Low Cost Six-Way Power Splitter/Combiner 1700 - 2000 MHz



Rev. V2

Features

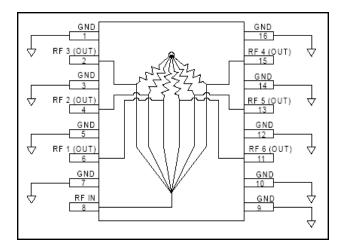
- Small Size, Low Profile •
- Superior Repeatability •
- Insertion Loss: 1.1 dB Typical
- Isolation: 22 dB Typical
- Low Cost
- SOW-16 Package

Description

M/A-COM's DS56-0002 is an IC-based monolithic power divider in a low cost SOW-16 lead free plastic package. This 6-way power divider is ideally suited for applications where small size, low profile and low cost, without sacrificing performance, are required. Typical applications include base stations, portables, and PCMCIA cards for wireless standards such as DCS-1800, PCN, PCS, DECT, and PHS. Available in Tape and Reel.

The DS56-0002 is fabricated using a passiveintegrated circuit process. The process features fullchip passivation for increased performance and reliability.

Functional Block Diagram¹



Pins 1, 3, 5, 7, 9, 10, 12, 14 and 16 must be DC and RF 1. grounded.

Pin Configuration

Pin No.	Function	Pin No.	Function
1	GND	9	GND
2	RF 3 (OUT)	10	GND
3	GND	11	RF 6 (OUT)
4	RF 2 (OUT)	12	GND
5	GND	13	RF 5 (OUT)
6	RF 1 (OUT)	14	GND
7	GND	15	RF 4 (OUT)
8	RF IN	16	GND

Ordering Information

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Part Number	Package	
DS56-0002	Bulk Packaging	
DS56-0002-TR	1000 piece reel	
DS56-0002SAM	Sample Test Board	

Note: Reference Application Note M513 for reel size information.

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and/or prototype measurements. Commitment to develop is not guaranteed. PRELIMINARY: Data Sheets contain information regarding a product M/A-COM Technology Solutions has under development. Performance is based on engineering tests. Specifications are typical. Mechanical outline has been fixed. Engineering samples and/or test data may be available. Commitment to produce in volume is not guaranteed.

is considering for development. Performance is based on target specifications, simulated results,

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DS56-0002



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Electrical Specifications: $T_A = 25^{\circ}C$, $Z_0 = 50\Omega$

Parameter	Units	Min	Тур	Max
Insertion Loss above 7.8 dB	dB	_	1.2	1.5
Isolation	dB	18	22	—
VSWR	—	_	1.4:1	1.8:1
Amplitude Balance	dB	_	0.5	1.0
Phase Balance	Deg.	_	8	15

Absolute Maximum Ratings ^{2,3}

Parameter	Absolute Maximum		
Input Power ⁴	1 W CW		
Operating Temperature	-40°C to +85°C		
Storage Temperature	-65°C to +150°C		

2. Exceeding any one or combination of these limits may cause permanent damage to this device.

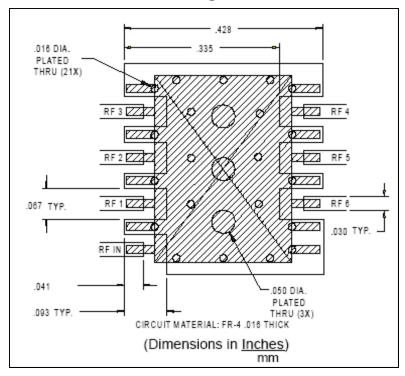
- M/A-COM does not recommend sustained operation near these survivability limits.
- 4. With internal load dissipation of 0.125 W maximum.

Handling Procedures

Please observe the following precautions to avoid damage:

Static Sensitivity

GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.



Recommended PCB Configuration

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DS56-0002

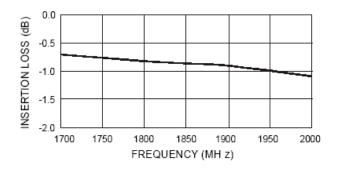
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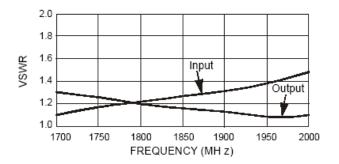
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Typical Performance Curves

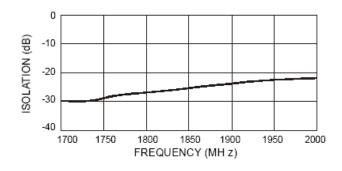
Insertion Loss vs. Frequency



VSWR vs. Frequency



Isolation vs. Frequency



3

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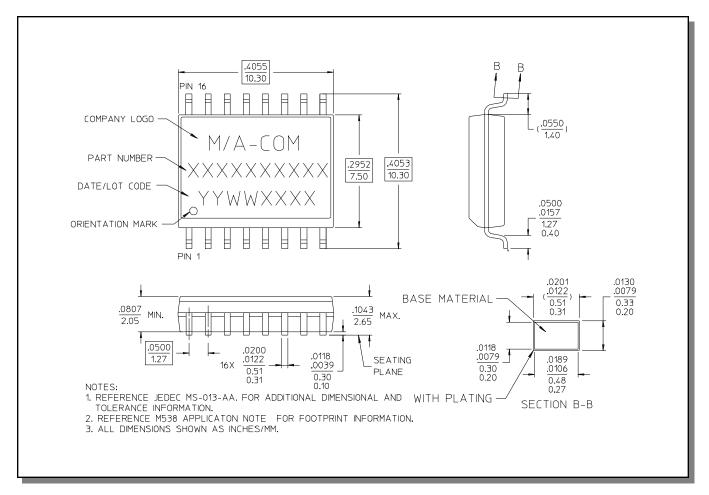
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SOW-16[†]



[†] Reference Application Note M538 for lead-free solder reflow recommendations.

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