

## Low Cost Five-Way GMIC SMT Power Divider 1700 - 2000 MHz

### DS55-0001

V1.00

### Features

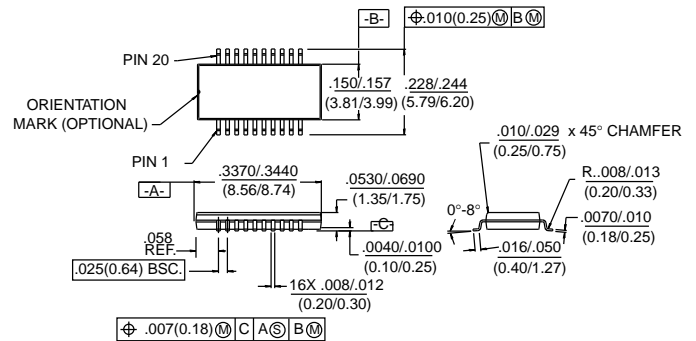
- Small Size, Low Profile
- Superior Repeatability ( Lot-to-Lot Variation)
- Industry Standard QSOP-20 SMT Plastic Package
- Typical Isolation: 30 dB
- Typical Insertion Loss: 0.7 dB
- Low Cost
- 1 Watt Power Handling

### Description

M/A-COM's DS55-0001 is an IC- based monolithic power divider using M/A-COM's GMIC technology in low cost QSOP-20 plastic packages. This 5-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 DS55-0001 is fabricated using a passive-integrated circuit process. The process features full chip passivation for increased performance and reliability.

### QSOP-20



20-Lead QSOP outline dimensions  
(All dimensions per JEDEC No. MS-137-AD, Issue C)  
Dimensions in ( ) are in mm.  
Unless Otherwise Noted: .XXX±.010 (.XX±0.25)  
.XX=.02 (.X±0.5)

### Ordering Information

Part Number	Package
DS55-0001	QSOP 20-Lead Plastic Package
DS55-0001-TR	Forward Tape and Reel*
DS55-0001-RTR	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

Parameters	Units	Min.	Typical	Max.
Insertion Loss Above 7.0 dB	dB		0.7	1.2
Isolation	dB	20	30	
VSWR Input			1.5:1	1.8:1
Output			1.2:1	1.4:1
Amplitude Balance	dB		0.2	0.6
Phase Balance	°		6	12

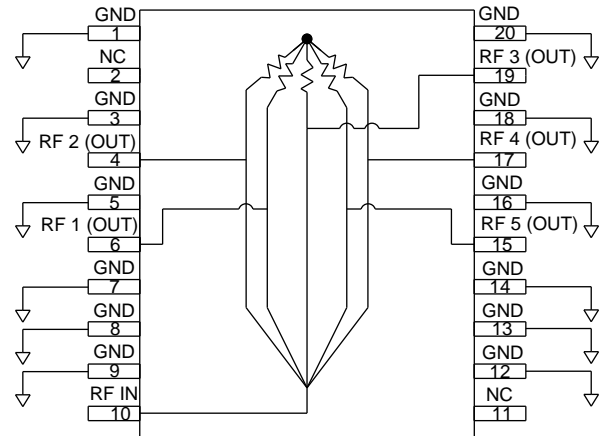
1. All specifications apply with a 50-ohm source and load impedance.

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

Parameter	Absolute Maximum
Input Power <sup>2</sup>	1W CW
Operating Temperature	- 40° 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.

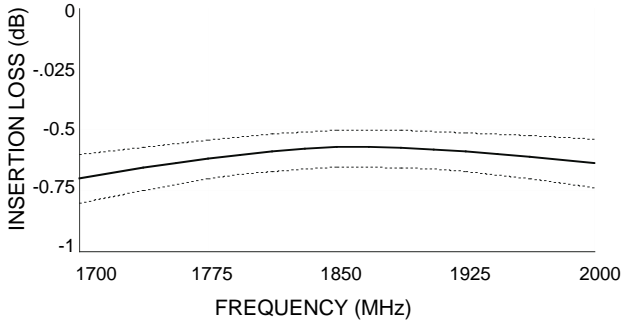
**Functional Diagram**



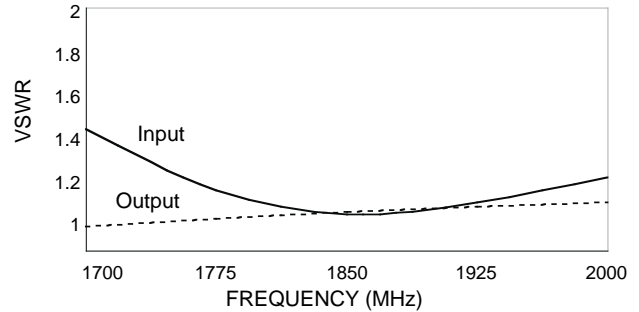
Pins labeled as ground should be DC and RF grounded.

**Typical Performance @ +25°C**

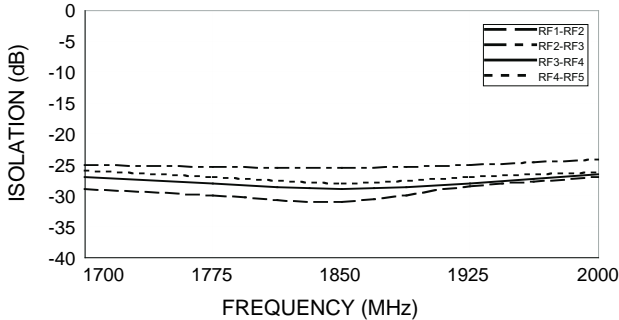
**INSERTION LOSS vs FREQUENCY**  
(Dashed lines show amplitude balance window)



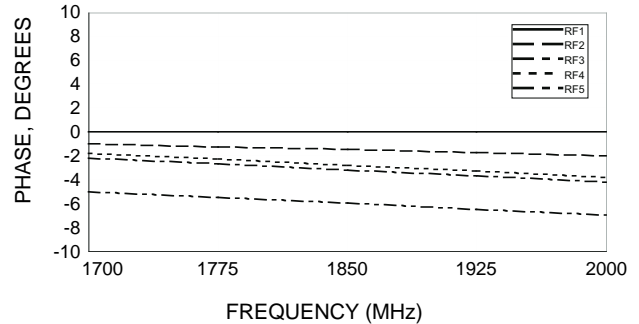
**VSWR vs FREQUENCY**



**ISOLATION vs FREQUENCY**



**PHASE BALANCE vs FREQUENCY**  
(Relative to RF1)



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