

Power Divider Bare Die

2 - 20 GHz



MAPD-011062-DIE

Rev. V1

Features

- Broadband: 2 - 20 GHz
- Low insertion Loss: 2 dB
- High Isolation: 20 dB
- Bare Die
- RoHS* Compliant

Applications

- Multimarket

Description

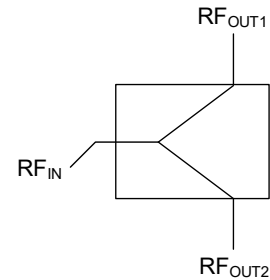
The MAPD-011062 is a full integrated 2 - 20 GHz power divider. Offering best in class RF performance in a wire bondable bare die.

Ordering Information^{1,2}

Part Number	Package
MAPD-011062-DIEPPR	Bulk Samples

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

Functional Block



Pin Configuration^{3,4}

Pin Name	Description
RF _{IN}	Input
RF _{OUT2}	Output 2
RF _{OUT1}	Output 1
GND	Ground

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.

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

Parameter	Test Conditions Frequency (GHz)	Units	Min.	Typ.	Max.
Insertion Loss	2 - 13	dB	—	1	1.25
	13 - 18				2.00
	18 - 20				2.25
Amplitude Balance	2 - 13	dB	—	0.2	0.4
	13 - 18				0.6
	18 - 20				0.6
Phase Balance	2 - 13	°	—	2	4
	13 - 18				6
	18 - 20				10
Input Return Loss	2-20	dB	—	15	—
Output Return Loss	2-20	dB	—	20	—
Isolation	2 - 13	dB	—	15	11
	13 - 18				9
	18 - 20				8

Absolute Maximum Ratings @ $+25^\circ\text{C}$ ^{5,6}

Parameter	Absolute Maximum
Input RF Power ⁶	1 W
DC Current	0 A
Operating Temperature	-40°C to $+105^\circ\text{C}$

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.

Handling Procedures

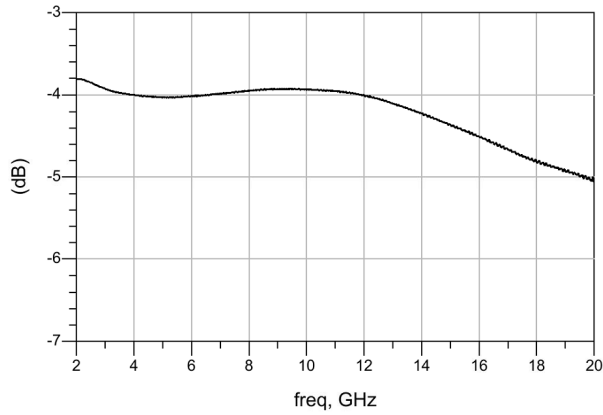
Please observe the following precautions to avoid damage:

Static Sensitivity

These electronic devices are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices. The ESD JEDEC classification is Class 1B HBM.

Typical Performance Curves

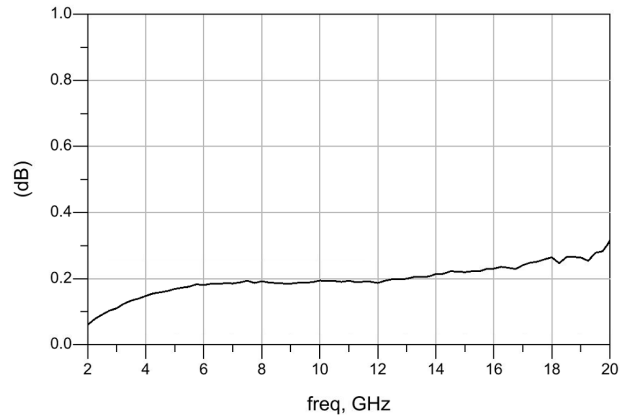
Insertion Loss 1 (ref. level -3 dB)



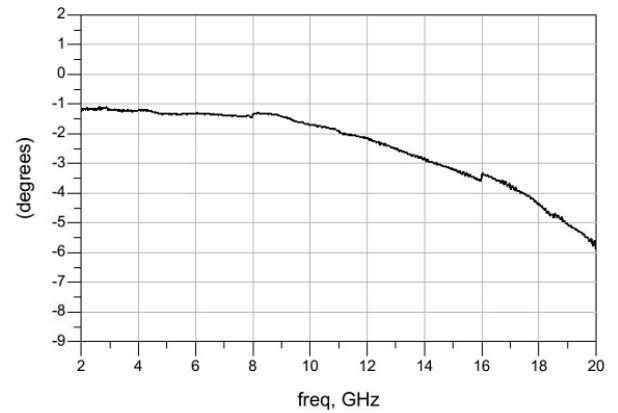
Insertion Loss 2 (ref. level -3 dB)



Amplitude Balance



Phase Balance



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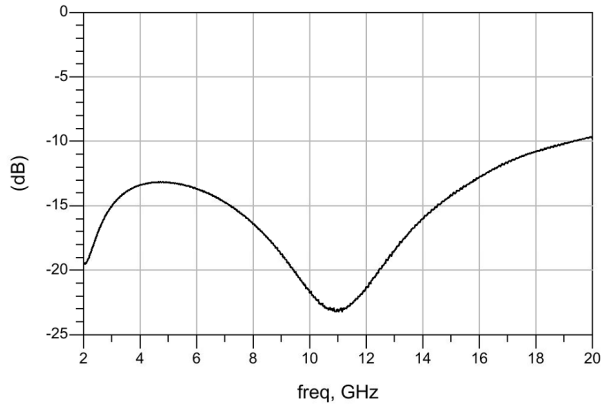


