

## Low Cost Three-Way GMIC SMT Power Divider 1850 - 1990 MHz

**DS53-0004**

V1.02

### Features

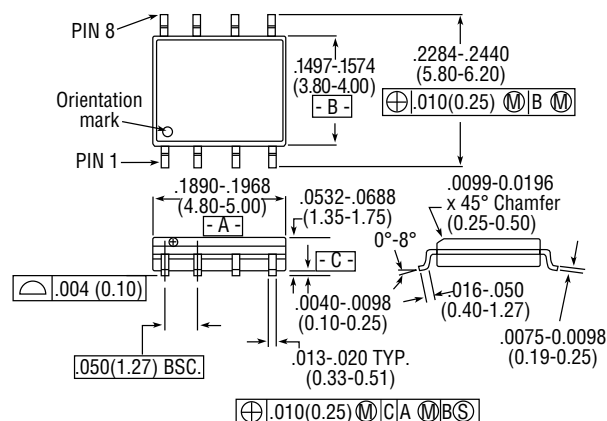
- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Excellent Amplitude and Phase Balance
- Superior Repeatability
- Typical Insertion Loss 0.8 dB
- Typical Isolation 24 dB
- 1 Watt Power Handling

### Description

M/A-COM's DS53-0004 is an IC based monolithic power divider using M/A-COM's GMIC technology in a low cost SOIC-8 plastic package. This 3-way power divider is ideally suited for applications where small size, low insertion loss, superior phase/amplitude tracking and low cost are required. Typical applications include personal communication systems and other communication applications where size and PCB real estate are at a premium. Available in tape and reel.

The DS53-0004 is fabricated using a passive-integrated circuit process. The process features full chip passivation for increased performance and reliability.

### SO-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 =  $\pm 0.010$  (.xx =  $\pm 0.25$ )  
.xx =  $\pm 0.02$  (.x =  $\pm 0.5$ )

### Ordering Information

| Part Number  | Package                     |
|--------------|-----------------------------|
| DS53-0004    | SOIC 8-Lead Plastic Package |
| DS53-0004TR  | Forward Tape and Reel*      |
| DS53-0004RTR | Reverse Tape and Reel*      |

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

### Typical Electrical Specifications<sup>1</sup>, T<sub>A</sub> = +25°C

| Parameter                   | Units | Min. | Typ.  | Max.  |
|-----------------------------|-------|------|-------|-------|
| Insertion Loss Above 4.8 dB | dB    | —    | 1.0   | 1.4   |
| Isolation                   | dB    | 17   | 21    | —     |
| VSWR                        | —     | —    | 1.8:1 | 2.0:1 |
| Amplitude Balance           | dB    | —    | 0.3   | 0.6   |
| Phase Balance               | °     | —    | 7     | 14    |

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

The Preliminary Specifications Data Sheet Contains Typical Electrical Specifications Which May Change Prior to Final Introduction.

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## Absolute Maximum Ratings<sup>1</sup>

| Parameter                | Absolute Maximum |
|--------------------------|------------------|
| Input Power <sup>2</sup> | 1 W CW           |
| Operating Temperature    | -40°C to +85°C   |
| Storage Temperature      | -65°C to +150°C  |

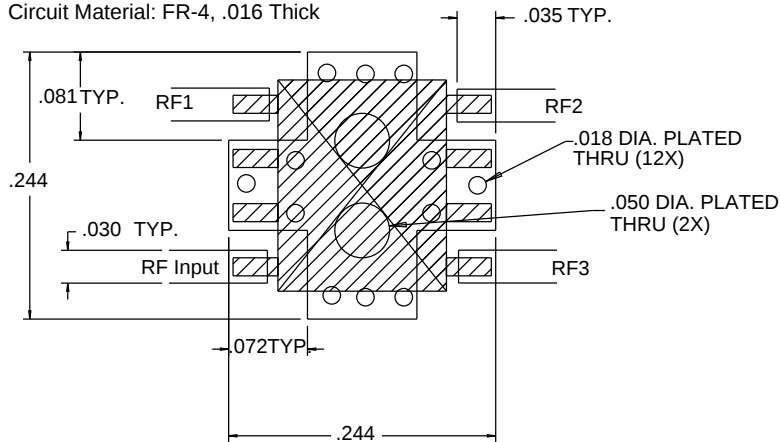
1. Exceeding these limits may cause permanent damage.

