

2-Way 0° Power Divider

5 - 2150 MHz



MAPD-011007

Rev. V7

Features

- 2-Way, 0°
- Surface Mount Technology
- RoHS* Compliant
- Available on Tape & Reel

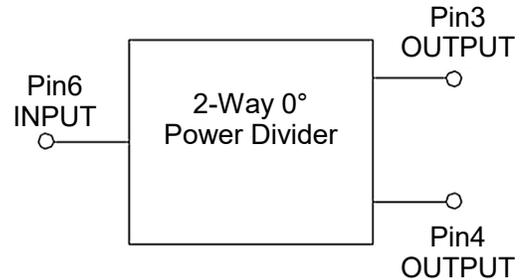
Applications

- CATV Broadband and FTTx applications.

Description

The MAPD-011007 is a 2-way 0° power divider in a surface mount package.

Functional Schematic



Ordering Information^{1,2}

Part Number	Package
MAPD-011007	bulk
MAPD-011007-TB	Sample Board

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

Pin Configuration³

Pin #	Function
1	Ground
2, 5	External Shunt Capacitors
3	Output
4	Output
6	Input

3. MACOM recommends connecting unused package pins to ground.

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

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Electrical Specifications: Freq. = 5 - 2150 MHz, T_A = 25°C, Z₀ = 75 Ω, P_{IN} = 0 dBm

Parameter	Test Conditions Frequency (MHz)	Units	Min.	Typ.	Max.
Power Split	—	dB	—	3	—
Insertion Loss (pin 6 - pin 4)	5 - 1002	dB	—	0.3	0.7
	1003 - 1218			0.5	1.0
	1218 - 1600			0.6	1.2
	1600 - 2150			1.0	2.0
Insertion Loss (pin 6 - pin 3)	5 - 1002	dB	—	0.6	1.0
	1003 - 1218			0.8	1.2
	1218 - 1600			1.0	1.6
	1600 - 2150			1.5	3.2
Amplitude Balance	5 - 1002	dB	—	0.3	0.5
	1003 - 1218			0.3	0.5
	1218 - 1600			0.3	0.5
	1600 - 2150			0.5	1.5
Phase Balance	5 - 1002	degree	—	0.8	4.0
	1003 - 1600			1.0	6.0
	1600 - 2150			0.2	7.0
Input Return Loss (pin 6)	5 - 1002	dB	20	39	—
	1003 - 1600		14	22	
	1600 - 2150		11	18	
Output Return Loss (pin 3)	5 - 1002	dB	17	28	—
	1003 - 1600		13	18	
	1600 - 2150		9	14	
Output Return Loss (pin 4)	5 - 1002	dB	20	40	—
	1003 - 1600		15	22	
	1600 - 2150		12	18	
Isolation (pin 4 - pin 3)	5 - 10	dB	24	30	—
	10 - 65		30	42	
	66 - 870		26	34	
	871 - 1002		24	31	
	1003 - 1600		22	31	
	1600 - 2150		15	24	

Absolute Maximum Ratings^{4,5}

Parameter	Absolute Maximum
Input RF Power ⁶	0.5 W
DC Current	500 mA
Operating Temperature	-40°C to +105°C

4. Exceeding any one or combination of these limits may cause permanent damage to this device.
5. MACOM does not recommend sustained operation near these survivability limits.
6. Specified at +25°C only.

