

SP4T Reflective Switches With Drivers and Removable Connectors

A-29-25
T-51-11

2683-Series

Features

- Broadband Frequency Ranges
- Hermetically Sealed
- TTL Compatible
- Removable SMA Connectors



Description

M/A-COM's diode switches cover multi-octave bandwidths from UHF to Ku-band. M/A-COM'S capability in both semiconductor and digital circuit technology allows considerable flexibility in the tradeoffs of power, speed, RF parameters and drivers. These switches may be used as drop-ins in stripline assemblies simply by removing the SMA connectors. In addition, the field replaceable connectors allow replacement of a damaged connector without violating the hermetic seal. Typical insertion loss, return loss, and isolation curves are shown below.

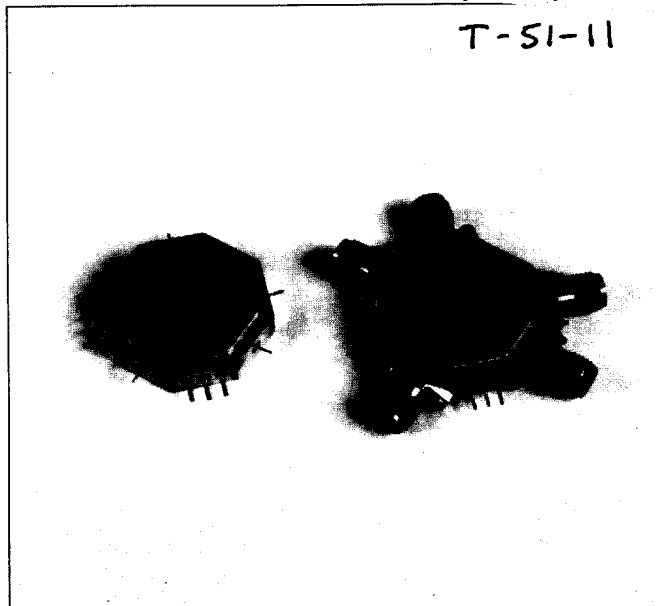
Environmental

These devices are designed to meet the following screening conditions:

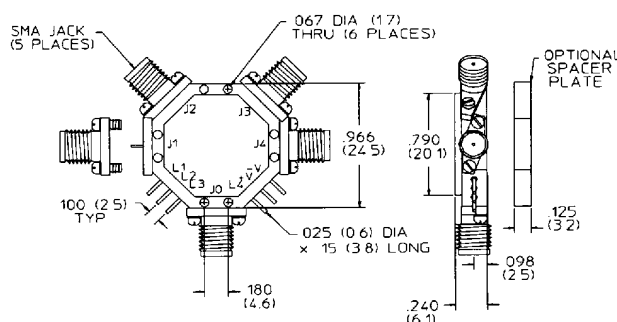
Test	MIL-STD	Method	Cond	
Non-Destructive Bond Pull	883	2023		
Internal Visual	883	2017		
Stabilization Bake	883	1008	B	
Thermal Cycle	883	1010	B	
Constant Acceleration	883	2001	A (Y1 Axis)	
Burn-in	883	1015	125°C	
Seal	Fine	883	1014	AI
	Gross	883	1014	CI
External Visual	883	2009		

Maximum Ratings

Storage Temp.	-65°C to +125°C
Operating Temp.	-55°C to +95°C

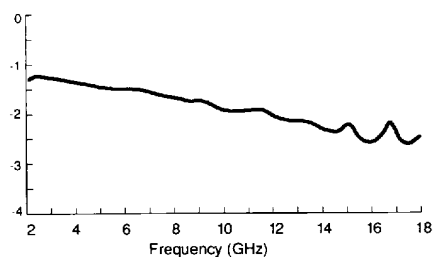


Mechanical Outline

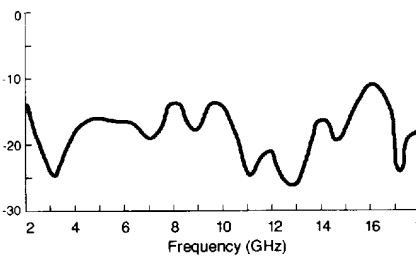


Typical Performance Data 2683-1004

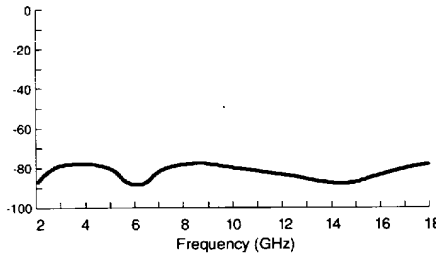
Insertion Loss (dB)



Return Loss (dB)



Isolation (dB)



SP4T Reflective Switches With Drivers and Removable ConnectorsA-29-25
T-51-11**2683-Series****Specifications 25°C**

Frequency Range (GHz)	Insertion Loss (dB)	VSWR	Isolation (dB)	Transition Time (nS)	Switching Speed (nS)	Operating Power (W)	Part Number ⁴
0.5-2.0	1.4	1.50:1	70	10	25	0.1	2683-1001-XY
2-8	2.0	1.80:1	70	10	25	0.1	2683-1002-XY
6-18	2.9	2.00:1	70	10	25	0.1	2683-1003-XY
2-18	3.2	2.00:1	65	10	25	0.1	2683-1004-XY

Notes:

1. Driver current req. +5.0 ± .25V @ +145mA typ.
-12.0 ± .75V @ -75mA typ.

Alternate bias options are available.

2. Transition Time measured from 10% to 90% of detected RF.
3. Switch Speed measured from 50% TTL to 10%/90% of detected RF.
4. Specify voltage from option table. To designate option spacer plate, change 5th digit of part number to "2", i.e. 2683-2001-XY.

-XY Option Table

X Bias Voltage	Y Logic Conn.
0 +5V/-12V	0 Solder Pin
1 +5V/-5V	
4 +5V/-15V	

Logic Table

TTL Control Input				J0-J1	J0-J2	J0-J3	J0-J4
L1	L2	L3	L4				
0	1	1	1	Insertion Loss	Isolation	Isolation	Isolation
1	0	1	1	Isolation	Insertion Loss	Isolation	Isolation
1	1	0	1	Isolation	Isolation	Insertion Loss	Isolation
1	1	1	0	Isolation	Isolation	Isolation	Insertion Loss

TTL Logic: "0" = 0 to 0.8V @ -1.6 mA Max. Sink.
"1" = 2.0 to 5.0V @ 40µA Max. Source.