

Features

- Broadband: 2 - 20 GHz
- Low insertion Loss: 1 dB
- High Isolation: 15 dB Typical
- Lead-Free 3 mm 16 Lead QFN Package

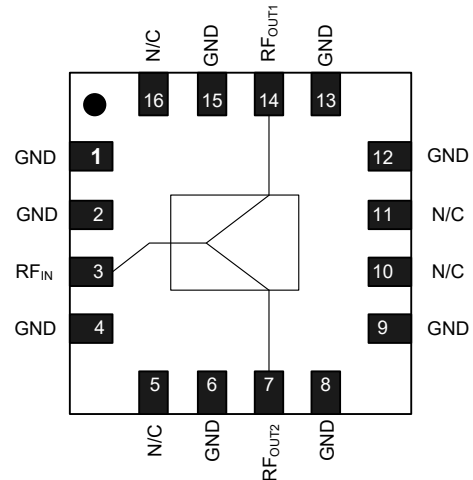
Applications

- Test and Measurement
- Mil Comms
- Multi-band Radios

Description

The MAPD-011062 is a full integrated power divider offering best in class isolation over the entire 2 - 20 GHz band.

Functional Schematic



Pin Configuration

Pin #	Function
1, 2, 4, 6, 8, 9, 12, 13, 15	Ground
3	Input
5, 10, 11, 16	N/C ³
7	Output 2
14	Output 1
17	Paddle ⁴

Ordering Information^{1,2}

Part Number	Package
MAPD-011062-TR0500	500 Piece Reel
MAPD-011062-SB1	Sample Board

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

3. MACOM recommends connecting N/C pin to ground.
4. The exposed pad centered on the package bottom must be connected to PCB ground with low electrical and thermal resistances.

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

Power Divider 2 - 20 GHz



MAPD-011062

Rev. V3

Electrical Specifications: Freq. = 2 - 20 GHz, $T_A = 25^\circ\text{C}$, $Z_0 = 50 \Omega$, $P_{IN} = 0 \text{ dBm}$

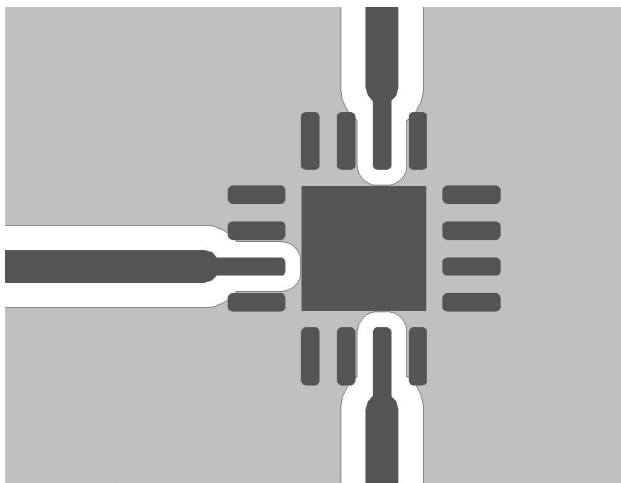
Parameter	Test Condition	Units	Min.	Typ.	Max.
Insertion Loss	2 - 13 GHz 13 - 18 GHz 18 - 20 GHz	dB	—	1	1.5 2.25 2.75
Amplitude Balance	2 - 20 GHz	dB	—	0.2	—
Phase Balance	2 - 20 GHz	°	—	2	—
Isolation	2 - 20 GHz	dB	—	15	—
Input Return Loss	2 - 20 GHz	dB	—	15	—
Output Return Loss	2 - 20 GHz	dB	—	17	—

Absolute Maximum Ratings^{5,6}

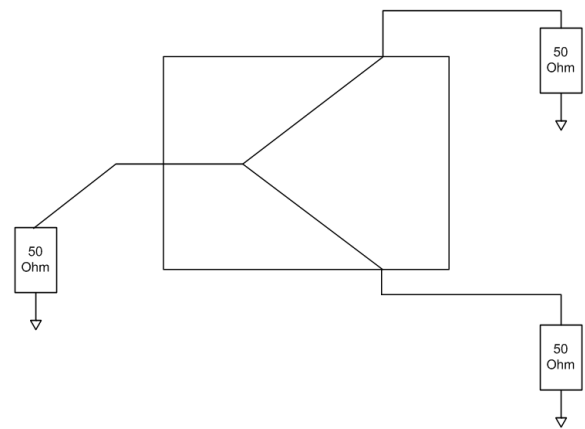
Parameter	Absolute Maximum
Input RF Power ⁷	3 W
DC Current	500 mA
Operating Temperature	-40°C to +105°C
Storage Temperature	-65°C to +150°C