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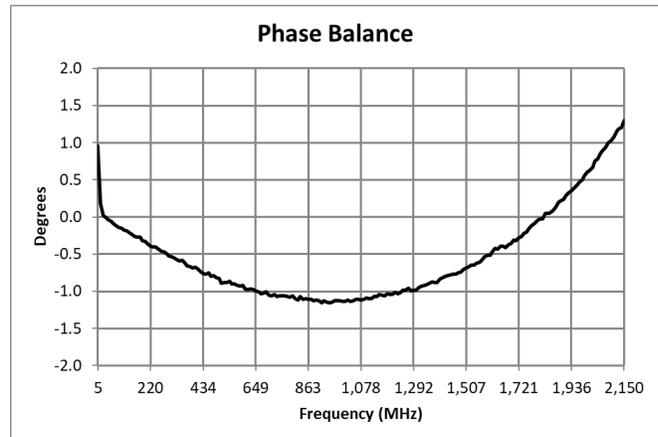
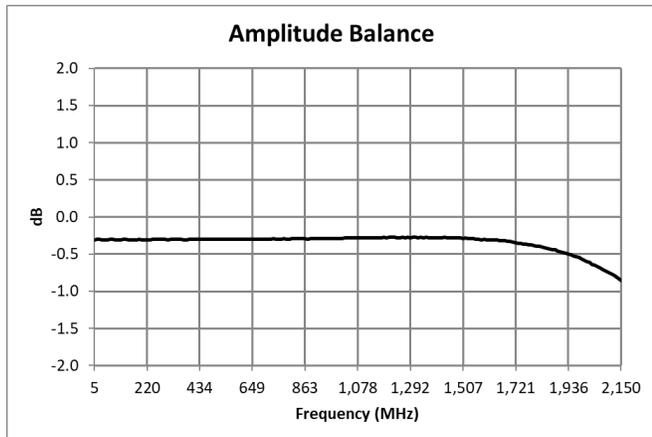
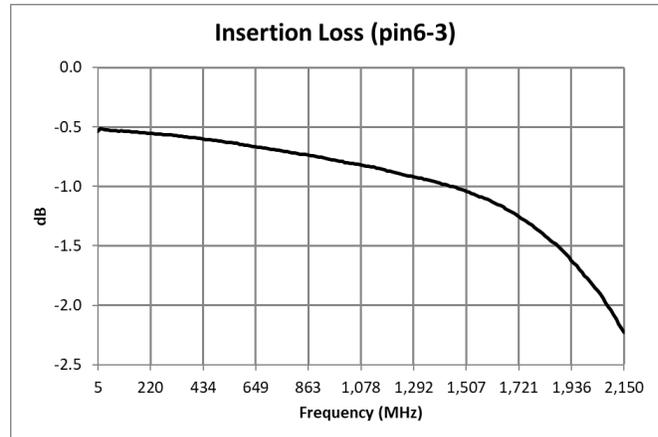
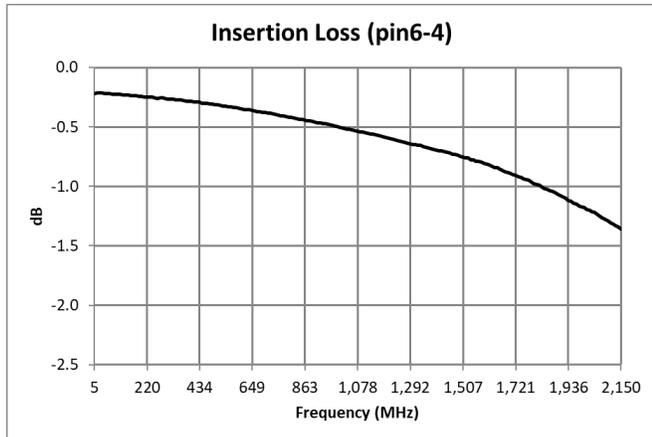
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Typical Performance Curves: $P_{IN} = 0 \text{ dBm}$, $T_A = 25^\circ\text{C}$, $Z_0 = 75 \Omega$

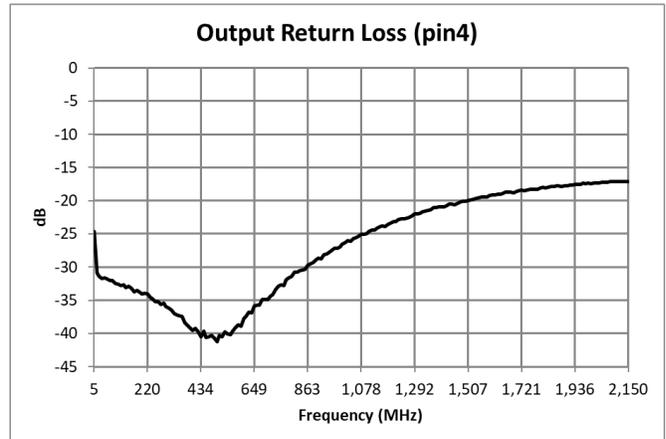
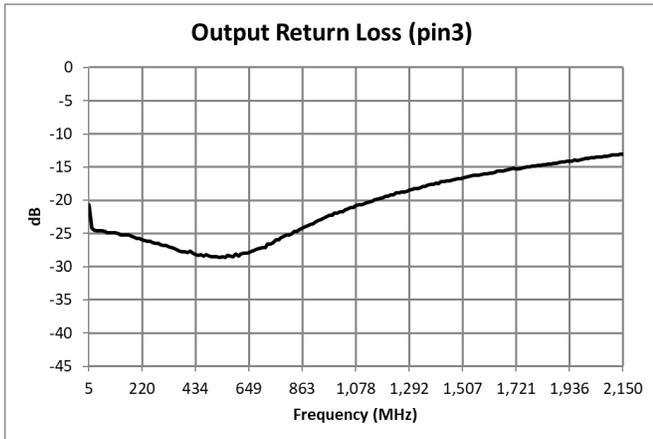
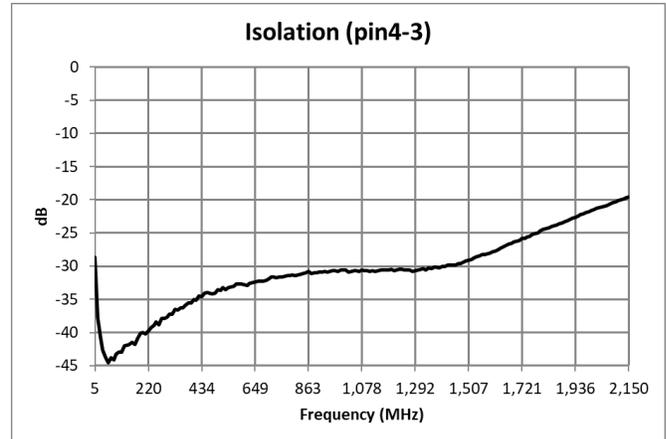
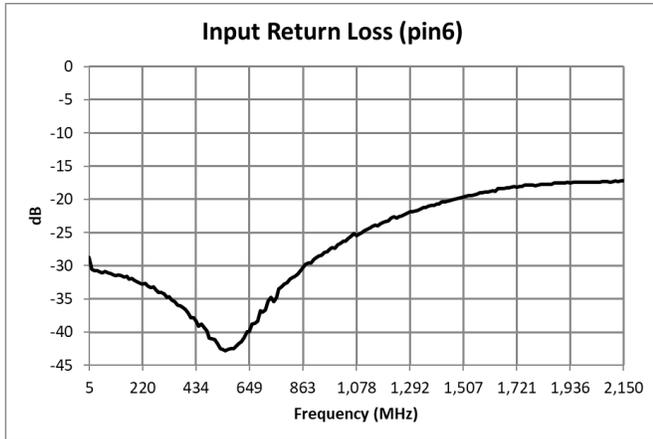


