

SP6T Latching DC to 6 GHz Electro-Mechanical Relay Switch, Global Reset, up to 80W, 28V, SMA

The SEMS-4084-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 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		6	GHz
Impedance		50		Ohms
Operating Voltage	21	28	30	Volts
Actuating Current @ 28 Volts		98		mA
VSWR			1.3:1	
Insertion Loss			0.3	dB
Isolation	70			dB
Coil Resistance		285		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.



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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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	0.23 lbs [104.33 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

Sine Vibration

Random Vibration

MIL-STD-202, Method 213B, Cond. C

MIL-STD-202, Method 204D, Cond. D

MIL-STD-202, Method 214A, Profile I, Cond. F

Environmental Specification Notes:

Environmental specifications are guaranteed but not tested.

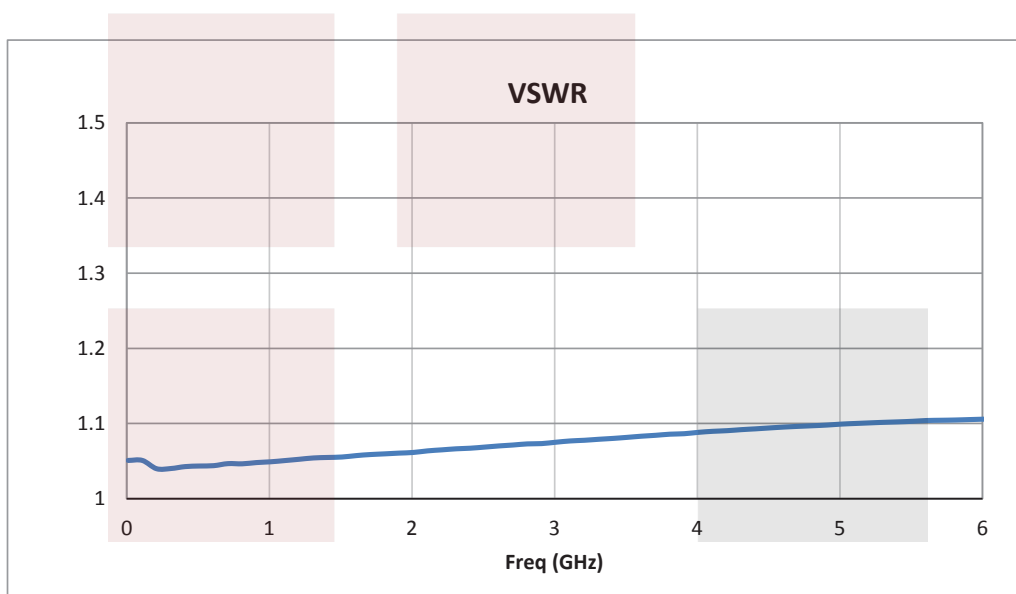
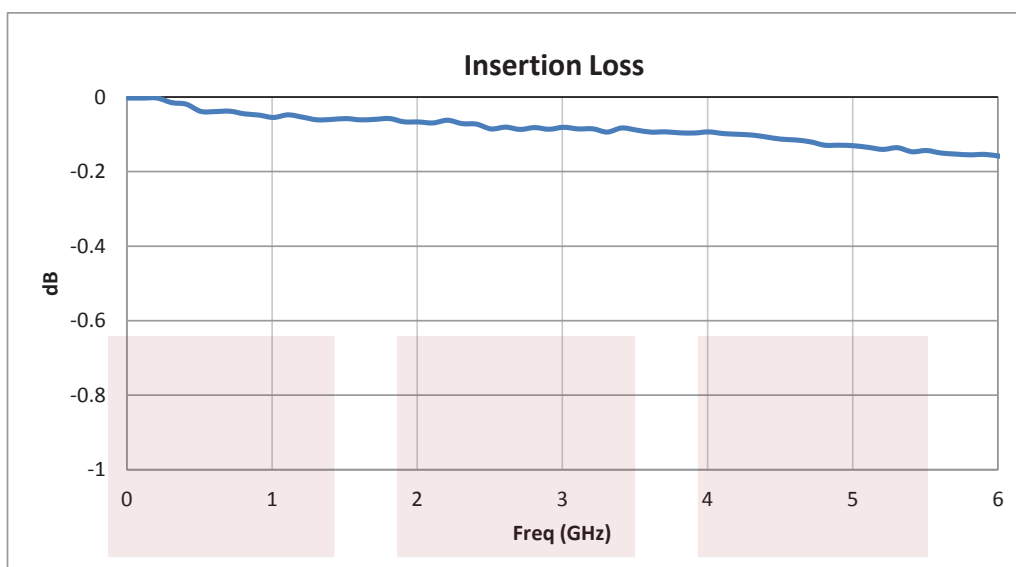
Compliance Certifications (see [product page](#) for current document)

