

SP6T Latching DC to 12.4 GHz Electro-Mechanical Relay Switch, Indicators, Reset, up to 400W, 12V, N

The SEMS-4070-SP6T-N is an SP6T Electromechanical Relay Switch that operates over a wide frequency band from DC to 12.4GHz with up to 400 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, position indicators, 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 +12Vdc and is certified as RoHS and REACH compliant. External connectors include solder terminals and N female connectors.

Electrical Specifications

Switch Type	SP6T
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	Indicators, Reset
Polarity	Negative Common
Indicator Rating	1 Watts / 30 Volts / 100 mA
Reset Current	1,920 mA

Description	Min	Typ	Max	Units
Frequency Range	DC		12.4	GHz
Impedance		50		Ohms
Operating Voltage	10.2	12	13	Volts
Actuating Current @ 12 Volts		320		mA
VSWR			1.5:1	
Insertion Loss			0.5	dB
Isolation	60			dB
Input Power (CW)			200	Watts
Switching Time			15	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 8	8 - 12.4			GHz
VSWR, Max	1.2:1	1.35:1	1.5:1			
Insertion Loss, Max	0.2	0.35	0.5			dB
Isolation, Min	80	70	60			dB
Power In, Max (CW)	400	250	200			Watts

Electrical Specification Notes:

Average Power and Actuating Current values at 25°C.

Reset: supply voltage time 1 sec max./10% duty cycle.



Features:

- Single Pole Six Throw Relay Switch
- DC to 12.4 GHz Frequency Range
- 2M Cycle Operating Life Min
- 200 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.5 dB Max
- VSWR 1.5:1 Max

Applications:

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

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Mechanical Specifications

Size

Length	2.05 in [52.07 mm]
Width/Diameter	2.5 in [63.5 mm]
Height	2.5 in [63.5 mm]
Weight	1.01 lbs [458.13 g]
Package Type	Connectorized
Operating Life	2,000,000 Cycles

Connectors

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

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

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

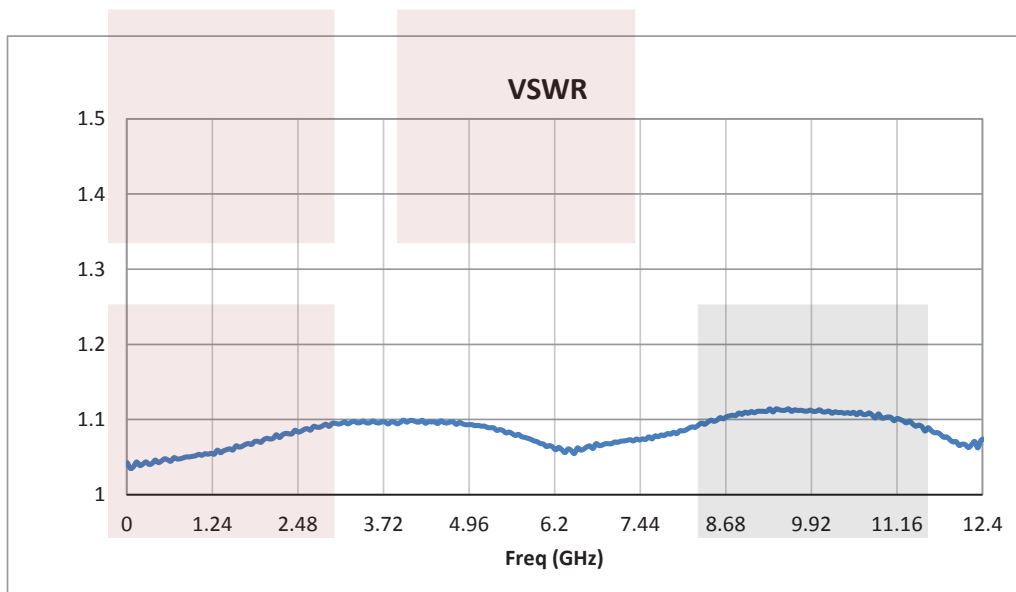
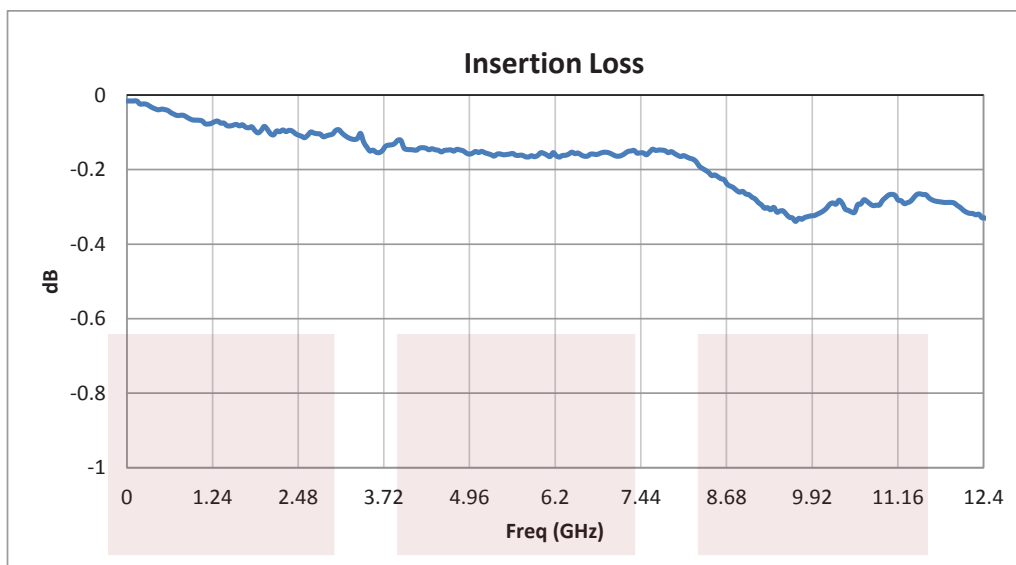
Compliance Certifications (see [product page](#) for current document)

