

SP6T Latching Electro-Mechanical Relay Switch From DC to 26.5 GHz, 40 Watts with Self Cut Off, Reset, Diodes, SMA

The SEMS-4077-SP6T-SMA is an SP6T Terminated Electromechanical Relay Switch that operates over a wide frequency band from DC to 26.5GHz with up to 240 Watts of input power (CW) handling capability. Rated for 2M life cycles for high reliability operation, this design uses a Latching Actuator with a break before make configuration, terminations, diodes, self cut off, and reset circuitry. 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, Absorptive
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	Self Cut Off, Reset, Diodes
Polarity	Negative Common
Reset Current	750 mA
Self Cut-Off Time	40 ms < CT < 120 ms

Features:

- Single Pole Six Throw Terminated Relay Switch
- DC to 26.5 GHz Frequency Range
- 2M Cycle Operating Life Min
- 40 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.7 dB Max
- VSWR 1.7:1 Max

Applications:

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

Description	Min	Typ	Max	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Current @ 28 Volts		125		mA
VSWR			1.7:1	
Insertion Loss			0.7	dB
Isolation	50			dB
Input Power (CW)			40	Watts
Termination Input Power (CW)			1	Watts

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 8	8 - 12.4	12.4 - 18	18 - 26.5	GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.5:1	1.7:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.7	dB
Isolation, Min	80	70	60	60	50	dB
Power In, Max (CW)	240	150	120	100	40	Watts

Electrical Specification Notes:

Average Power and Actuating Current values at 25°C.
Termination Average Power: 1W per termination / 3W total power.
Reset: supply voltage time 1 sec max/10% duty cycle.

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Mechanical Specifications

Size

Length	2.244 in [57 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	2.25 in [57.15 mm]
Weight	0.55 lbs [249.48 g]
Package Type	Connectorized Module
Operating Life	2,000,000 Cycles
Switching Time	15 ms Max

Connectors

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

Mechanical Specification Notes:
 Solder Pins: 250°C max/30sec.

Environmental Specifications

Temperature

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

Construction	Splashproof
Humidity	MIL-DTE-3928E, Cond.B
Shock	MIL-STD-202, Method 213B, Cond.C
Vibration	MIL-STD-202, Method 204D, Cond.D
ESD Sensitivity	ESD Sensitive Material. Transport material in approved ESD bags. Handle in approved ESD Workstation.



