Low-Cost Three-Way Power Splitter/Combiner 1510 - 1660 MHz

DS53-0002

V1.00

Features

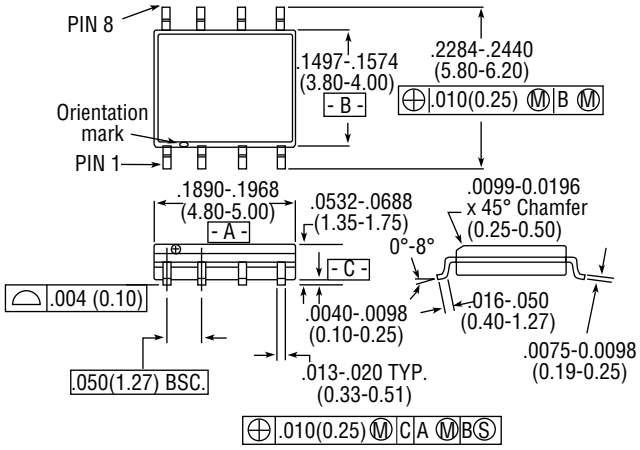
- Small Size and Low Profile
- Industry Standard SOIC-8 SMT Plastic Package
- Superior Repeatability
- Excellent Insertion Loss 0.6 dB Typical
- Low Cost
- Frequency coverage for GPS and LEOS Programs

Description

M/A-COM's DS53-0002 is an IC based monolithic power splitter in a low cost SOIC-8 plastic package. This 3-way power splitter 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 cellular applications. Available in tape and reel.

The DS53-0002 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 = ± 0.010 (.xx = ± 0.25)
.xx = ± 0.02 (.x = ±0.5)

Ordering Information

Part Number	Description
DS53-0002	SOIC 8-Lead Plastic Package
DS53-0002-TR	Forward Tape & Reel*
DS53-0002-RTR	Reverse Tape & Reel*

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

Typical Electrical Specifications[1], T_A = +25°C

Parameter	Unit	Min.	Typ.	Max.
Insertion Loss above 4.78 dB	dB	—	0.6	0.7
Isolation	dB	15	18	—
VSWR	—	—	1.4:1	1.6:1
Amplitude Balance	dB	—	0.4	0.6
Phase Balance	°	—	6°	10°

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

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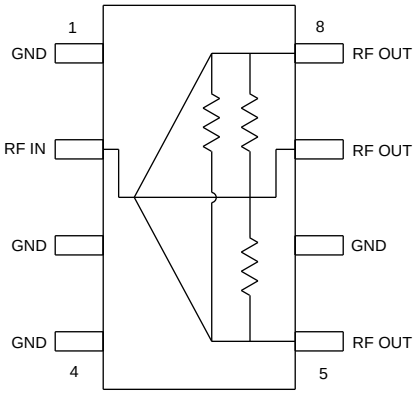
Absolute Maximum Ratings[1]

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

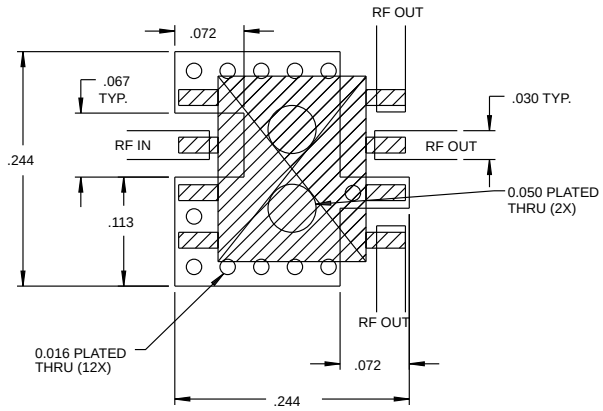
1. Exceeding these limits may cause permanent damage.
2. With internal load dissipation of 0.125 W Maximum.

Functional Diagram



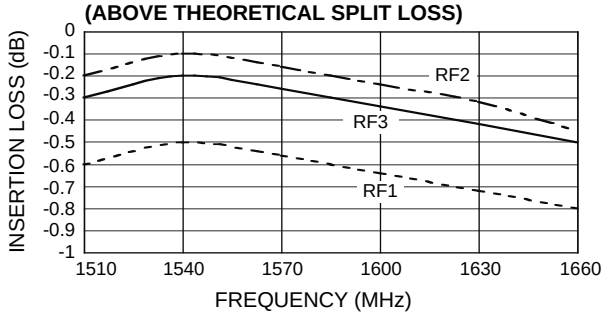
Recommended PCB Configuration

(Dimensions in Inches)

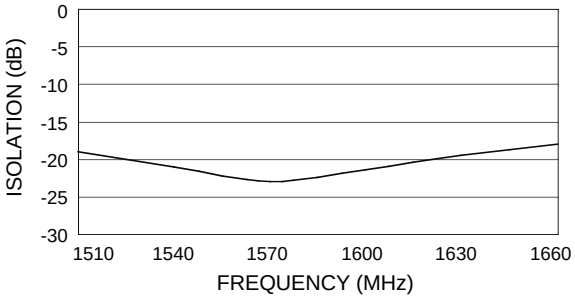


Typical Performance @ +25°C

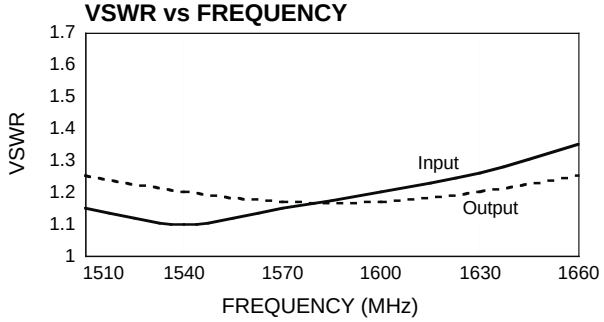
INSERTION LOSS vs FREQUENCY
(ABOVE THEORETICAL SPLIT LOSS)



ISOLATION vs FREQUENCY



VSWR vs FREQUENCY



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