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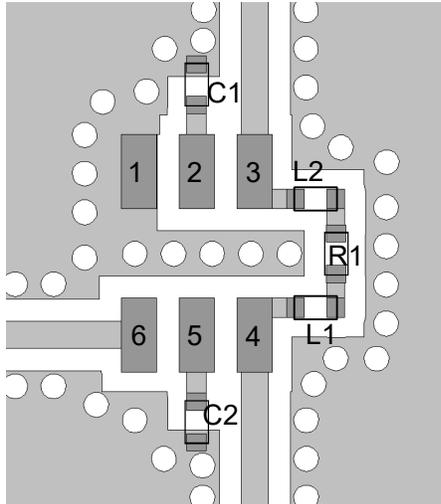
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PCB Layout⁷

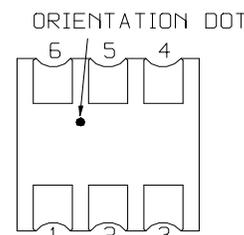
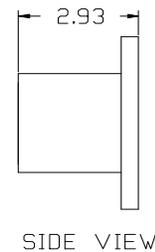
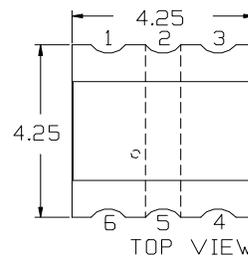


7. FR4 dielectric 1.6mm, GCWG W=0.7mm G=0.57mm

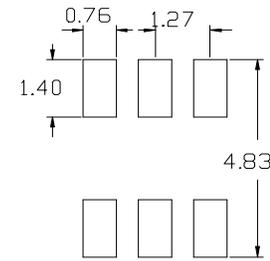
Parts List

Part	Value	Case Style
R1	240Ω +/-1%	0402
C1 & C2	0.5pF +/-5%	0402
L1 & L2	8.2nH +/-2%	0402

Outline Drawing^{8,9,10,11}



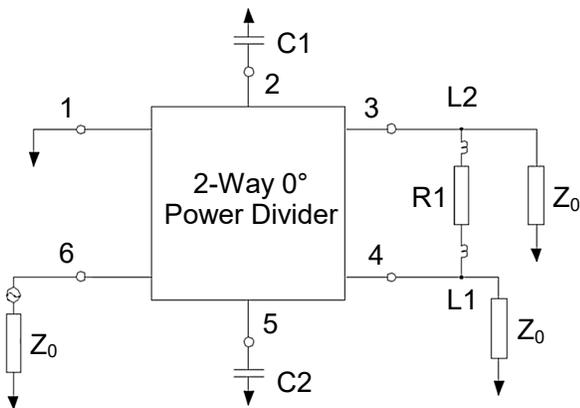
BOTTOM VIEW



FOOTPRINT FOR PCB DESIGN

- 8. Dimensions in mm.
- 9. Tolerance: ±0.2mm unless otherwise noted.
- 10. Model number and lot code printed on reel.
- 11. Plating finish: ENIG on both sides, 0.05 to 0.1μm gold over 3 to 6μm nickel

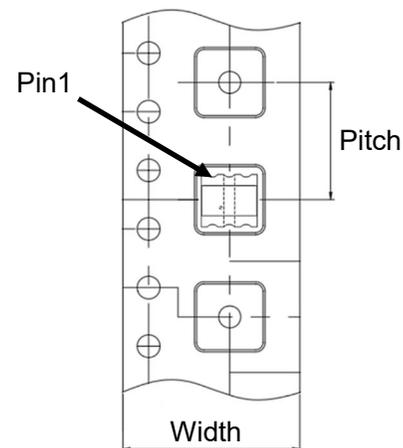
Application Schematic



Tape & Reel Information

Parameter	Units	Value
Qty per reel	-	2000
Reel Size	mm	330
Tape Width	mm	12.0
Pitch	mm	8.0
Orientation	-	F18
Reference Application Note ANI-019 for orientation		

Carrier Tape Orientation



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DC-0001199

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