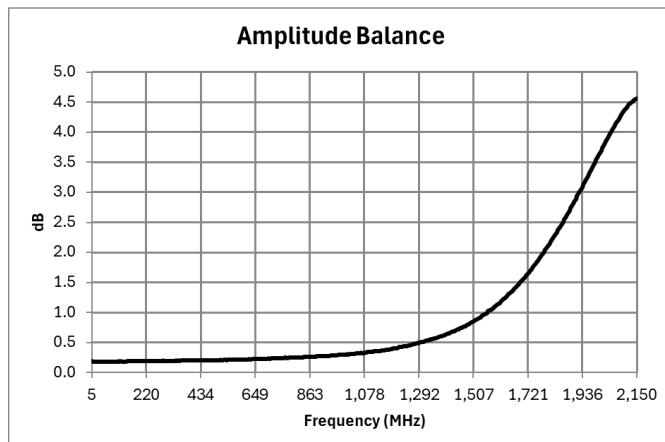
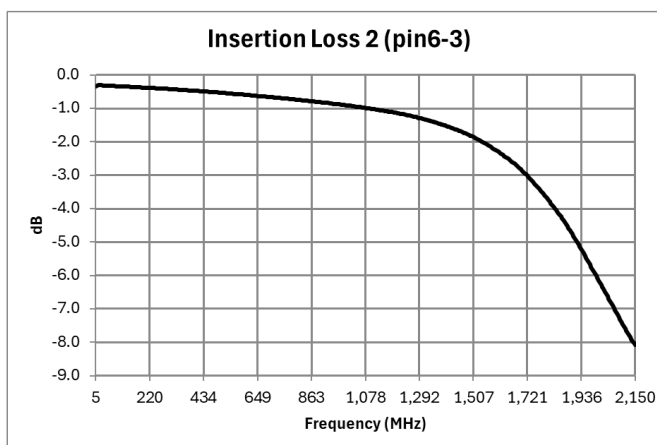
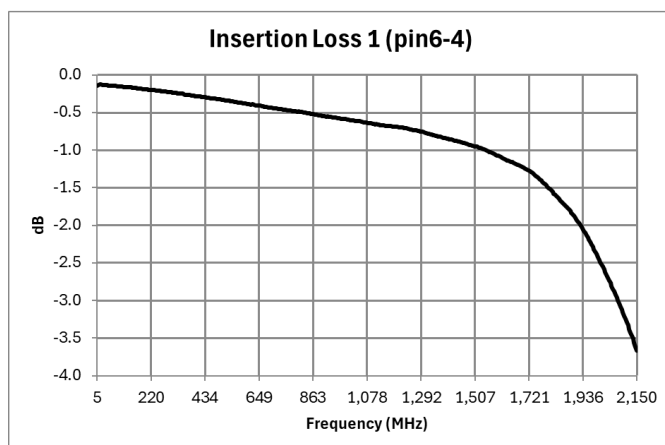
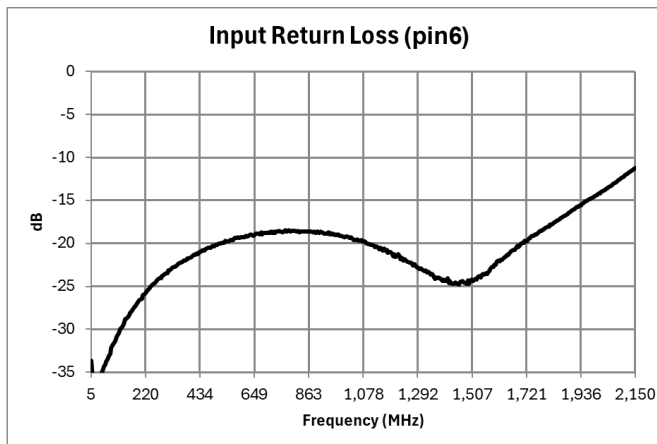
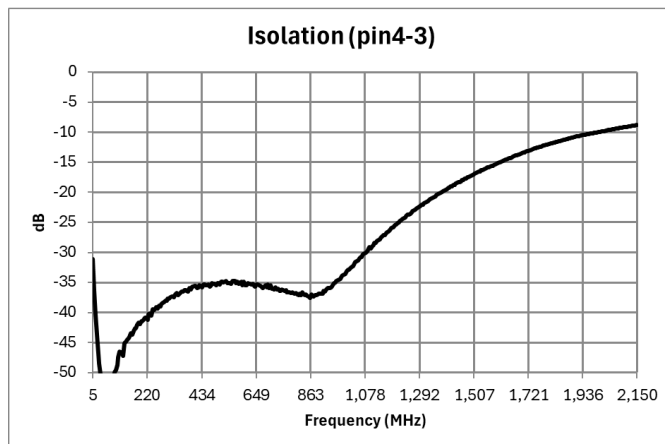
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Typical Performance Curves: $P_{IN} = 0 \text{ dBm}$, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$

