

SP6T Latching DC to 26.5 GHz Electro-Mechanical Relay Switch, Global Reset, up to 250W, 28V, SMA

The SEMS-4085-SP6T-SMA is an SP6T Electromechanical Relay Switch that operates over a wide frequency band from DC to 26.5GHz with up to 250 Watts of input power (CW) handling capability. Rated for 10M Life Cycles (25M typical) for high reliability operation, this design uses a Latching Actuator with a break before make configuration and global 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
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	Global Reset
Polarity	Positive Common

Description	Min	Typ	Max	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	21	28	30	Volts
Actuating Current @ 28 Volts		98		mA
VSWR			1.6:1	
Insertion Loss			0.6	dB
Isolation	55			dB
Coil Resistance		285		Ohms
Input Power (CW)			40	Watts
Switching Time			10	ms

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	1.6:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.6	dB
Isolation, Min	80	70	60	60	55	dB
Power In, Max (CW)	250	150	120	100	40	Watts

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



Features:

- Single Pole Six Throw Relay Switch
- DC to 26.5 GHz Frequency Range
- 10M Cycle Min (25M Typ) Operating Life
- 40 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	1.45 in [36.83 mm]
Width/Diameter	1.327 in [33.71 mm]
Height	1.327 in [33.71 mm]
Weight	0.22 lbs [99.79 g]
Package Type	Connectorized
Operating Life	10,000,000 Cycles

Connectors

RF Connector Type	SMA Female
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

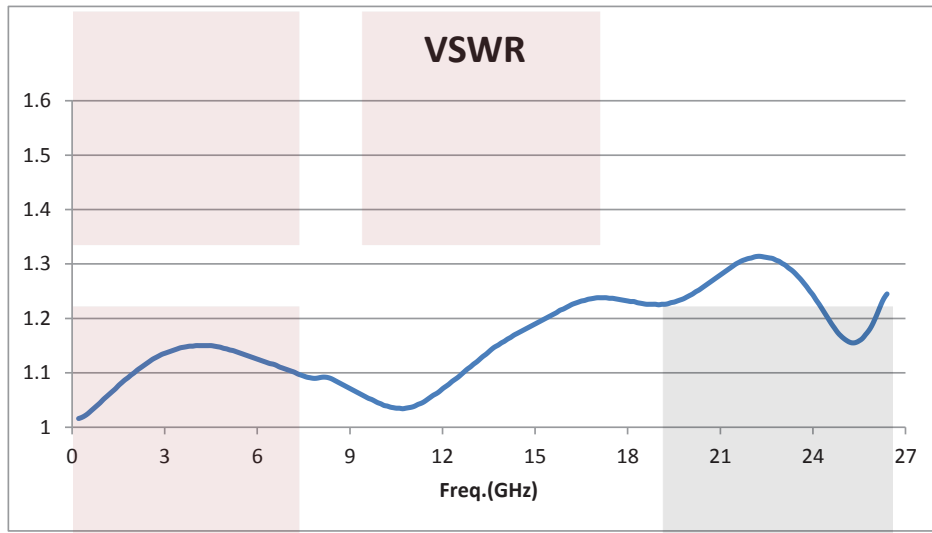
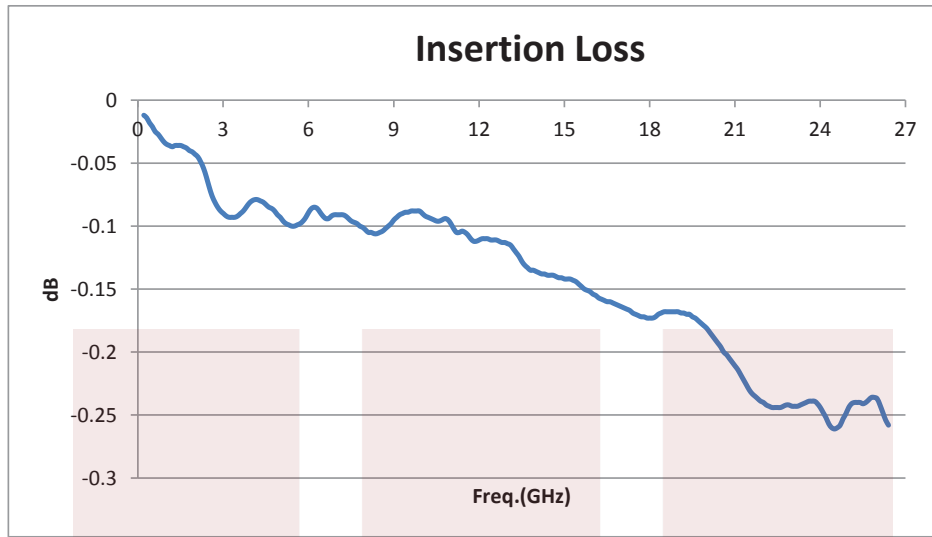
Environmental Specification Notes:
 Environmental specifications are guaranteed but not tested.

