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

Features

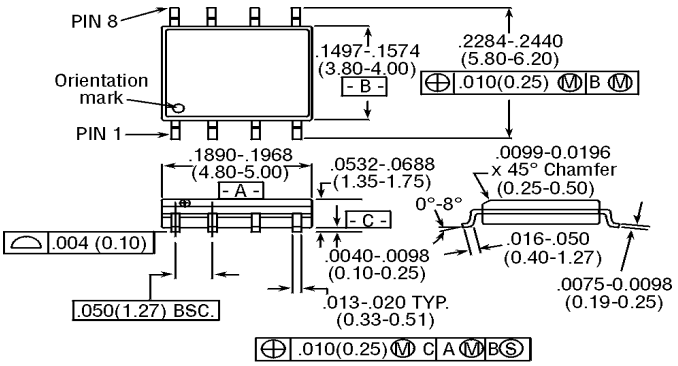
- Low Cost
- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Superior Repeatability (Lot-to-Lot Variation)
- Typical Insertion Loss: 0.8 dB
- Typical Isolation: 24 dB
- Typical Amplitude Balance: 0.3 dB

Description

M/A-COM's DS54-0005 is an IC-based monolithic power divider using M/A-COM's GMIC technology in a low cost SOIC-8 plastic package. This 4-way power divider is ideally suited for applications where PCB real estate is at a premium and standard packaging for automated assembly and low cost are critical. Typical applications include infrastructure, portables, and peripheral devices (PCMCIA cards) for wireless standards such as GSM, AMPS, CDPD, RAM, and ARDIS. Available in tape and reel.

The DS54-0005 is fabricated using a passive-integrated circuit process. The process features full-chip passivation for increased performance and reliability.

SOIC-8



8- Lead SOP outline dimensions
Narrow body .150
(All dimensions per JEDEC No. MS-012-AA, Issue C)
Dimensions in ( ) are in mm.

Unless Otherwise Noted: .xxx = ± 0.010 (.xx = ± 0.25)
.xx = ± 0.02 (.x = ±0.5)

Ordering Information

Part Number	Package
DS54-0005	SOIC 8-Lead Plastic Package
DS54-0005-TR	Forward Tape and Reel[1]
DS54-0005-RTR	Reverse Tape and Reel[1]

1. If specific reel size is required, consult factory for part number assignment.

Typical Electrical Specifications[1], T_A= +25ºC

Parameters	Units	Min.	Typ.	Max.
Insertion Loss Above 6.0 dB	dB	—	0.8	1.1
Isolation	dB	20	24	—
VSWR Input	—	—	1.4:1	1.7:1
Output	—	—	1.25:1	1.5:1
Amplitude Balance	dB	—	0.3	0.6
Phase Balance	°	—	3	6

1. All specifications apply with a 50-ohm source and load impedance.

M/A-COM Division of AMP Incorporated ■ North America: Tel. (800) 366-2266, Fax (800) 618-8883 ■ Asia/Pacific: Tel.+85 2 2111 8088, Fax +85 2 2111 8087
■ Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

www.macom.com

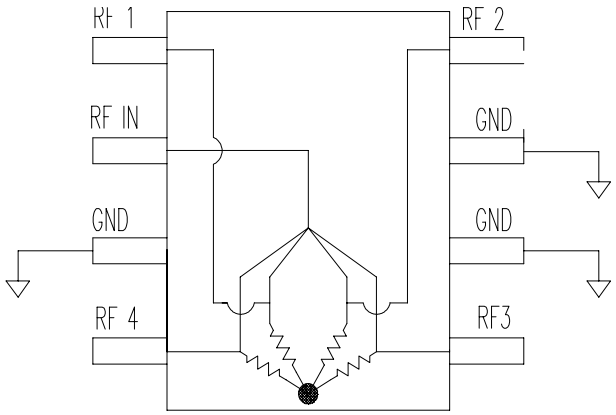
AMP and Connecting at a Higher Level are trademarks.
The preliminary specifications data sheet contains typical electrical specifications which may change prior to final introduction.