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

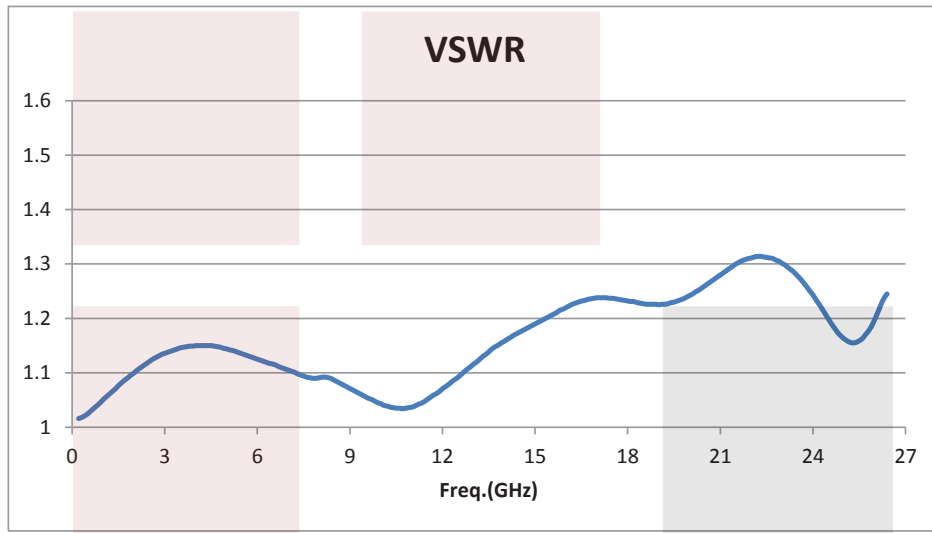
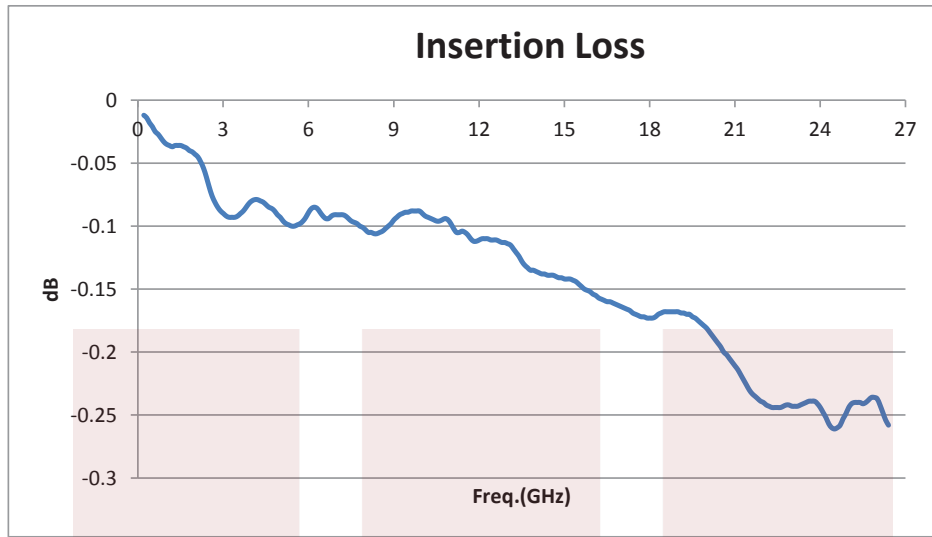
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

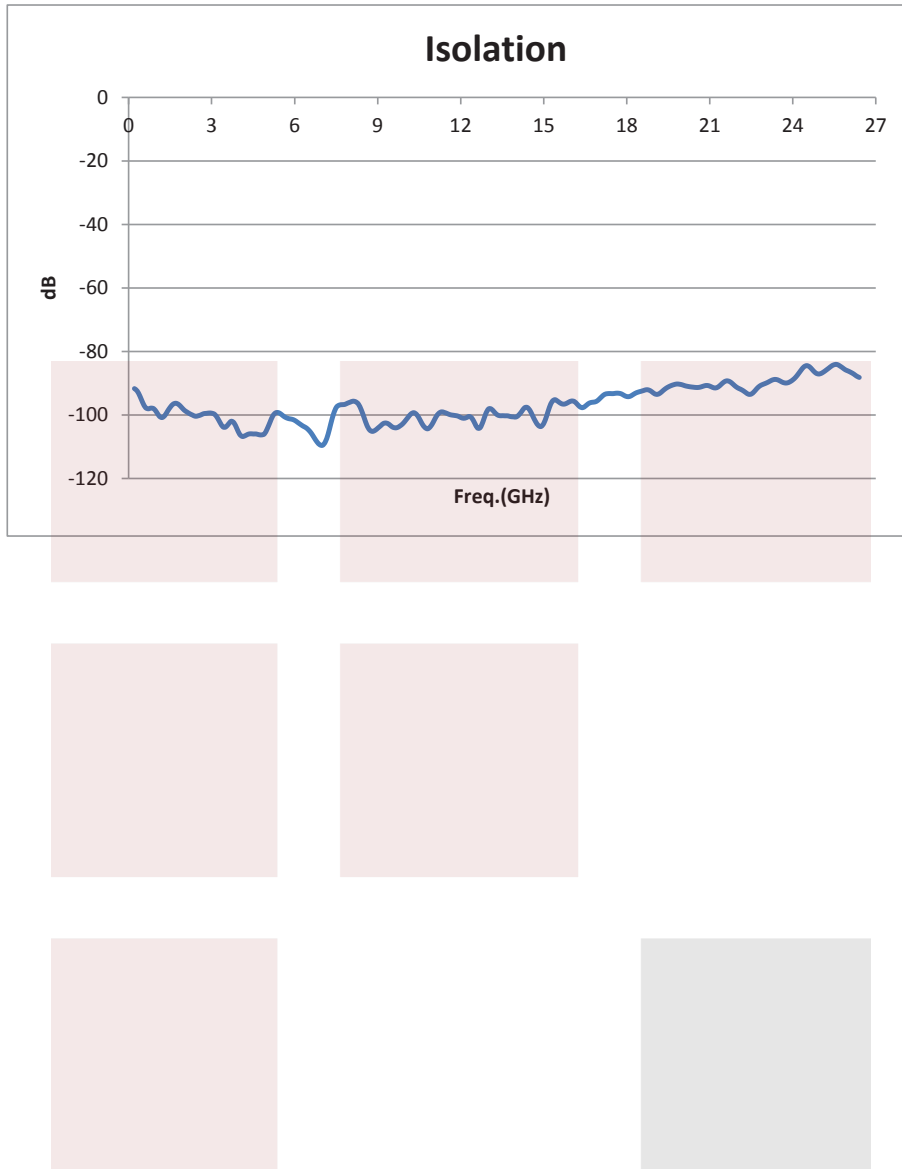
RoHS Compliant	
REACH Compliant	12/17/2014

