

SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA

The SEMS-4050-SPDT-SMA is an SPDT 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 10M life cycles for high reliability operation, this design uses a Failsafe Actuator with a break before make configuration. The switch exhibits exceptional electrical performance specified from 0.15 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: SPDT
Actuator Type: Failsafe
Switching Sequence: Break before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Current @ 28 Volts		102		mA
VSWR			1.4:1	
Insertion Loss			0.35	dB
Isolation	60			dB
Input Power (CW)			100	Watts
Switching Time			10,000,000	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 8	8 - 12.4	12.4 - 18		GHz
VSWR, Max	1.1:1	1.2:1	1.2:1	1.4:1		
Insertion Loss, Max	0.15	0.2	0.25	0.35		dB
Isolation, Min	80	70	65	60		dB
Power In, Max (CW)	240	150	120	100		Watts

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

Mechanical Specifications

Size
Length: 1.5 in [38.1 mm]
Width/Diameter: 1.5 in [38.1 mm]
Height: 0.5 in [12.7 mm]
Weight: 0.129 lbs [58.51 g]
Package Type: Connectorized
Operating Life: 10,000,000 Cycles

Features:

- Single Pole Double Throw Relay Switch
- DC to 18 GHz Frequency Range
- 10M Cycle Operating Life Min
- 240 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.15 dB Max
- VSWR 1.1:1 Max

Applications:

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

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Connectors

RF Connector Type	SMA 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
Shock	MIL-STD-202, Method 213B, Cond.C
Vibration	MIL-STD-202, Method 204D, Cond.D

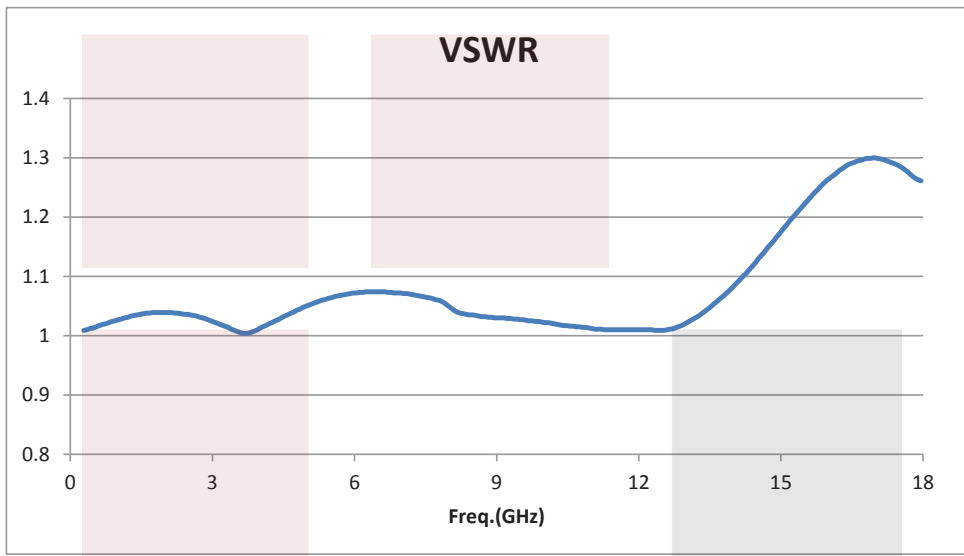
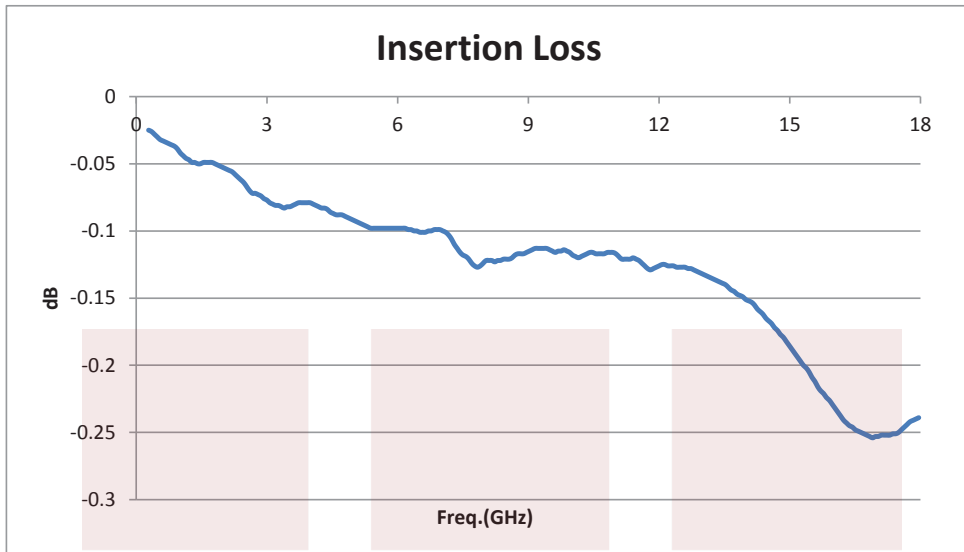
Environmental Specification Notes:
 Environmental specifications are guaranteed but not tested.

