

SP6T NO DC to 6 GHz Electro-Mechanical Relay Switch, up to 80W, 28V, SMA

The SEMS-4083-SP6T-SMA is an SP6T Electromechanical Relay Switch that operates over a wide frequency band from DC to 6GHz with up to 80 Watts of input power (CW) handling capability. Rated for 10M Life Cycles (25M typical) for high reliability operation, this design uses a Normally Open Actuator with a break before make configuration. The switch exhibits exceptional electrical performance specified from 0.2 dB max for insertion loss and from 80 dB min for isolation, and guaranteed over -40°C to +85°C. The assembly requires an operating voltage of +28Vdc and is certified as RoHS and REACH compliant. External connectors include solder terminals and SMA female connectors.

Electrical Specifications

Switch Type	SP6T
Actuator Type	Normally Open
Switching Sequence	Break before Make
Polarity	Positive Common

Description	Min	Typ	Max	Units
Frequency Range	DC		6	GHz
Impedance		50		Ohms
Operating Voltage	21	28	30	Volts
Actuating Current @ 28 Volts		110		mA
VSWR			1.3:1	
Insertion Loss			0.3	dB
Isolation	70			dB
Coil Resistance		250		Ohms
Input Power (CW)			70	Watts
Switching Time			10	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 6				GHz
VSWR, Max	1.2:1	1.3:1				
Insertion Loss, Max	0.2	0.3				dB
Isolation, Min	80	70				dB
Power In, Max (CW)	80	70				Watts

Electrical Specification Notes:
Average Power and Actuating Current values at 25°C.

Mechanical Specifications

Size	
Length	1.45 in [36.83 mm]
Width/Diameter	1.327 in [33.71 mm]
Height	1.327 in [33.71 mm]
Weight	0.24 lbs [108.86 g]
Package Type	Connectorized
Operating Life	10,000,000 Cycles



Features:

- Single Pole Six Throw Relay Switch
- DC to 6 GHz Frequency Range
- 10M Cycle Min (25M Typ) Operating Life
- 70 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.3 dB Max
- VSWR 1.3:1 Max

Applications:

- General Purpose High Performance Relay Switch
- Military Communications
- Communications Systems
- Test & Measurement

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Connectors

RF Connector Type	SMA Female
RF Connector Specification	MIL C 39012
Control Connector	Solder Pin

Mechanical Specification Notes:
 Solder Pins: 250°C max/30sec.
 Specified operating life is minimum. Typical operating life is 25M cycles.

Environmental Specifications

Temperature

Operating Range	-40 to +85 deg C
Storage Range	-55 to +85 deg C

Shock	MIL-STD-202, Method 213B, Cond. C
Sine Vibration	MIL-STD-202, Method 204D, Cond. D
Random Vibration	MIL-STD-202, Method 214A, Profile I, Cond. F

