DS58-0001

Tyco Electronics

Low Cost Eight-Way GMIC SMT Power Divider 824 – 960 MHz

M/A-COM Products
Rev. 2

Features

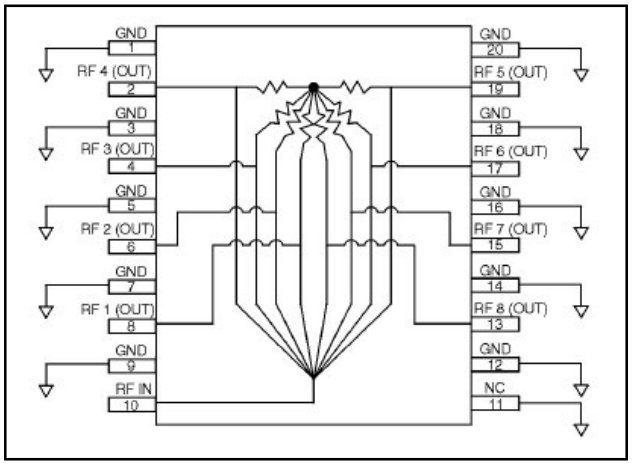
- Small Size, Low Profile
- Superior Repeatability (Lot-to-Lot Variation)
- Typical Isolation: 30 dB
- Typical Insertion Loss: 1.5 dB
- Low Cost
- 1 Watt Power Handling
- QSOP-20 Package

Description

M/A-COM's DS58-0001 is an IC-based monolithic power divider in a low cost QSOP-20 plastic package. This 8-way power divider is ideally suited for applications where PCB real estate is at a premium and part count reduction and cost are critical. Typical applications include base station switching networks and other cellular equipment, including subscriber units. Available in tape and reel.

The DS58-0001 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

Functional Block Diagram



1. Pins 1, 3, 5, 7, 9, 12, 14, 16, 18, and 20 should be RF and DC grounded.

Pin Configuration

Pin No.	Function	Pin No.	Function
1	GND	11	NC
2	RF 4 (OUT)	12	GND
3	GND	13	RF 8 (OUT)
4	RF 3 (OUT)	14	GND
5	GND	15	RF 7 (OUT)
6	RF 2 (OUT)	16	GND
7	GND	17	RF 6 (OUT)
8	RF 1 (OUT)	18	GND
9	GND	19	RF 5 (OUT)
10	RF IN	20	GND

Ordering Information

Part Number	Package
DS58-0001	Bulk Packaging
DS58-0001-TR	1000 piece reel
DS58-0001SAM	Sample Test Board

Note: Reference Application Note M513 for reel size information.

• **North America** Tel: 800.366.2266 / Fax: 978.366.2266
• **Europe** Tel: 44.1908.574.200 / Fax: 44.1908.574.300
• **Asia/Pacific** Tel: 81.44.844.8296 / Fax: 81.44.844.8298
Visit www.macom.com for additional data sheets and product information.

Electrical Specifications: T_A = 25°C, Z_0 = 50Ω

Parameter	Units	Min	Typ	Max
Insertion Loss Above 9.0 dB	dB	—	1.5	2.0
Isolation	dB	20	30	—
VSWR	—	—	1.7:1	2.0:1
Amplitude Balance	dB	—	0.4	0.8
Phase Balance	Deg.	—	5	10

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

2. Exceeding any one or combination of these limits may cause permanent damage to this device.
3. M/A-COM does not recommend sustained operation near these survivability limits.
4. With internal load dissipation of 0.125 W maximum.

Handling Procedures

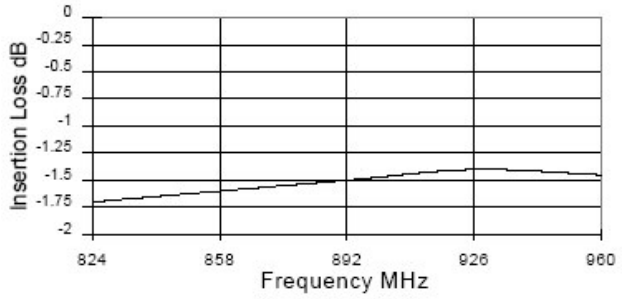
Please observe the following precautions to avoid damage:

Static Sensitivity

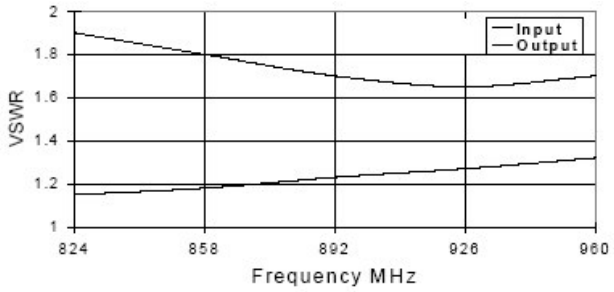
GMIC Circuits are sensitive to electrostatic discharge (ESD) and can be damaged by static electricity. Proper ESD control techniques should be used when handling these devices.

