

Features

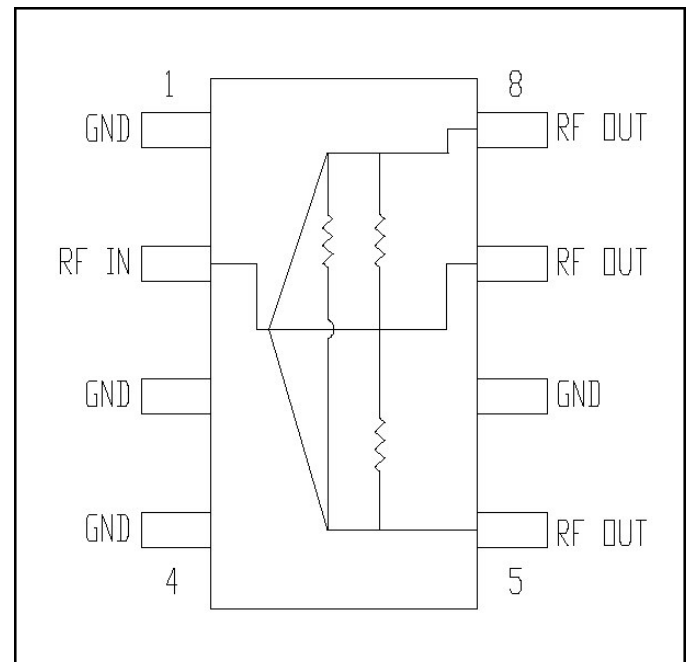
- Small Size and Low Profile
- Excellent Insertion Loss 0.6 dB Typical
- Superior Repeatability
- Low Cost
- CSM, AMPS, CDPD, ARDIS, RAM Frequency Coverage
- SOIC-8 Package

Description

M/A-COM's DS53-0001 is an IC-based monolithic power divider in a low cost SOIC-8 plastic package. This 3-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 cellular applications. Available in Tape and Reel.

The DS53-0001 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram¹



1. All unused pins must be RF and DC grounded.

Ordering Information

Part Number	Package
DS53-0001	Bulk Packaging
DS53-0001-TR	1000 piece reel
DS53-0001SAM	Sample Test Board

Note: Reference Application Note M513 for reel size information.

Pin Configuration

Pin No.	Function	Pin No.	Function
1	GND	5	RF OUT
2	RF IN	6	GND
3	GND	7	RF OUT
4	GND	8	RF OUT

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

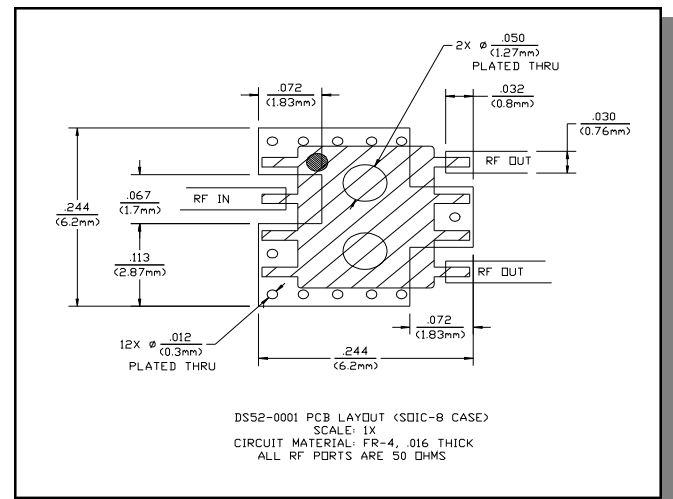
Parameter	Units	Min	Typ	Max
Insertion Loss above 4.78 dB	dB	—	0.6	0.7
Isolation	dB	15	18	—
VSWR	—	—	1.4:1	1.6:1
Amplitude Balance	dB	—	0.6	0.8
Phase Balance	Deg	—	2	4

Absolute Maximum Ratings ^{2,3}

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

- 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.
- With internal load dissipation of 0.125 W Maximum.