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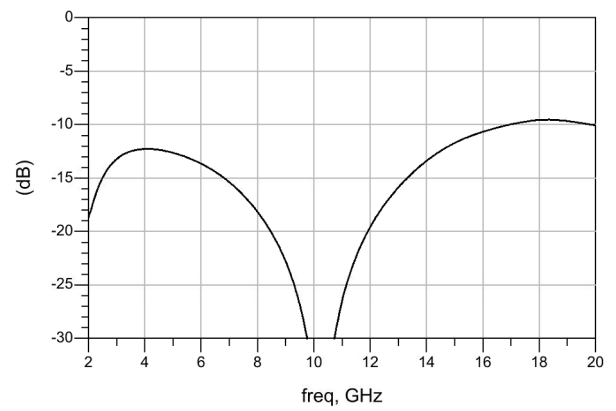
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Typical Performance Curves

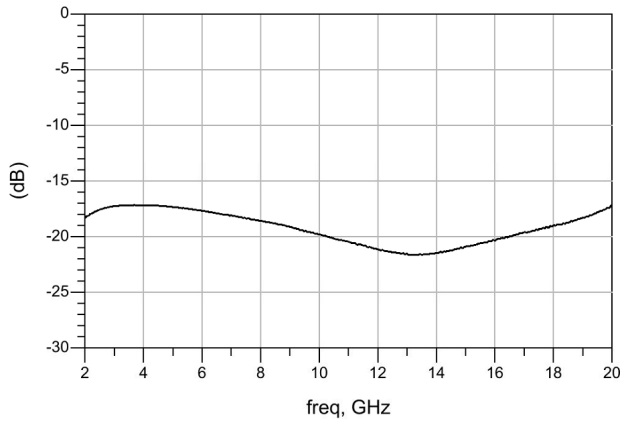
Isolation



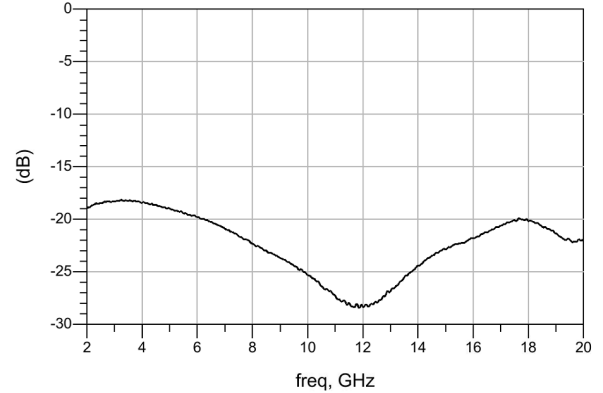
Input Return Loss



Output Return Loss 1



Output Return loss 2



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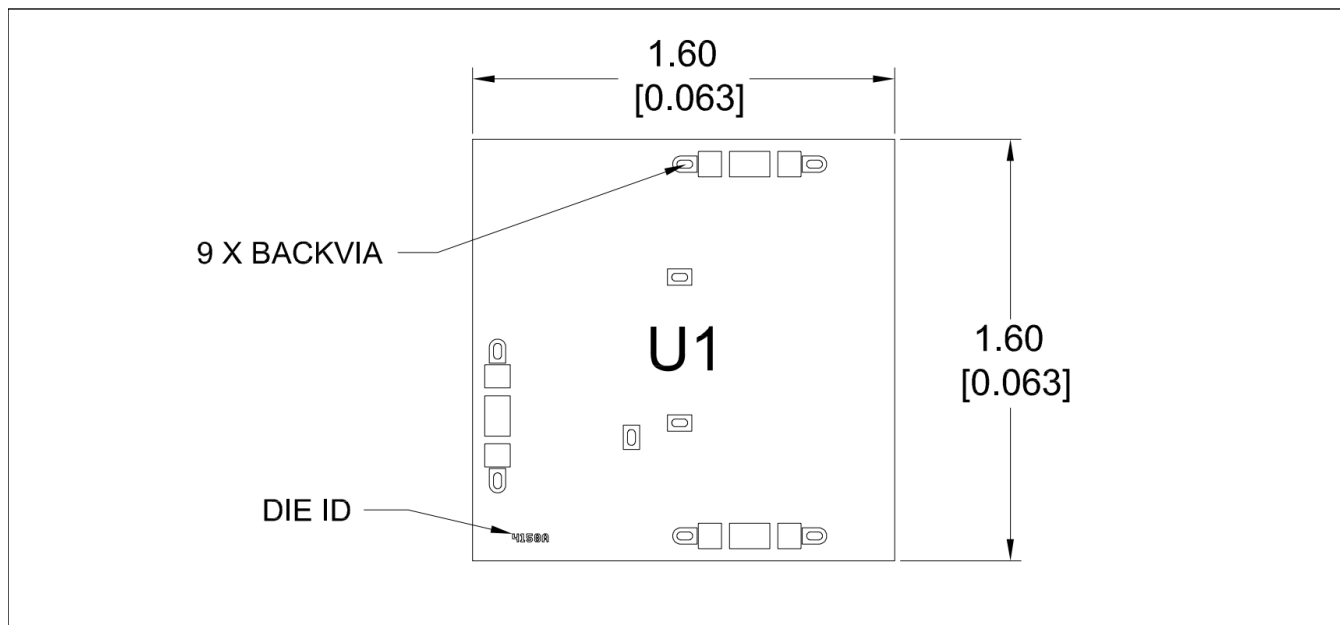
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Bare Die†



† Die exterior dimensions are street-center to street-center, nominal kerf, +/- 20 µm tolerance
Bond pad and backside metallization is gold plated

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