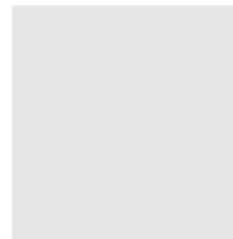
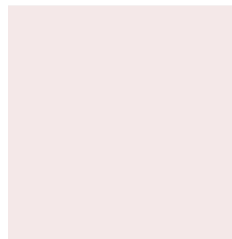
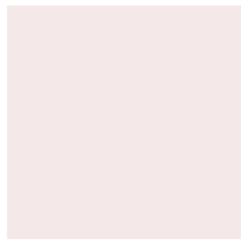
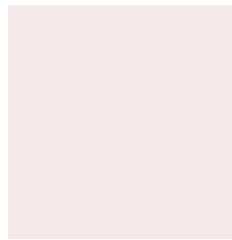
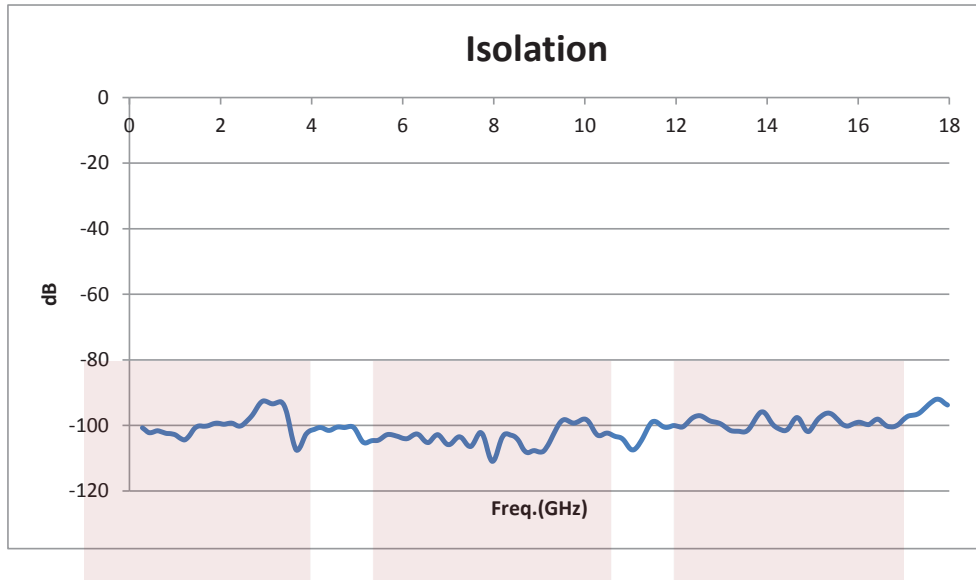
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