Recommended PCB Configuration



Handling Procedures

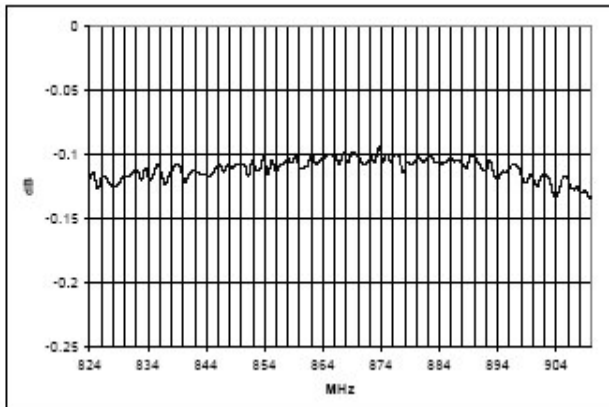
Please observe the following precautions to avoid damage:

Static Sensitivity

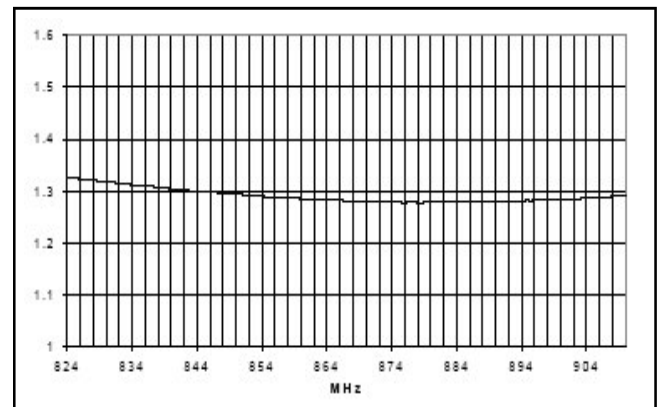
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Typical Performance Curves

