

SP8T Latching Electro-Mechanical Relay Switch
From DC to 18 GHz, 100 Watts with Self Cut
Off, Auto Reset, Indicators, Diodes, SMA

The SEMS-4079-SP8T-SMA is an SP8T Terminated Electromechanical Relay Switch that operates over a wide frequency band from DC to 18GHz 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, position indicators, self cut off, and auto 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 a 25 pin D-SUB male connector and SMA female connectors.

Electrical Specifications

Switch Type	SP8T, Absorptive
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	Self Cut Off, Auto Reset, Indicators, Diodes
Polarity	Negative Common
Indicator Rating	1 Watts / 30 Volts / 100 mA
Self Cut-Off Time	40 ms < CT < 120 ms

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Current @ 28 Volts		375		mA
VSWR			1.6:1	
Insertion Loss			0.6	dB
Isolation	60			dB
Input Power (CW)			100	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 - 16	16 - 18	GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.5:1	1.6:1	
Insertion Loss, Max	0.2	0.3	0.4	0.55	0.6	dB
Isolation, Min	80	70	60	60	60	dB
Power In, Max (CW)	240	150	120	110	100	Watts

Electrical Specification Notes:

Average Power and Actuating Current values at 25°C.
Termination Average Power: 1W per termination / 3W total power.



Features:

- Single Pole Eight Throw Terminated Relay Switch
- DC to 18 GHz Frequency Range
- 2M Cycle Operating Life Min
- 100 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.6 dB Max
- VSWR 1.6:1 Max

Applications:

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

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Mechanical Specifications

Size

Length	2.598 in [65.99 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	2.25 in [57.15 mm]
Weight	0.62 lbs [281.23 g]
Operating Life	2,000,000 Cycles
Switching Time	50 ms Max

Connectors

RF Connector Type	SMA Female
RF Connector Specification	MIL C 39012
Control Connector	25 pin D-SUB Male

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.

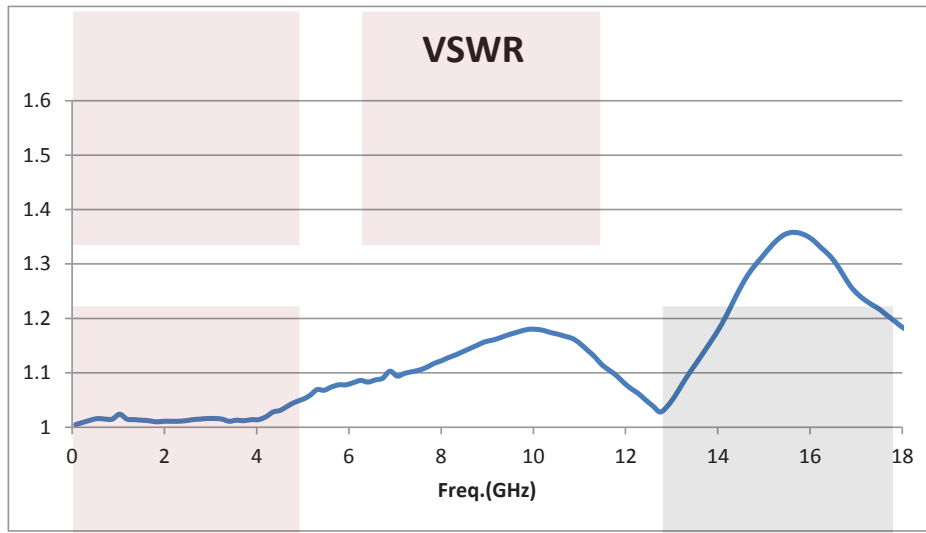
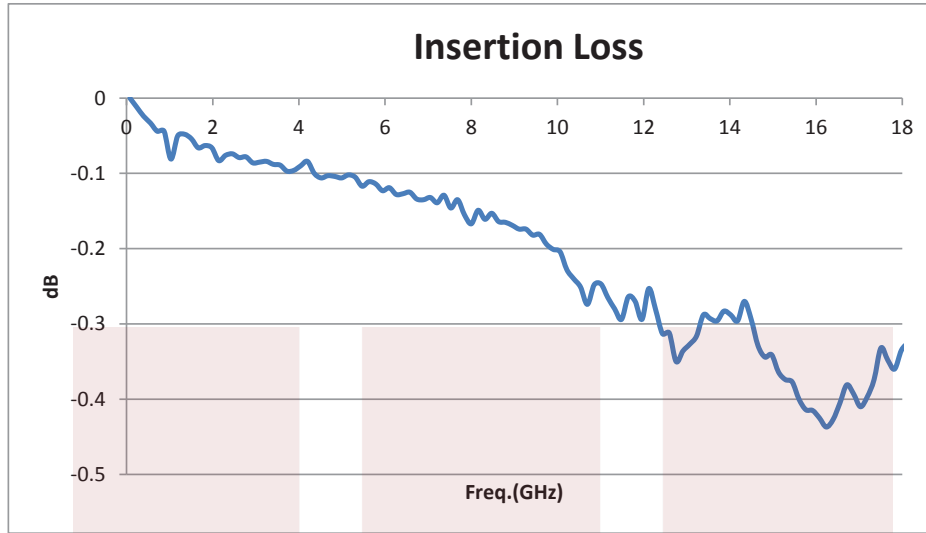
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