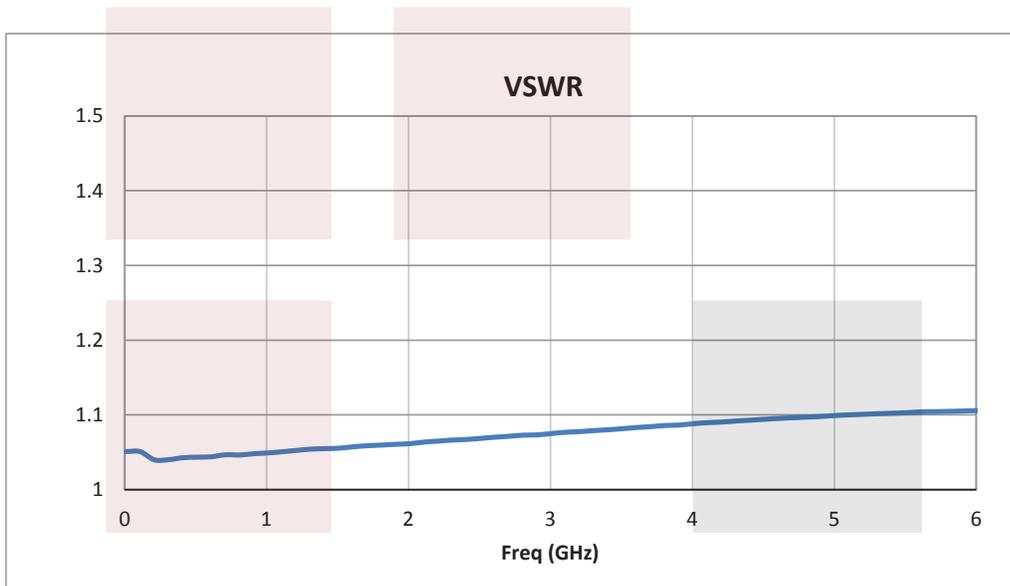
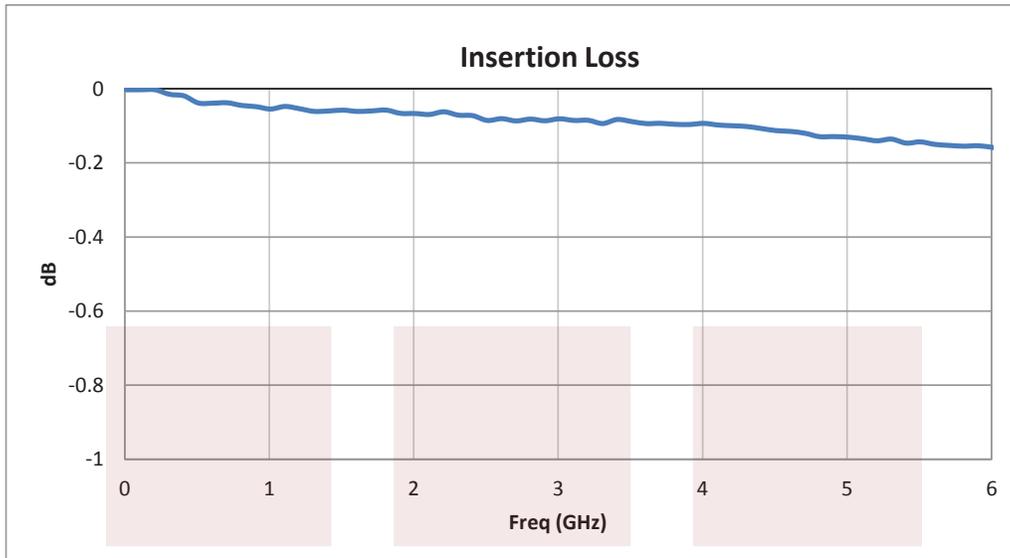
Environmental Specification Notes:
 Environmental specifications are guaranteed but not tested.

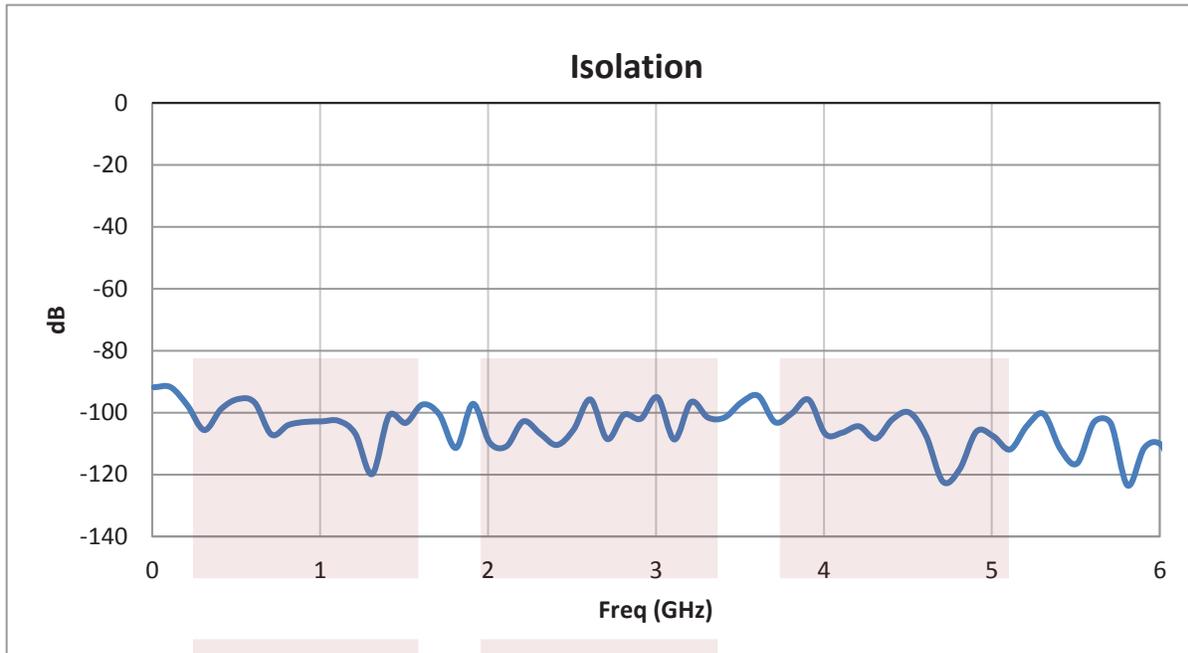
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:
 • Values shown are typical at 25°C.