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

PCB Layout

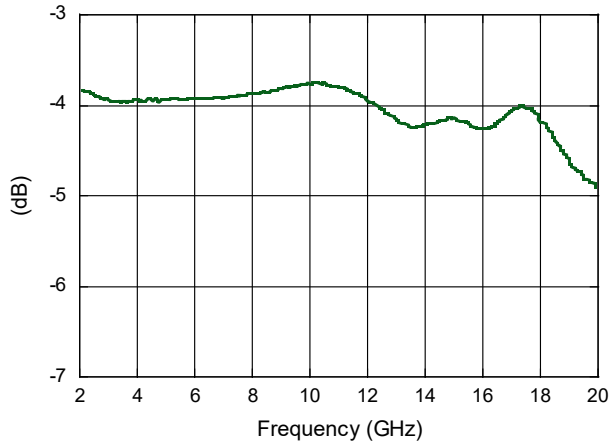


Application Schematic

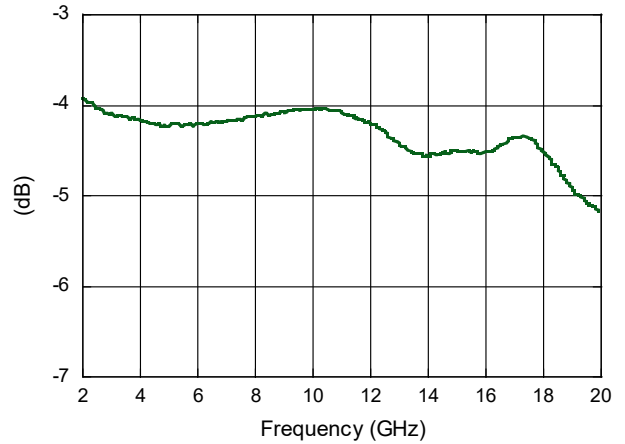


Typical Performance Curves

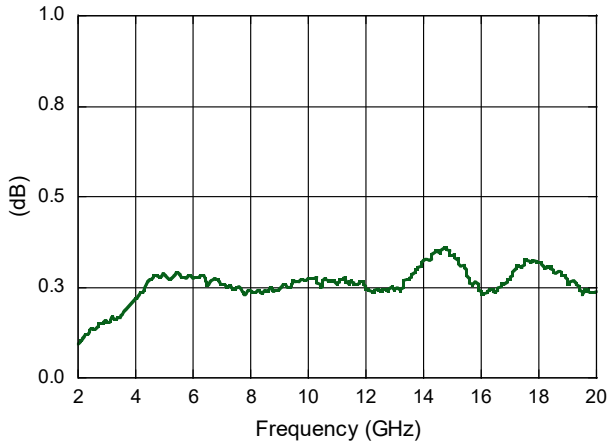
Insertion Loss 1 (ref. level -3 dB)



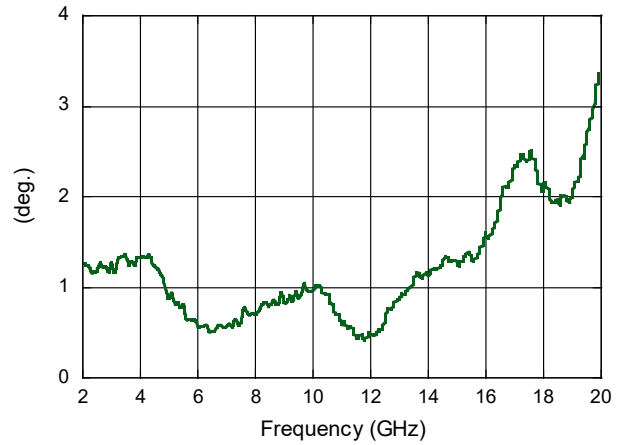
Insertion Loss 2 (ref. level -3 dB)



Amplitude Balance



Phase Balance



Power Divider 2 - 20 GHz

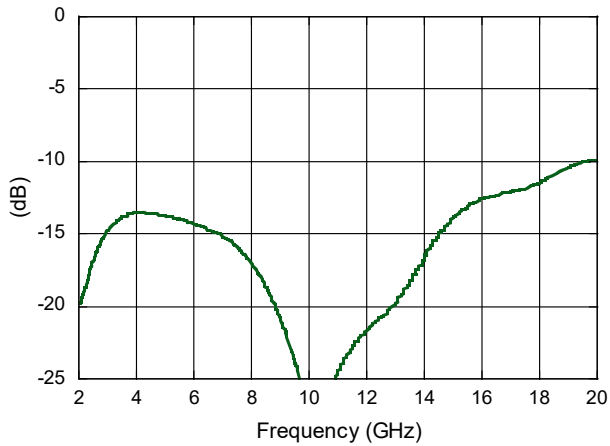


MAPD-011062

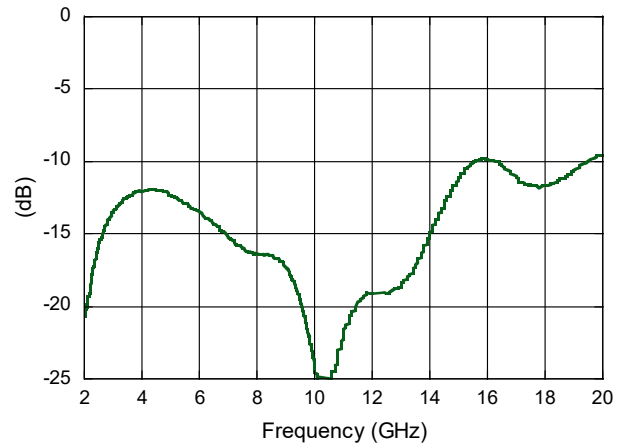
Rev. V3

Typical Performance Curves:

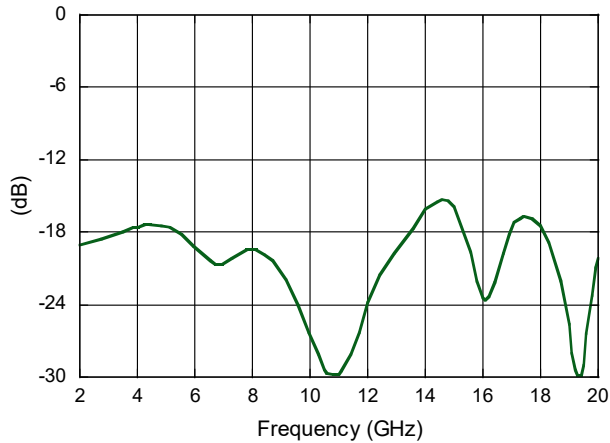
Isolation



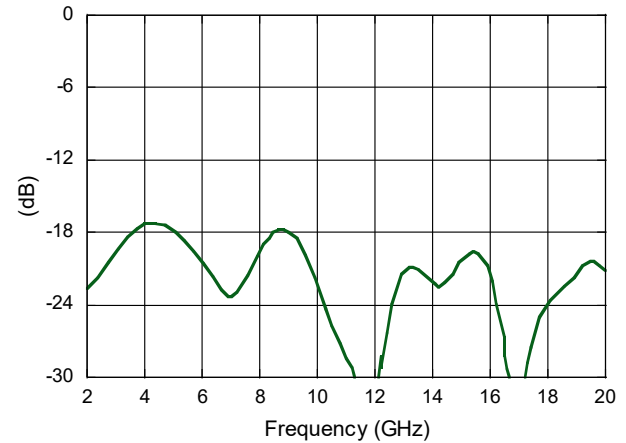
Input Return Loss



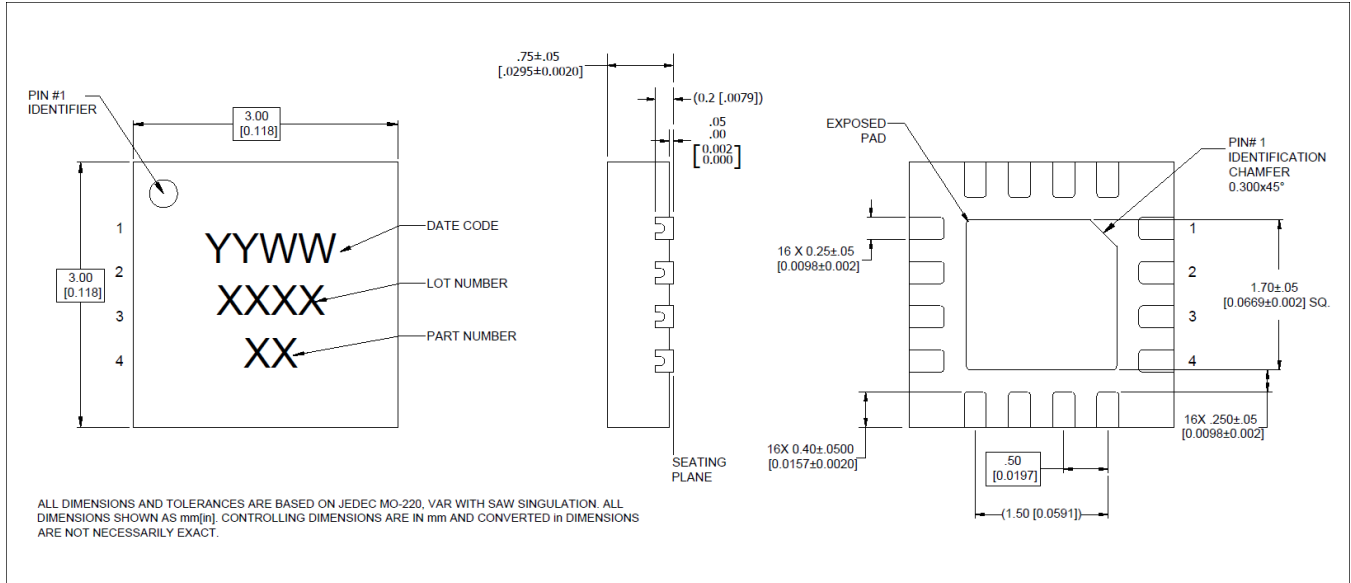
Output Return Loss 1



Output Return Loss 2



Lead-Free 3 mm 16-Lead PQFN[†]



[†] Reference Application Note S2083 for lead-free solder reflow recommendations.
Meets JEDEC moisture sensitivity level (MSL) 3 requirements in accordance to JEDEC J-STD-020D.
Plating is 100% matte tin over copper.
Tolerance is ±0.05 mm unless otherwise noted.

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