Absolute Maximum Ratings[1]

Parameter	Absolute Maximum
Input Power[2]	1W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to 150°C

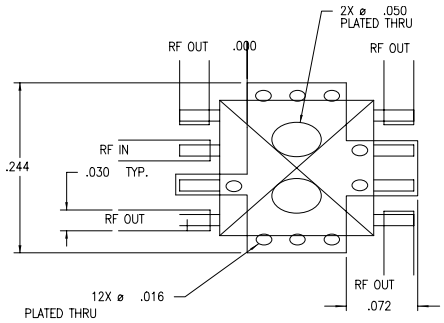
1. Exceeding these limits may cause permanent damage.
2. With internal load dissipation of 0.125 W maximum.

Functional Diagram



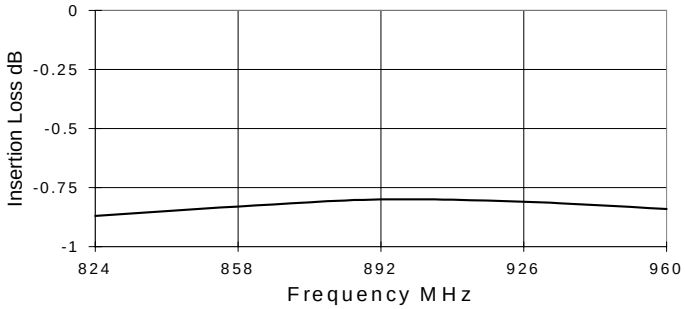
3 Pins 2, 6, and 7 must be DC and RF grounded.

Recommended PIN Configuration

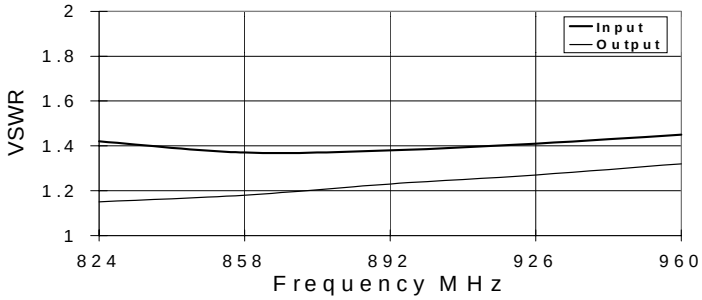


Typical Performance @ +25°C

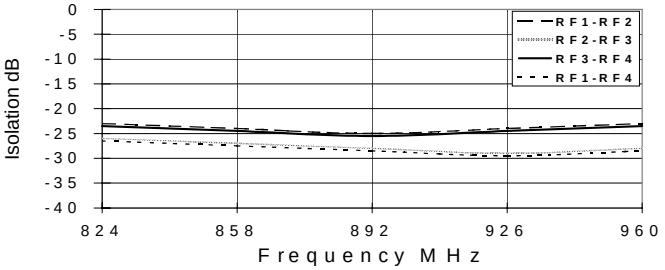
Insertion Loss vs. Frequency
(Dashed lines show amplitude balance window)



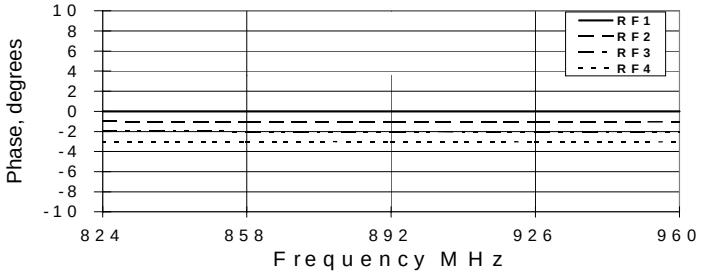
VSWR vs. Frequency



Isolation vs. Frequency



Phase Balance vs. Frequency
(Relative to RF1)



M/A-COM Division of AMP Incorporated ■ North America: Tel. (800) 366-2266, Fax (800) 618-8883 ■ Asia/Pacific: Tel.+85 2 2111 8088, Fax +85 2 2111 8087
■ Europe: Tel. +44 (1344) 869 595, Fax+44 (1344) 300 020

www.macom.com

AMP and Connecting at a Higher Level are trademarks.
The preliminary specifications data sheet contains typical electrical specifications which may change prior to final introduction.

Connecting at a HIGHER level.™
AMP