Plotted and Other Data

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

Typical Performance Data





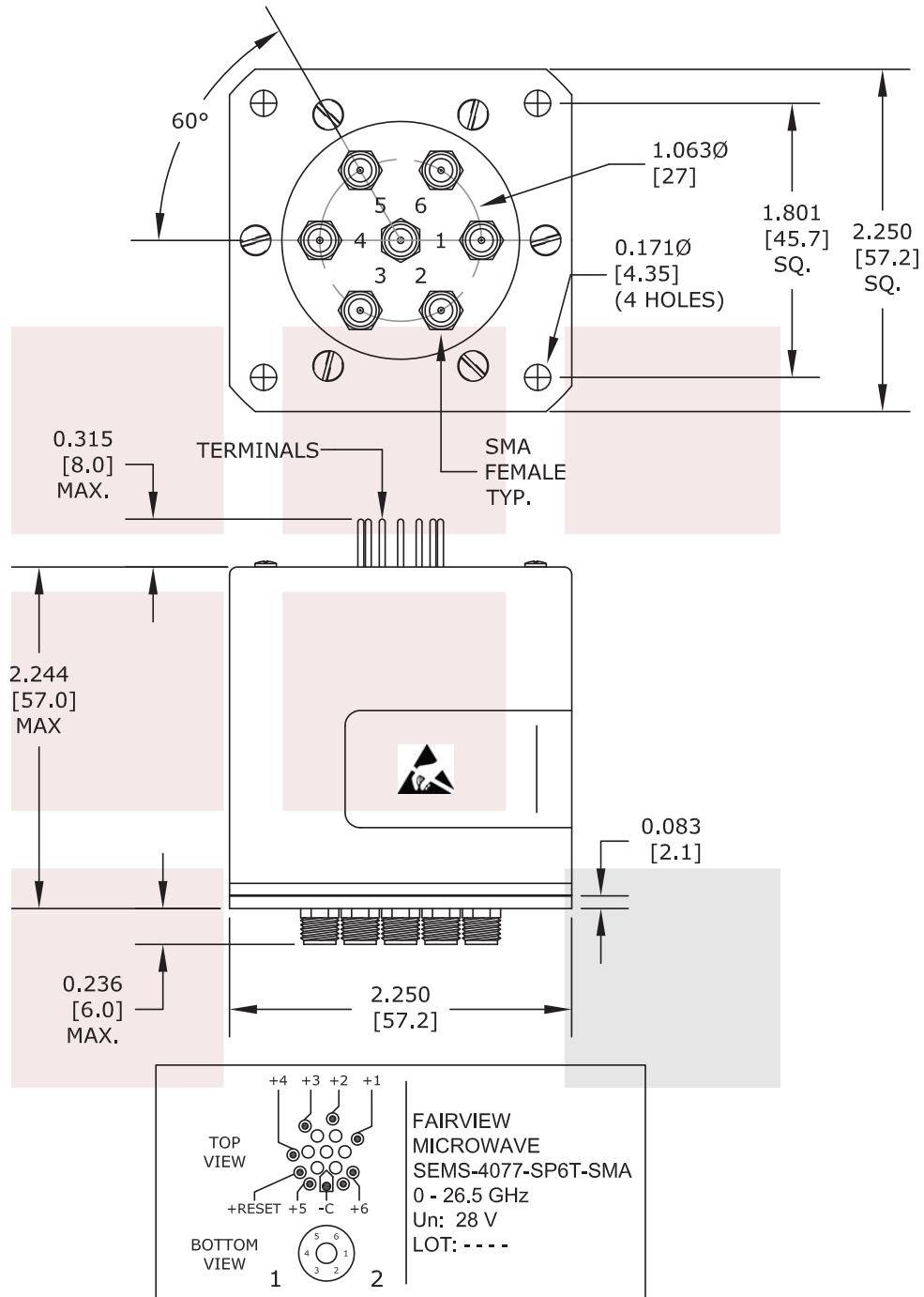
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For additional information on this product, please click the following link: [SP6T Latching Electro-Mechanical Relay Switch From DC to 26.5 GHz, 40 Watts with Self Cut Off, Reset, Diodes, SMA SEMS-4077-SP6T-SMA](#)