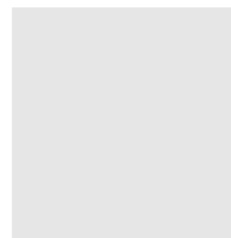
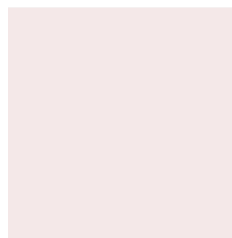
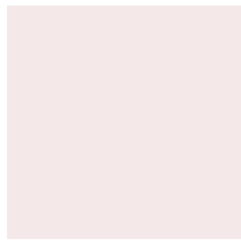
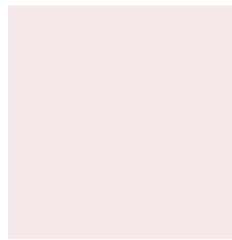
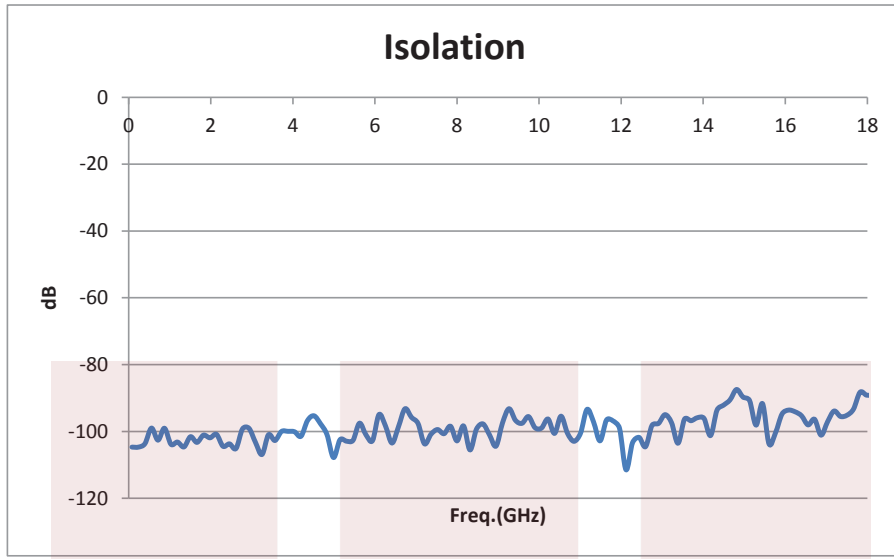
RoHS Compliant	
REACH Compliant	12/17/2014