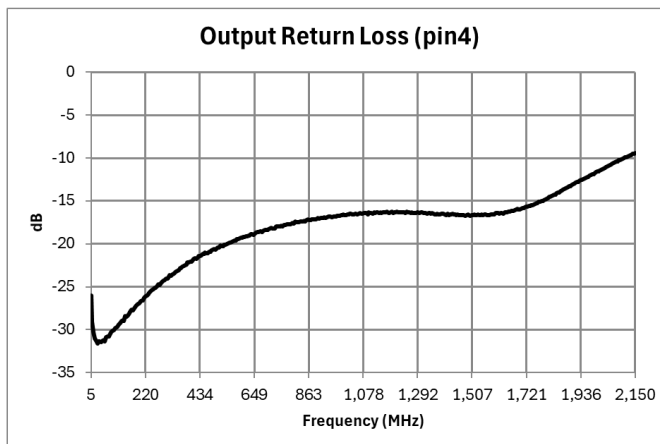
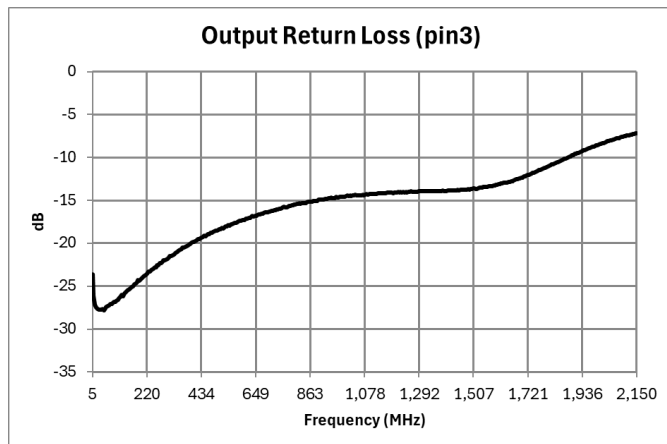


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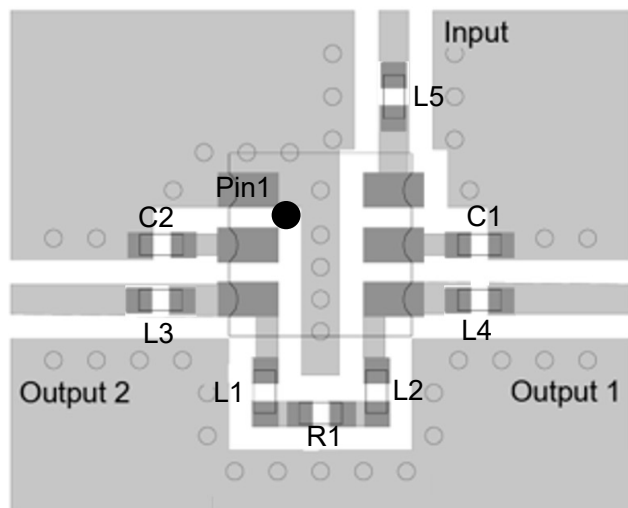


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Recommended Board Layout^{7,8}



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

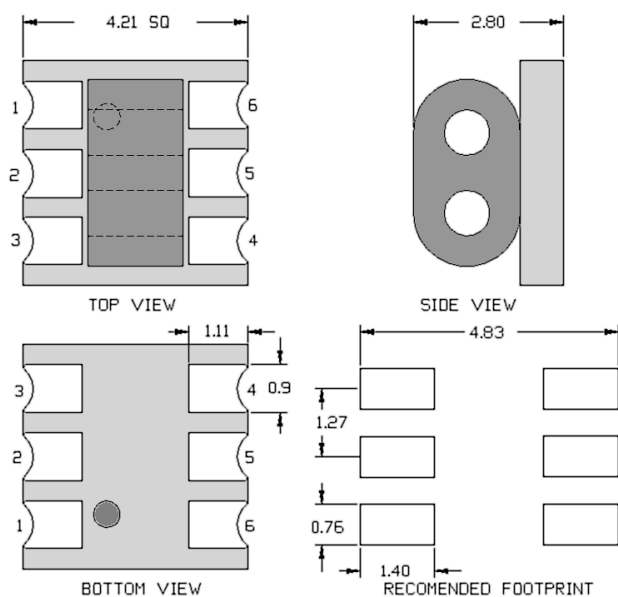
Ref. Des.	Value	Tolerance	Size
C1	0.5 pF	2%	0402
C2	0.3 pF	2%	0402
L1	120 Ω	1%	0402
L2	68 Ω	1%	0402
R1	18 nH	5%	0402
L3-L5	3.0 nH	10%	0402

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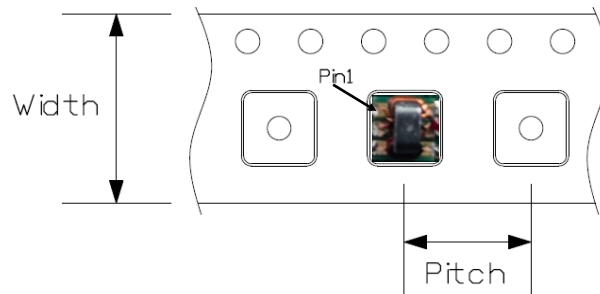
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Outline Drawing^{3,4,5,6}



3. Dimensions in mm
4. Tolerance: $\pm 0.2\text{mm}$ 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 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
Pitch	mm	8

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