Typical Performance Curves @ 25ºC

Insertion Loss vs. Frequency



VSWR vs. Frequency



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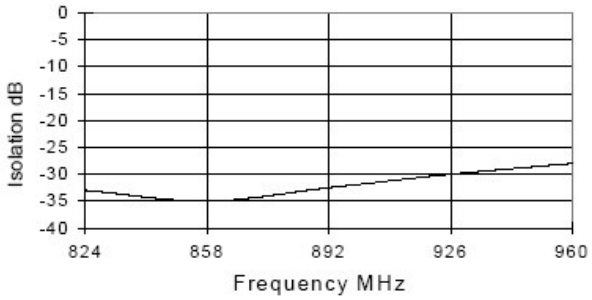
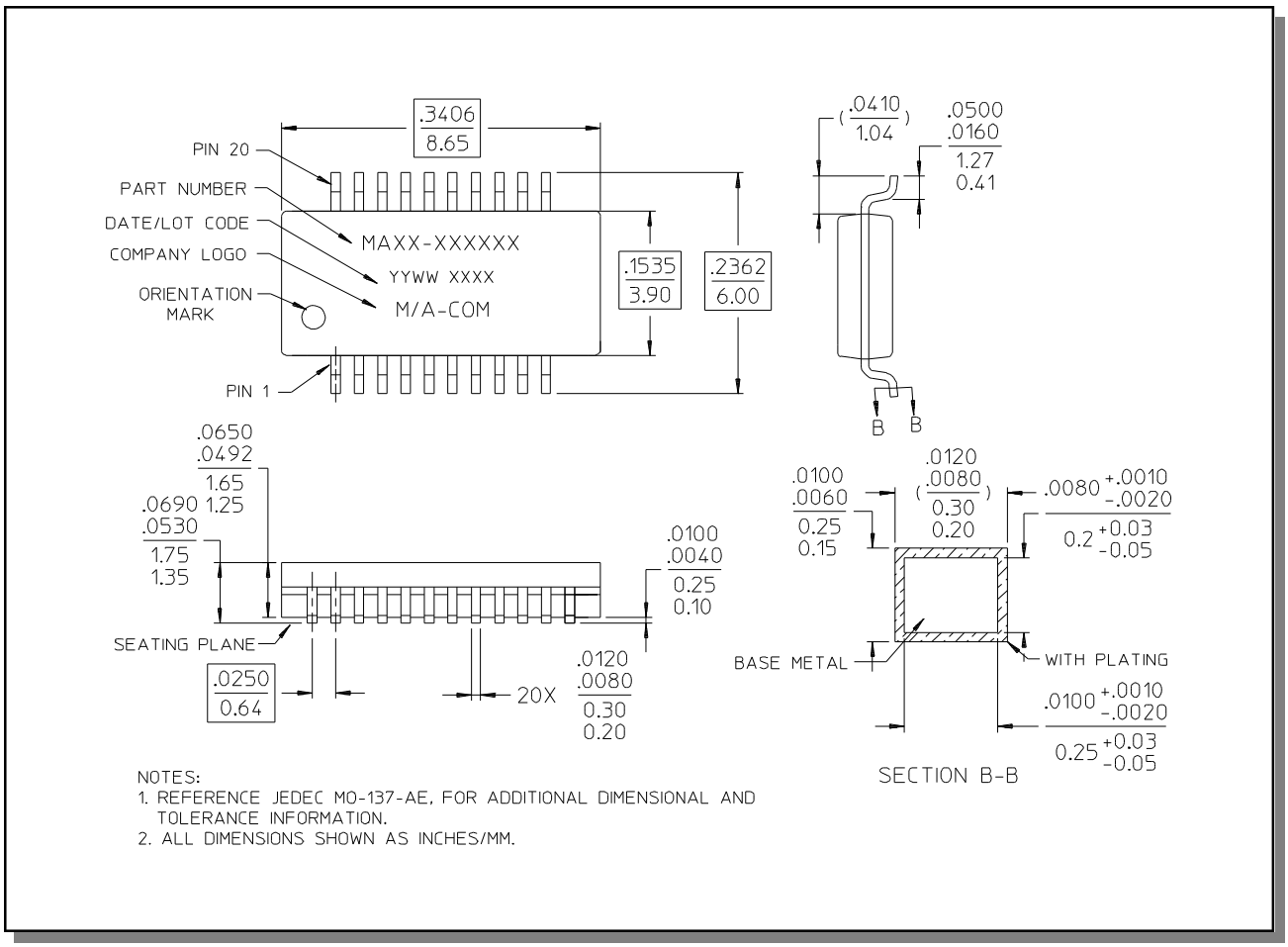
Typical Performance Curves @ 25ºC

Isolation vs. Frequency



QSOP-20†



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

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