Plotted and Other Data

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

Typical Performance Data





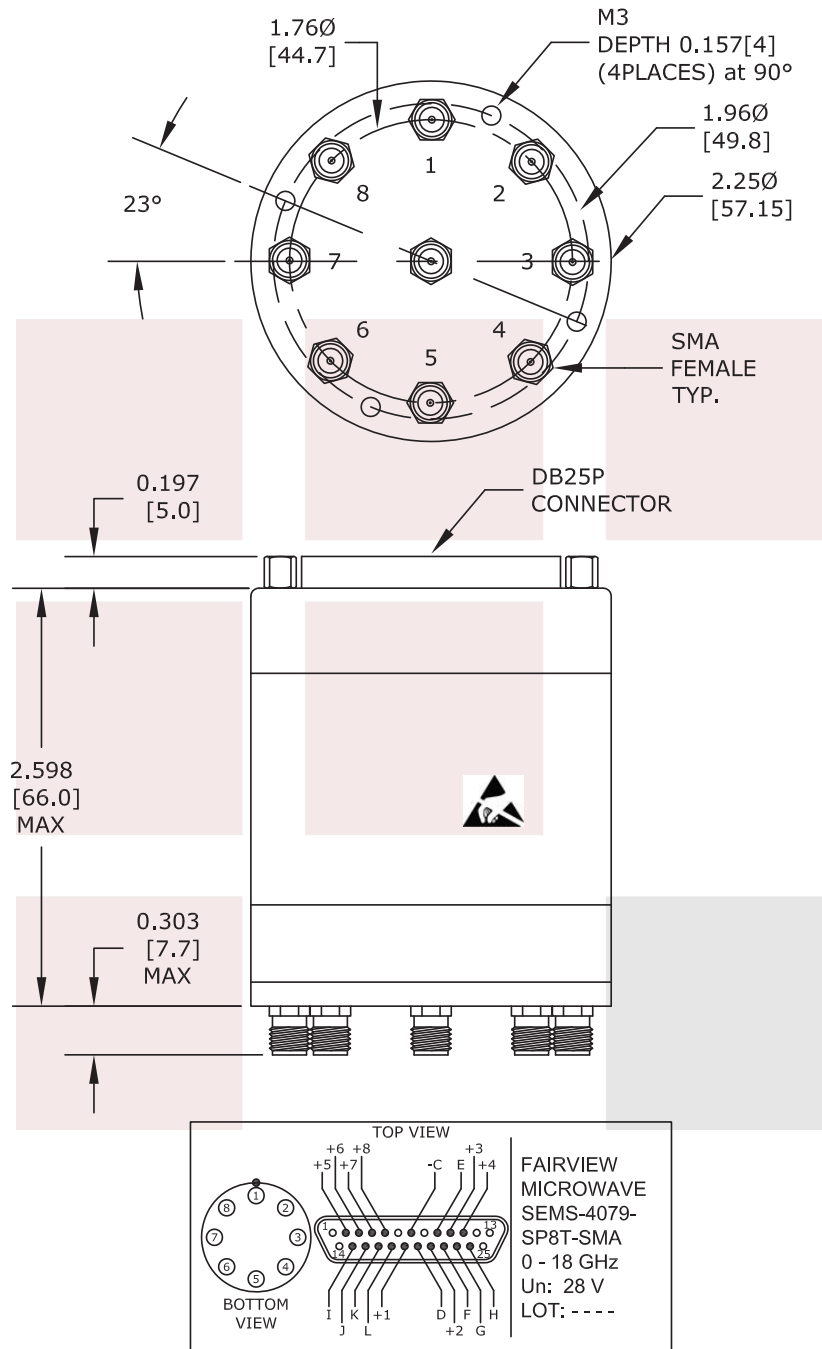
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For additional information on this product, please click the following link: [SP8T Latching Electro-Mechanical Relay Switch From DC to 18 GHz, 100 Watts with Self Cut Off, Auto Reset, Indicators, Diodes, SMA SEMS-4079-SP8T-SMA](#)