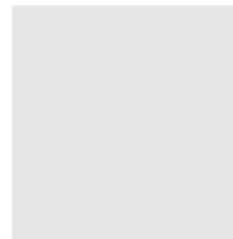
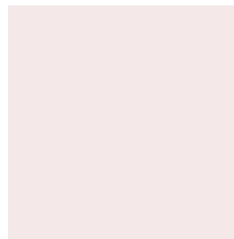
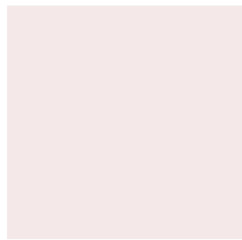
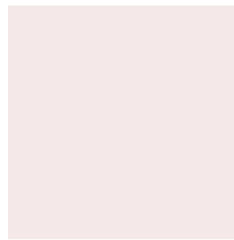
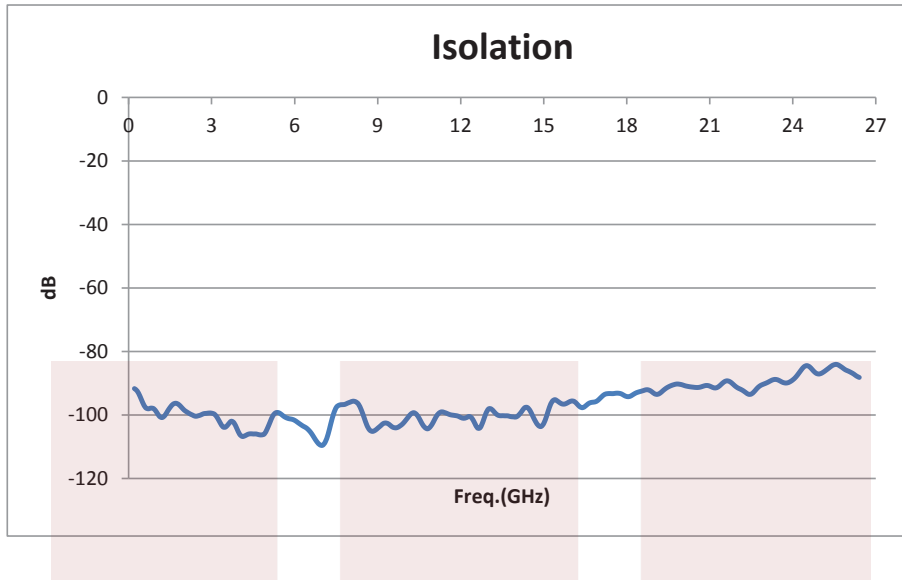
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