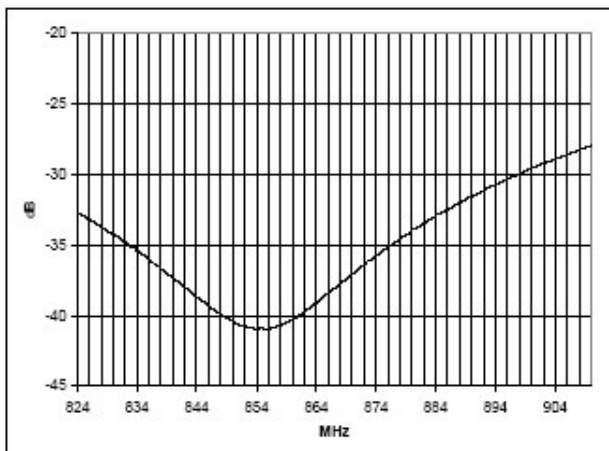
Insertion Loss vs. Frequency



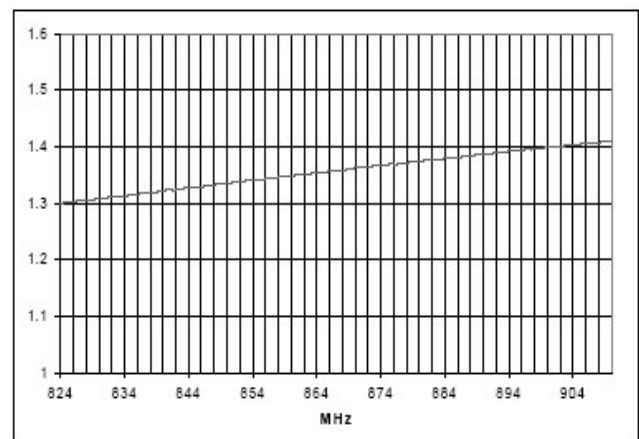
VSWR Input vs. Frequency



Isolation vs. Frequency



VSWR Output vs. Frequency



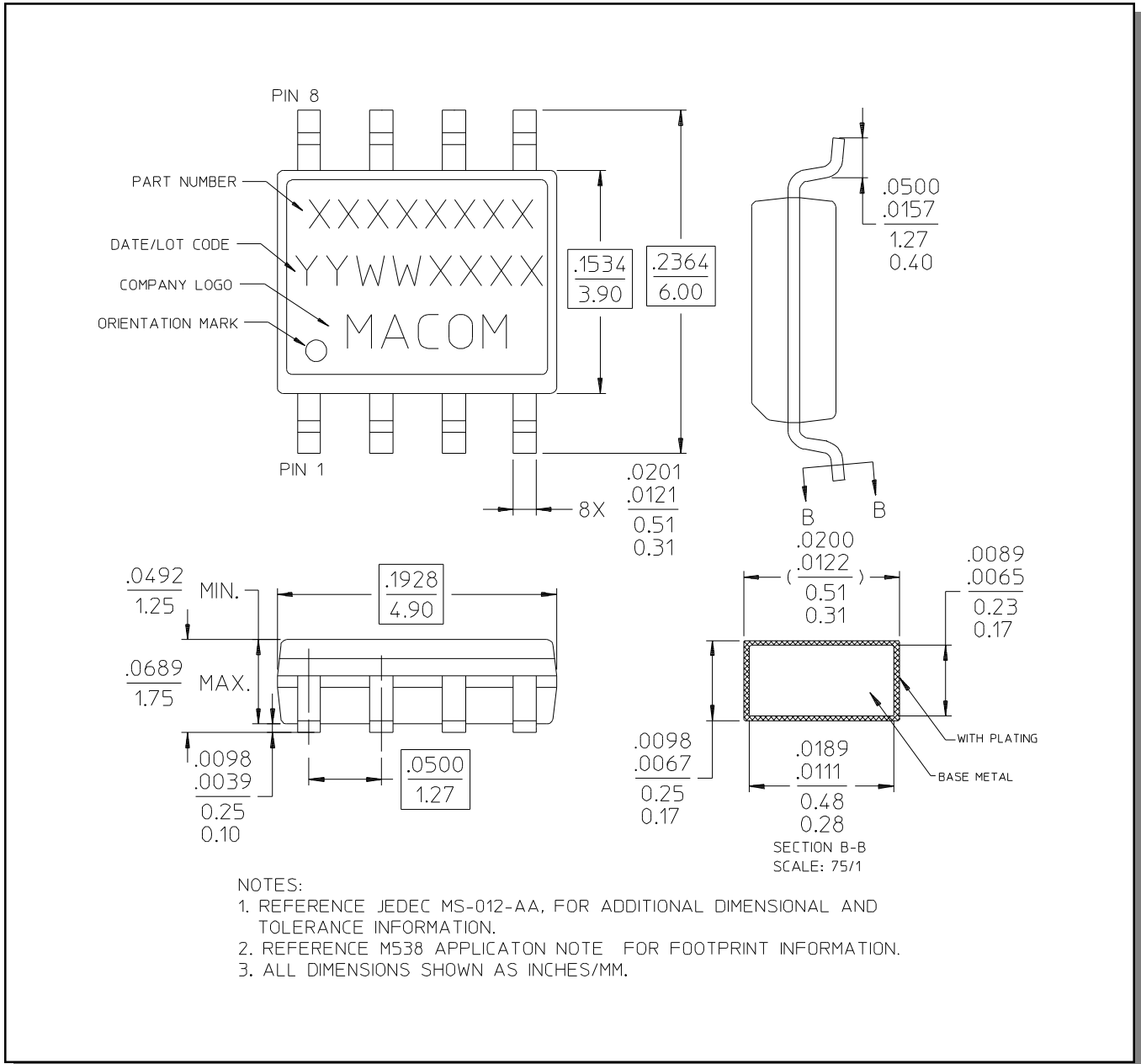
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SOIC-8[†]



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