

# Low Cost Four-Way SMT Power Splitter/Combiner 2200 - 2500 MHz

## DS54-0004

V4.00

### Features

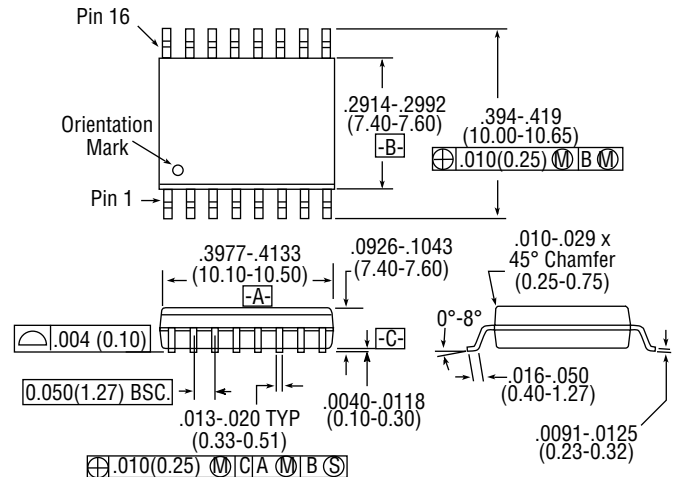
- Small Size and Low Profile
- Industry Standard SOW-16 SMT Plastic Package
- Superior Repeatability
- Insertion Loss: 1.0 dB Typical
- Isolation: 21 dB Typical
- Amplitude Balance: 0.2 dB Typical
- Low Cost

### Description

M/A-COM's DS54-0004 is an IC-based monolithic power splitter/combiner in a low cost SOW 16-lead plastic package. This four-way power splitter/combiner 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 data LAN/WAN and other applications using the 2200-2500 MHz frequency range. Available in tape and reel.

The DS54-0004 is fabricated using a passive-integrated circuit process. The process features full chip passivation for increased performance and reliability.

### SOW-16



16-Lead SOP outline dimensions  
Wide body (.300)

(All dimensions per JEDEC No. MS-013-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
DS54-0004	SOW 16-Lead Plastic Package
DS54-0004-TR	Forward Tape & Reel*
DS54-0004-RTR	Reverse Tape & 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 6.0 dB	dB		1.0	1.2
Isolation	dB	15	21	
VSWR Input			1.5:1	1.9:1
Output			1.4:1	1.7:1
Amplitude Balance	dB		0.2	0.5
Phase Balance	°		2	5

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

Specifications Subject to Change Without Notice.

M/A-COM, Inc.

North America: Tel. (800) 366-2266  
Fax (800) 618-8883

■ Asia/Pacific: Tel. +81 (03) 3226-1671  
Fax +81 (03) 3226-1451

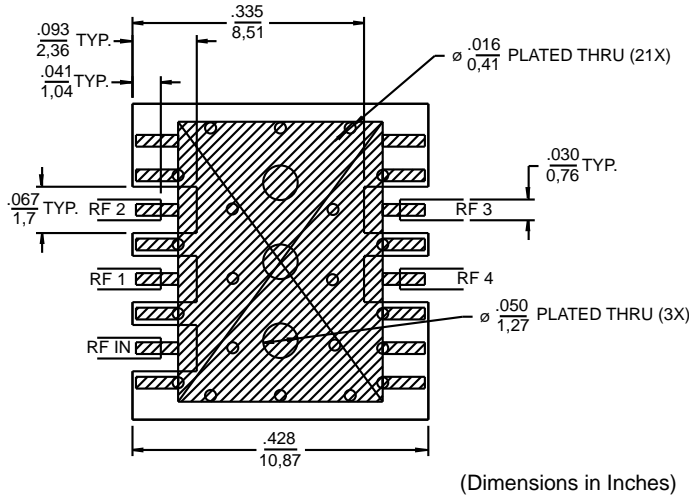
■ Europe: Tel. +44 (1344) 869 595  
Fax +44 (1344) 300 020

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

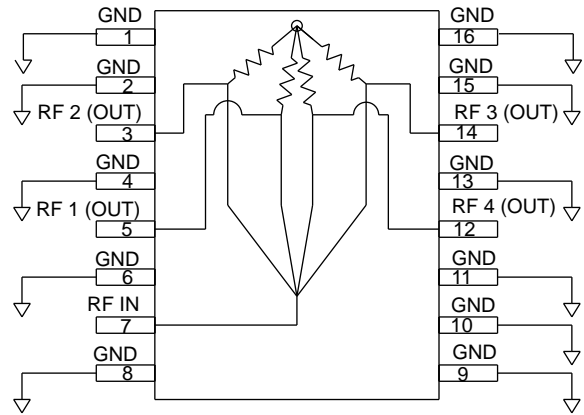
Parameter	Absolute Maximum
Input Power <sup>2</sup>	1 W CW
Operating Temperature	-40°C to +85°C
Storage Temperature	-65°C to +150°C

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

**Recommended PCB Configuration**



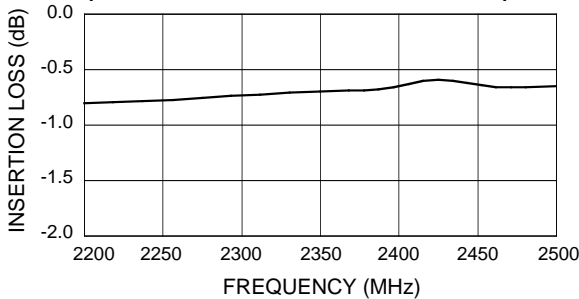
**Functional Diagram<sup>3</sup>**



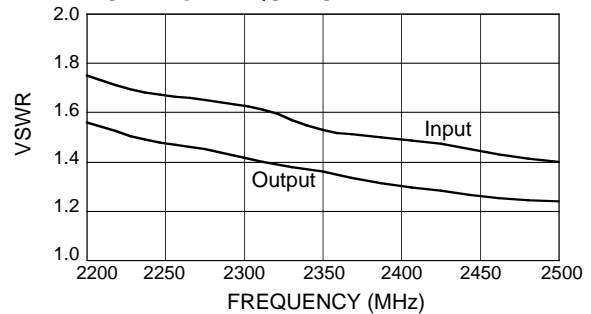
3. Pins 1, 2, 4, 6, 7, 8, 9, 10, 11, 13, 15 and 16 must be DC and RF grounded.

**Typical Performance @ +25°C**

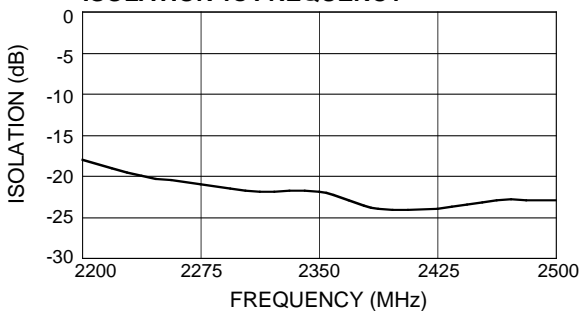
**INSERTION LOSS vs FREQUENCY  
(ABOVE THEORETICAL SPLIT LOSS)**



**VSWR vs FREQUENCY**



**ISOLATION vs FREQUENCY**



Specifications Subject to Change Without Notice.