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

Typical Performance Data



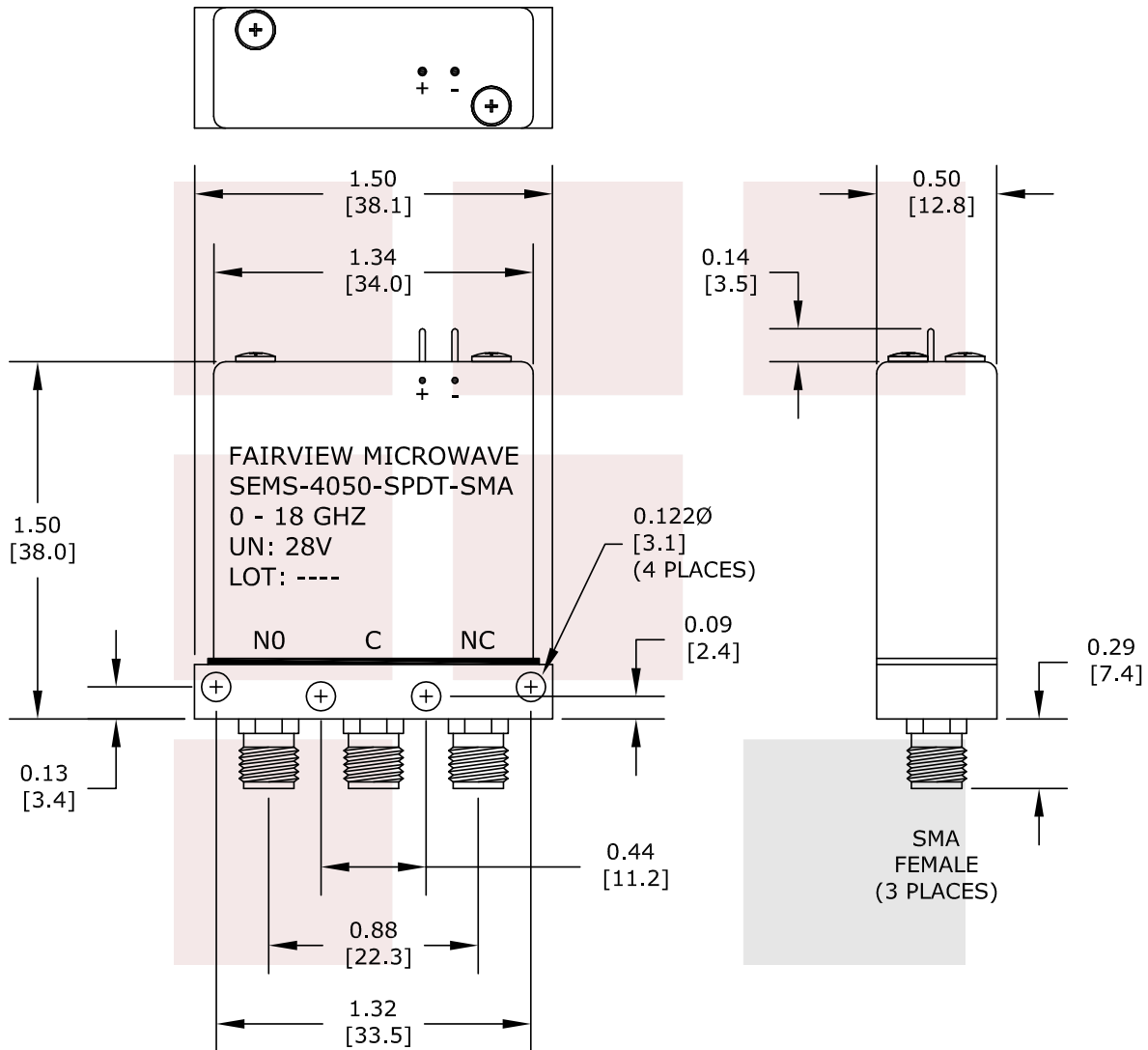


SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA SEMS-4050-SPDT-SMA](#)

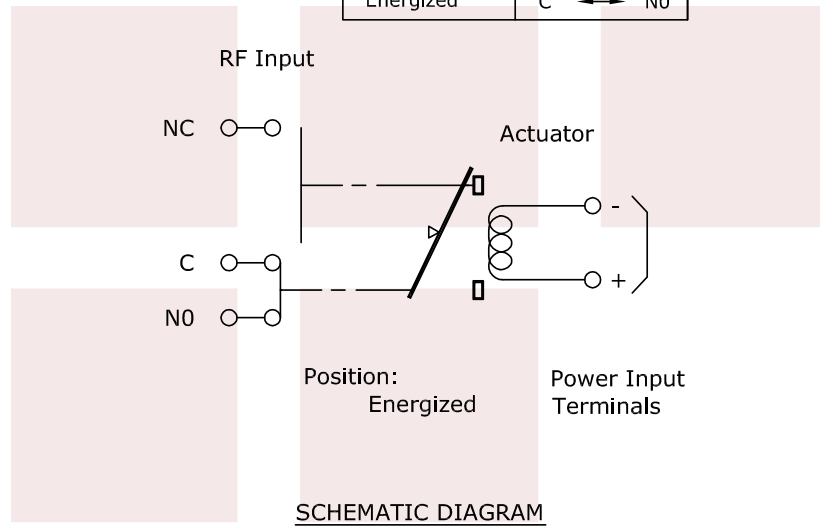
URL: <https://www.fairviewmicrowave.com/spdt-failsafe-electro-mechanical-relay-switch-sems-4050-spdt-sma-p.aspx>

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TITLE SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA		DWG NO SEMS-4050-SPDT-SMA		CAGE CODE 3FKR5	
CAD FILE	091914	SHEET	SCALE	N/A	SIZE A 2233

Voltage	RF Continuity
De-energized	C ↔ NC
Energized	C ↔ NO



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