2. With internal load dissipation of 0.125 W maximum.

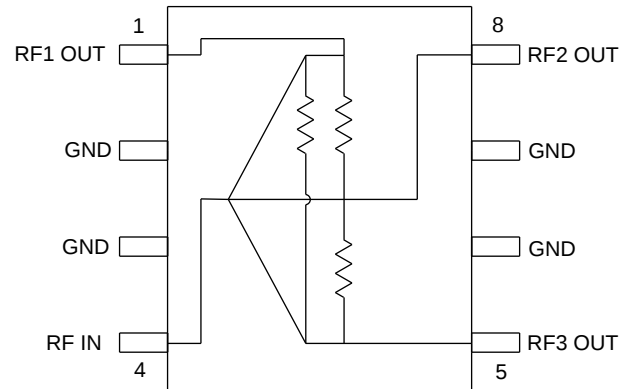
## Recommended PCB Configuration

(Dimensions in Inches)

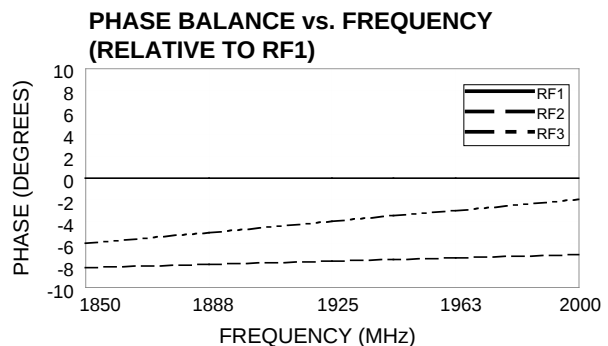
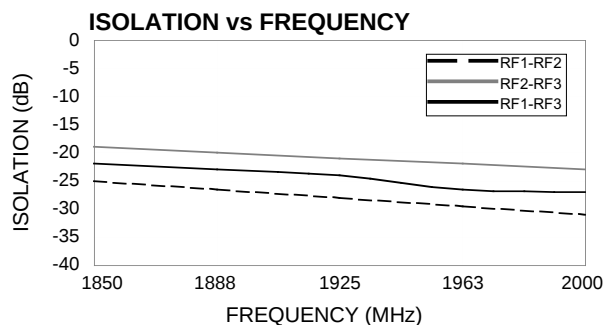
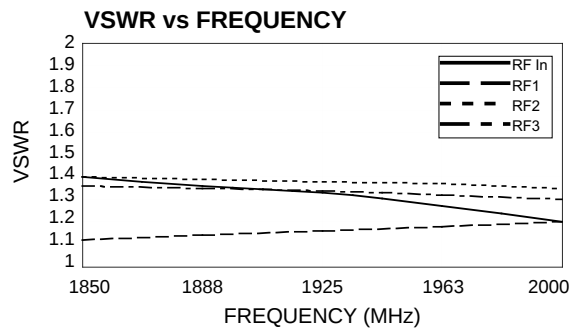
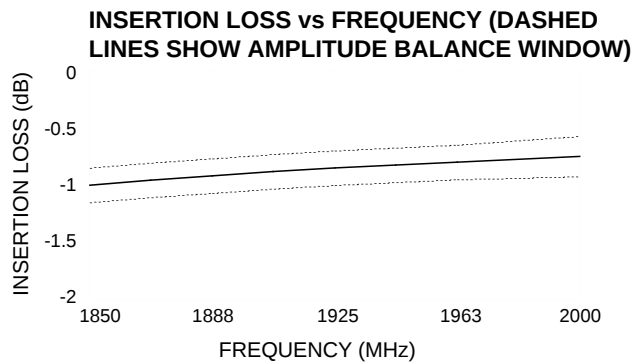
Circuit Material: FR-4, .016 Thick



## Functional Diagram



## Typical Performance @ +25°C



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