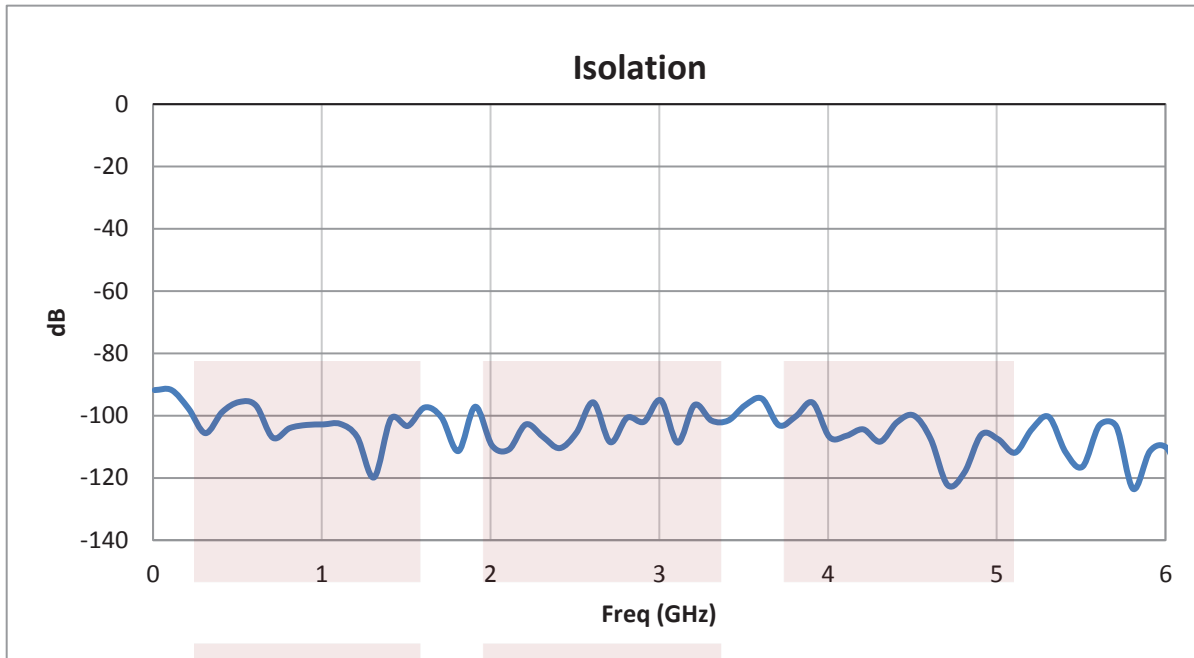
Plotted and Other Data

Notes:

- Values shown are typical at 25°C.