URL: <http://www.fairviewmicrowave.com/sp6t-latching-electro-mechanical-relay-switch-reset-sems-4077-sp6t-sma-p.aspx>

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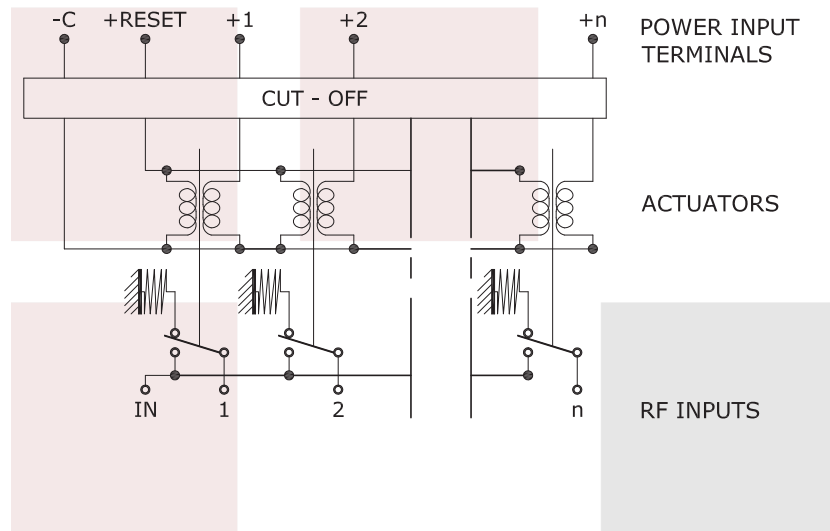




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TITLE SP6T Latching Electro-Mechanical Relay Switch From DC to 26.5 GHz, 40 Watts with Self Cut Off, Reset, Diodes, SMA		DWG NO SEMS-4077-SP6T-SMA		CAGE CODE 3FKR5	
		CAD FILE 032415	SHEET	SCALE N/A	SIZE A 2233

Voltage	RF Continuity
- C + RESET	ALL PORTS OPEN
- C + 1	IN ↔ 1
- C + 2	IN ↔ 2
- C + 3	IN ↔ 3
- C + 4	IN ↔ 4
- C + 5	IN ↔ 5
- C + 6	IN ↔ 6

SCHEMATIC DIAGRAM



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CAD FILE	120314	SHEET	SCALE	N/A	SIZE A 150