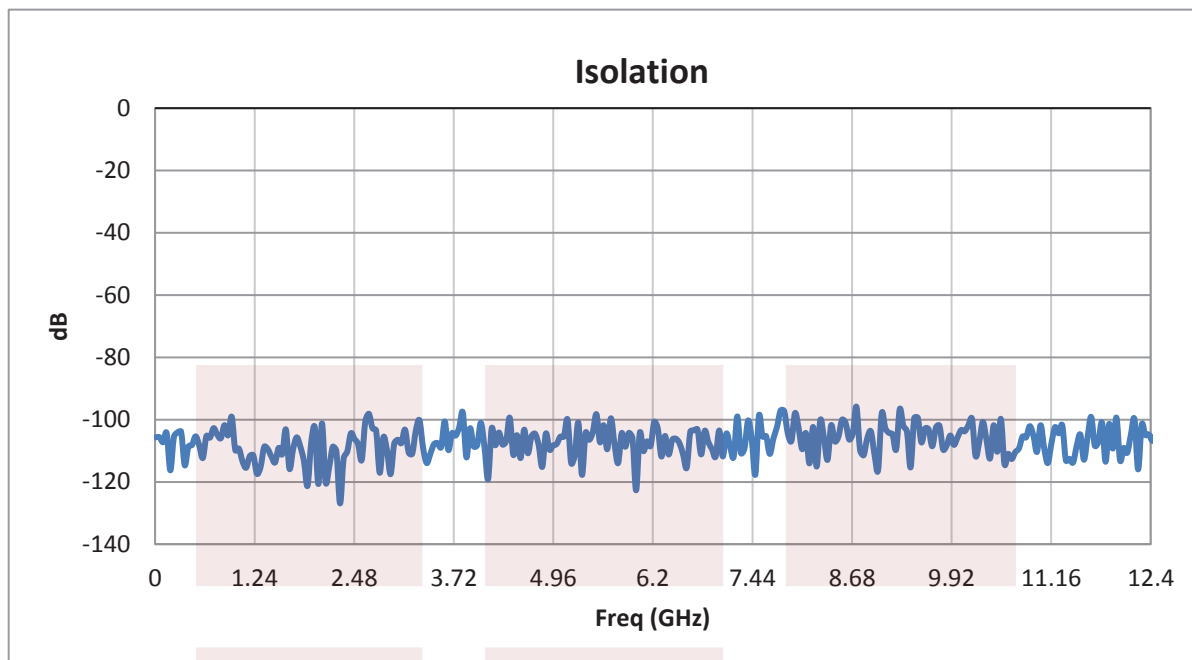
Plotted and Other Data

Notes:

- Values shown are typical at 25°C.