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

Typical Performance Data





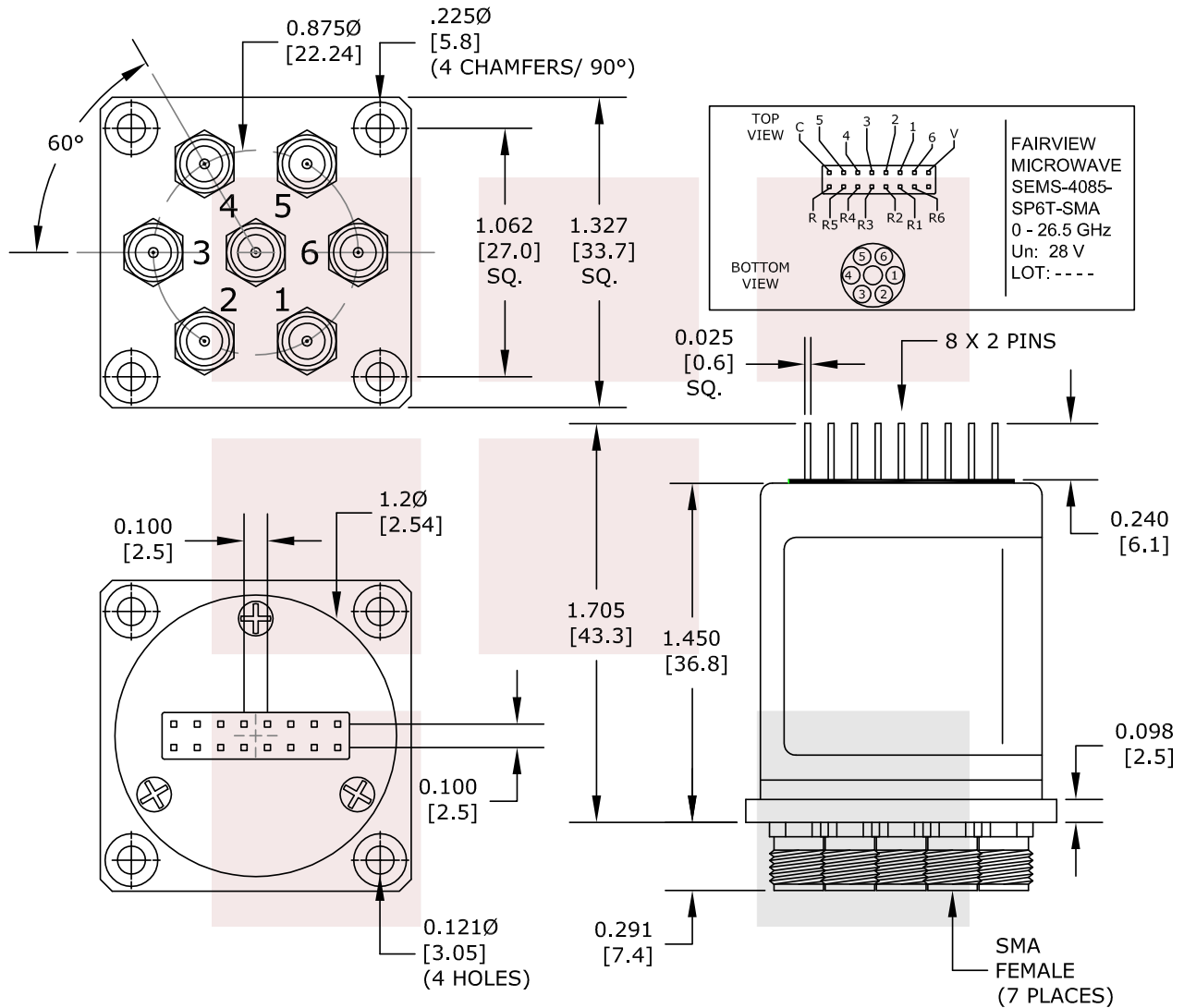
SP6T Latching DC to 26.5 GHz Electro-Mechanical Relay Switch, Global Reset, up to 250W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP6T Latching DC to 26.5 GHz Electro-Mechanical Relay Switch, Global Reset, up to 250W, 28V, SMA SEMS-4085-SP6T-SMA](#)

URL: <https://www.fairviewmicrowave.com/sp6t-latching-electro-mechanical-relay-switch-global-reset-sems-4085-sp6t-sma-p.aspx>

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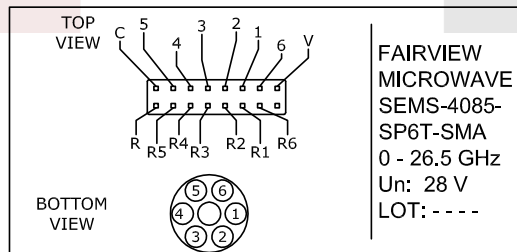
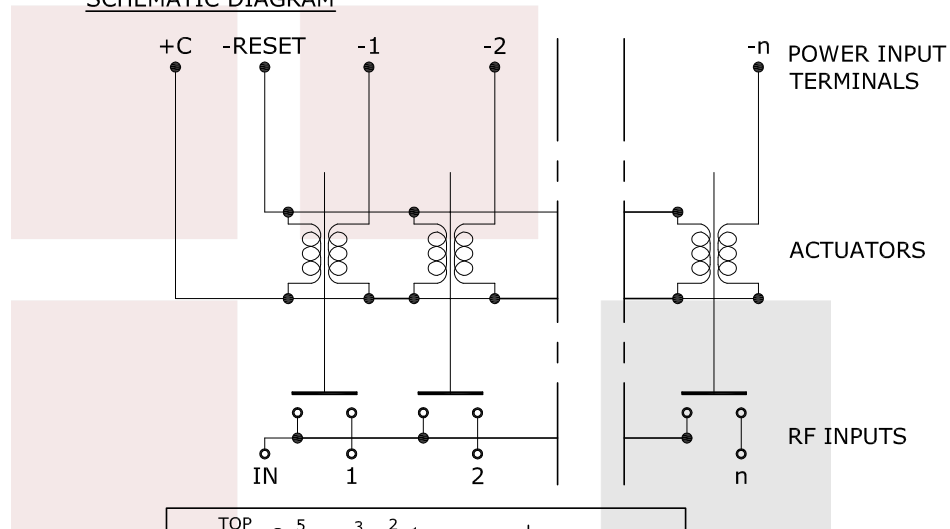




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TITLE SP6T Latching DC to 26.5 GHz Electro-Mechanical Relay Switch, Global Reset, up to 250W, 28V, SMA		DWG NO SEMS-4085-SP6T-SMA	CAGE CODE 3FKR5		
CAD FILE 120314	SHEET	SCALE N/A	SIZE A	150	

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

SCHEMATIC DIAGRAM



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CAD FILE	120314	SHEET	SCALE N/A	SIZE A 150