URL: <http://www.fairviewmicrowave.com/sp8t-latching-electro-mechanical-relay-switch-auto-reset-sems-4079-sp8t-sma-p.aspx>

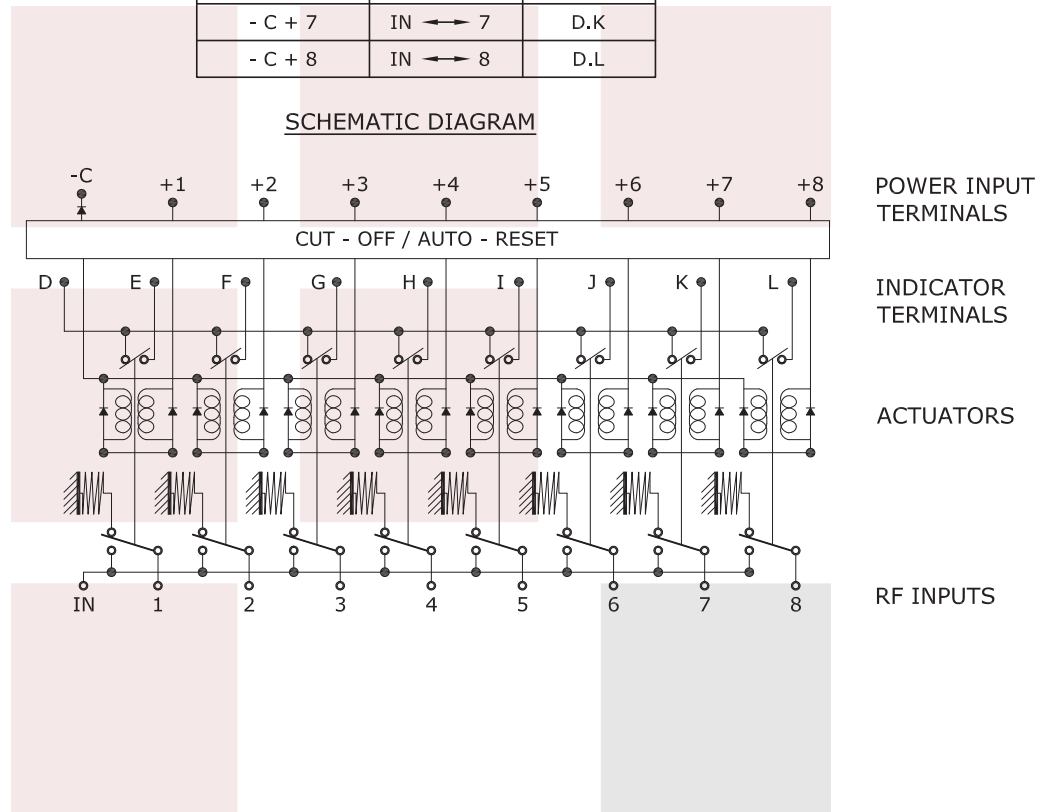
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TITLE SP8T Latching Electro-Mechanical Relay Switch From DC to 18 GHz, 100 Watts with Self Cut Off, Auto Reset, Indicators, Diodes, SMA		DWG NO SEMS-4079-SP8T-SMA	CAGE CODE 3FKR5	
CAD FILE	082815	SHEET	SCALE N/A	SIZE A 150

Voltage	RF Continuity	Indicator
- C + 1	IN ↔ 1	D.E
- C + 2	IN ↔ 2	D.F
- C + 3	IN ↔ 3	D.G
- C + 4	IN ↔ 4	D.H
- C + 5	IN ↔ 5	D.I
- C + 6	IN ↔ 6	D.J
- C + 7	IN ↔ 7	D.K
- C + 8	IN ↔ 8	D.L



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		CAD FILE 121114	SHEET	SCALE N/A	SIZE A 150