Typical Performance Data



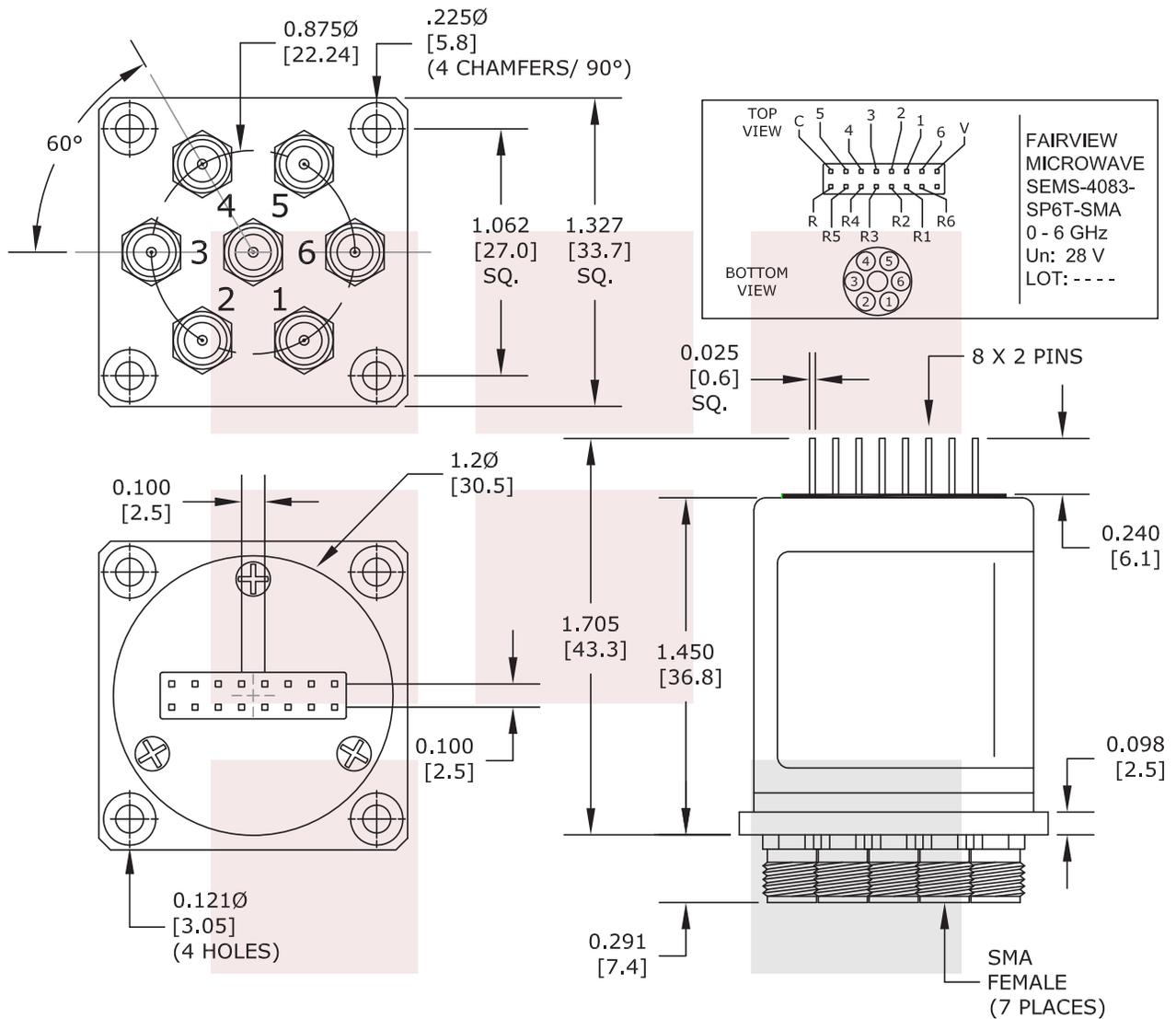


SP6T NO DC to 6 GHz Electro-Mechanical Relay Switch, up to 80W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP6T NO DC to 6 GHz Electro-Mechanical Relay Switch, up to 80W, 28V, SMA SEMS-4083-SP6T-SMA](#)

URL: <https://www.fairviewmicrowave.com/sp6t-normally-open-electro-mechanical-relay-switch-sems-4083-sp6t-sma-p.aspx>

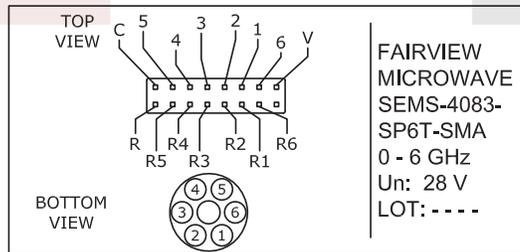
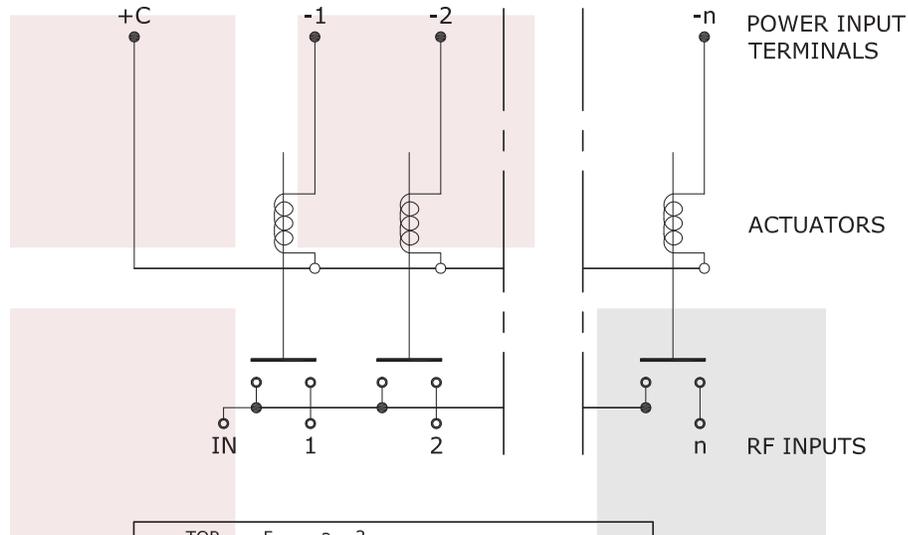
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



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TITLE SP6T NO DC to 6 GHz Electro-Mechanical Relay Switch, up to 80W, 28V, SMA		DWG NO SEMS-4083-SP6T-SMA		CAGE CODE 3FKR5	
CAD FILE	120314	SHEET	SCALE	N/A	SIZE A 150

PIN	Indicator
C	+C
1	-1
2	-2
3	-3
4	-4
5	-5
6	-6
R	NC
R1	NC
R2	NC
R3	NC
R4	NC
R5	NC
R6	NC

SCHEMATIC DIAGRAM



FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].			
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CAD FILE	120314	SHEET	SCALE	N/A	SIZE A 150