Typical Performance Data



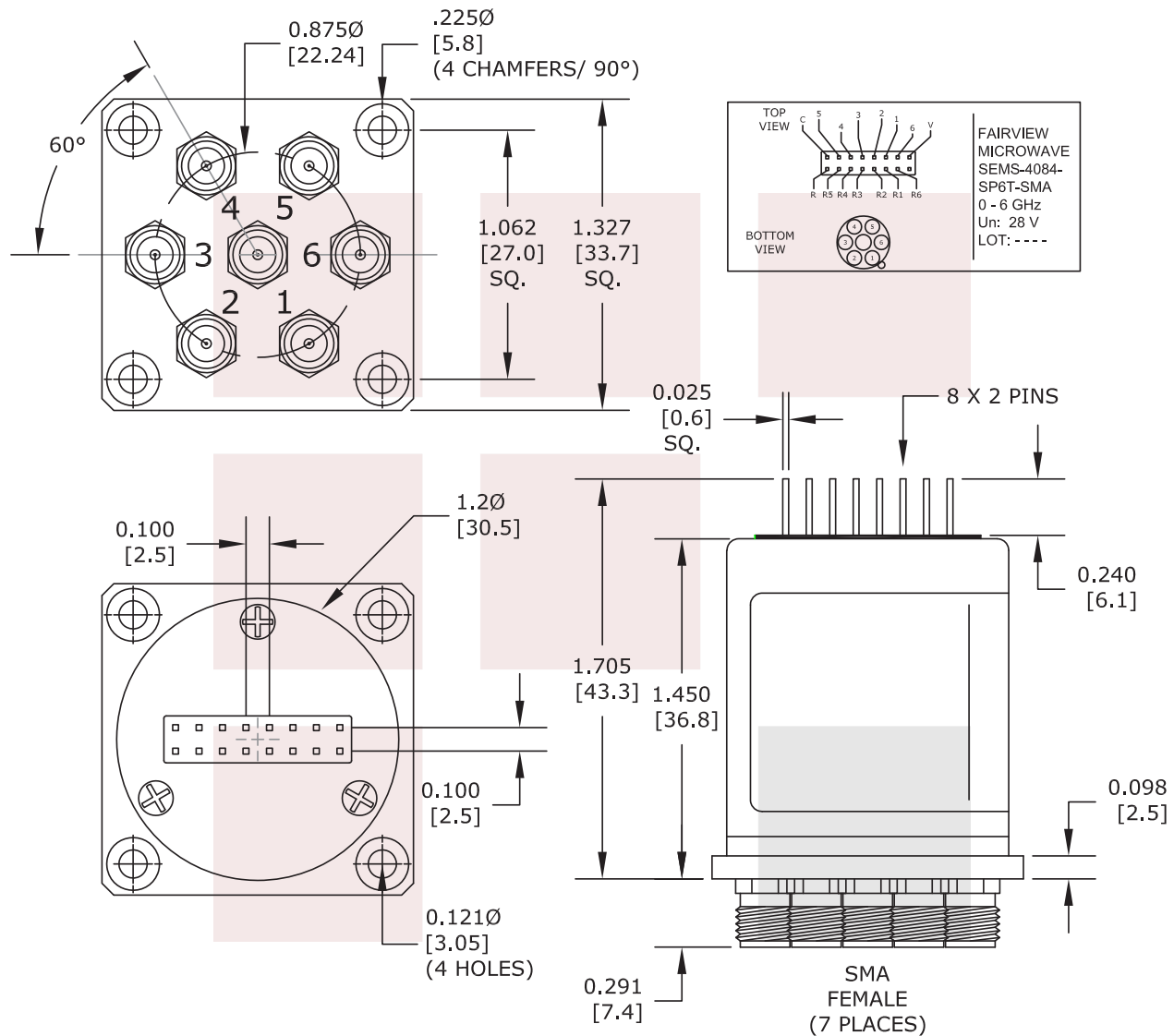


SP6T Latching DC to 6 GHz Electro-Mechanical Relay Switch, Global Reset, up to 80W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP6T Latching DC to 6 GHz Electro-Mechanical Relay Switch, Global Reset, up to 80W, 28V, SMA SEMS-4084-SP6T-SMA](https://www.fairviewmicrowave.com/sp6t-latching-electro-mechanical-relay-switch-global-reset-sems-4084-sp6t-sma-p.aspx)

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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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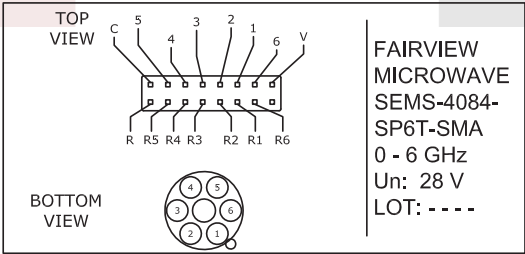
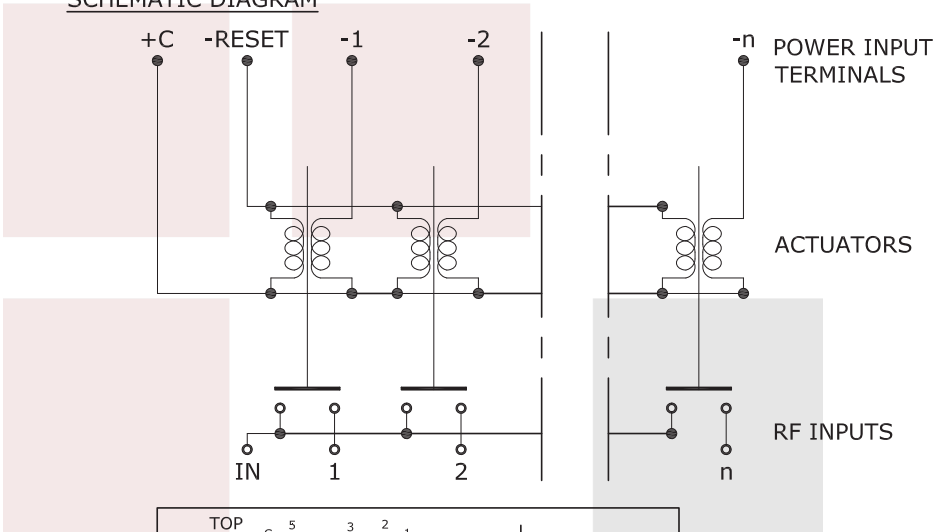
TITLE
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Switch, Global Reset, up to 80W, 28V, SMA

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].

DWG NO	SEMS-4084-SP6T-SMA	CAGE CODE	3FKR5
CAD FILE	032515	SHEET	SCALE N/A SIZE A 2233

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



FAIRVIEW
MICROWAVE
SEMS-4084-
SP6T-SMA
0 - 6 GHz
Un: 28 V
LOT: ----

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