Typical Performance Data



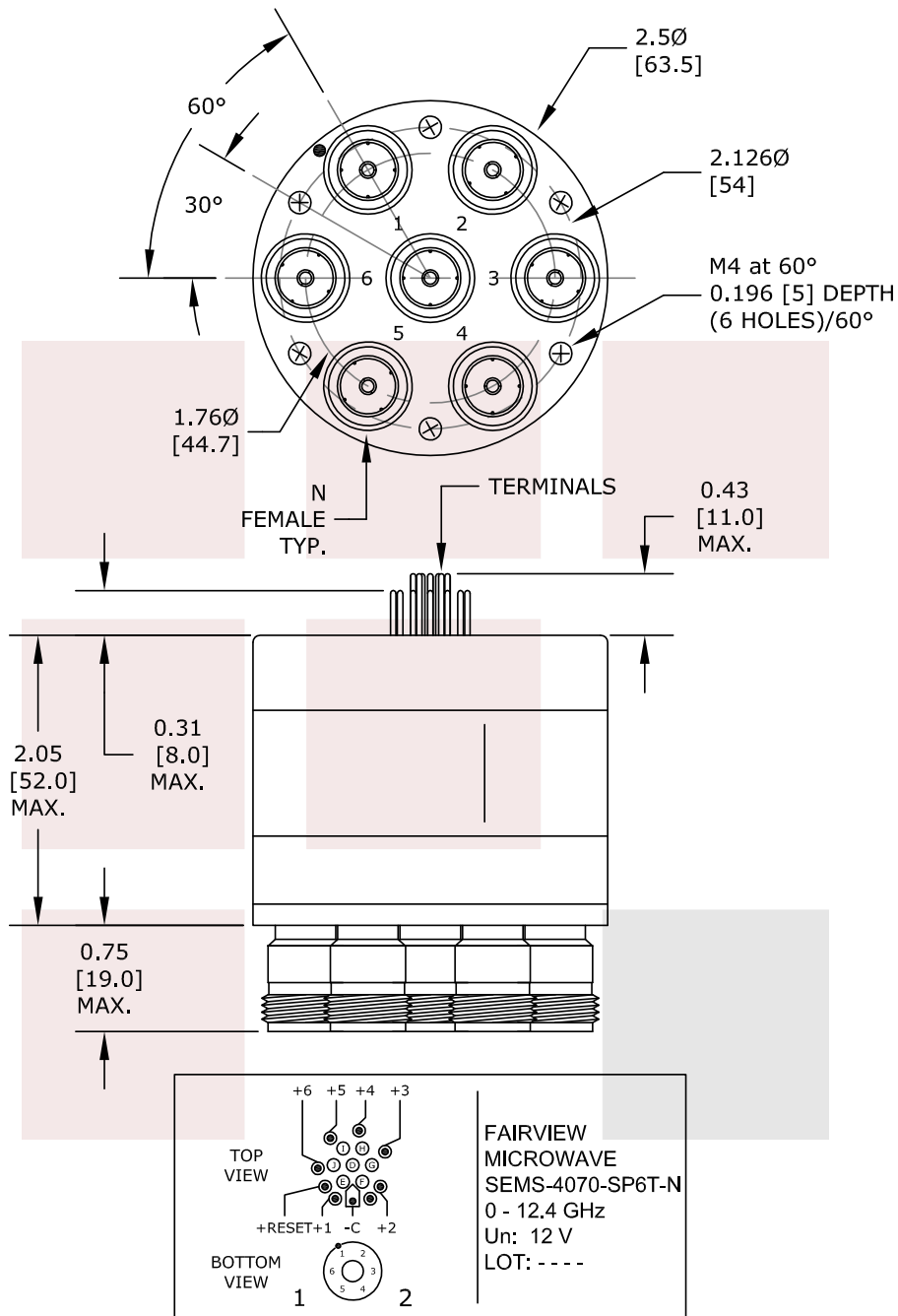


SP6T Latching DC to 12.4 GHz Electro-Mechanical Relay Switch, Indicators, Reset, up to 400W, 12V, N from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP6T Latching DC to 12.4 GHz Electro-Mechanical Relay Switch, Indicators, Reset, up to 400W, 12V, N SEMS-4070-SP6T-N](https://www.fairviewmicrowave.com/sp6t-latching-electro-mechanical-relay-switch-indicators-reset-sems-4070-sp6t-n-p.aspx)

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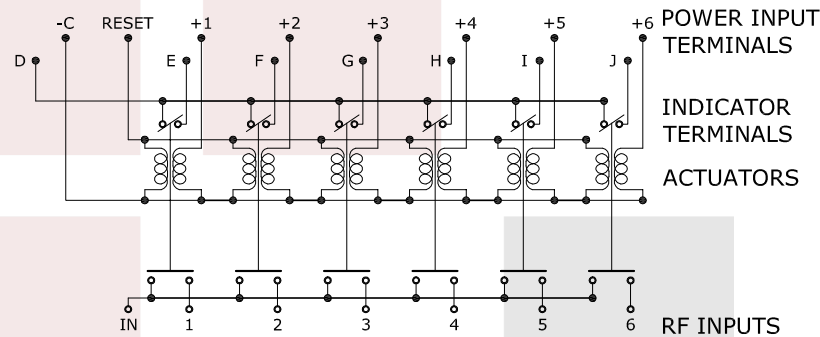
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CAD FILE	082815	SHEET	SCALE	N/A	SIZE A 150

Voltage	RF Continuity	Indicator
- C + RESET	ALL PORTS OPEN	- -
- 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

SCHEMATIC DIAGRAM



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CAGE CODE

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CAD FILE

120214

SHEET

SCALE N/A

SIZE A

150