

SP10T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA

The SEMS-4074-SP10T-SMA is an SP10T 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 Normally Open Actuator with a break before make configuration. 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	SP10T
Actuator Type	Normally Open
Switching Sequence	Break before Make
Polarity	Negative Common

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			1.7:1	
Insertion Loss			0.7	dB
Isolation	55			dB
Input Power (CW)			100	Watts
Switching Time			15	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 8	8 - 12.4	12.4 - 15.5	15.5 - 18	GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.5:1	1.7:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.7	dB
Isolation, Min	80	70	60	60	55	dB
Power In, Max (CW)	240	150	120	110	100	Watts

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

Mechanical Specifications

Size	
Length	1.97 in [50.04 mm]
Width/Diameter	2.5 in [63.5 mm]
Height	2.5 in [63.5 mm]
Weight	0.6655 lbs [301.87 g]
Package Type	Connectorized
Operating Life	2,000,000 Cycles



Features:

- Single Pole Ten Throw 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 0.7 dB Max
- VSWR 1.7:1 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
Humidity	MIL-DTE-3928E, Cond.B
Shock	MIL-STD-202, Method 213B, Cond.C (survival)
Vibration	MIL-STD-202, Method 204D, Cond.D (survival)

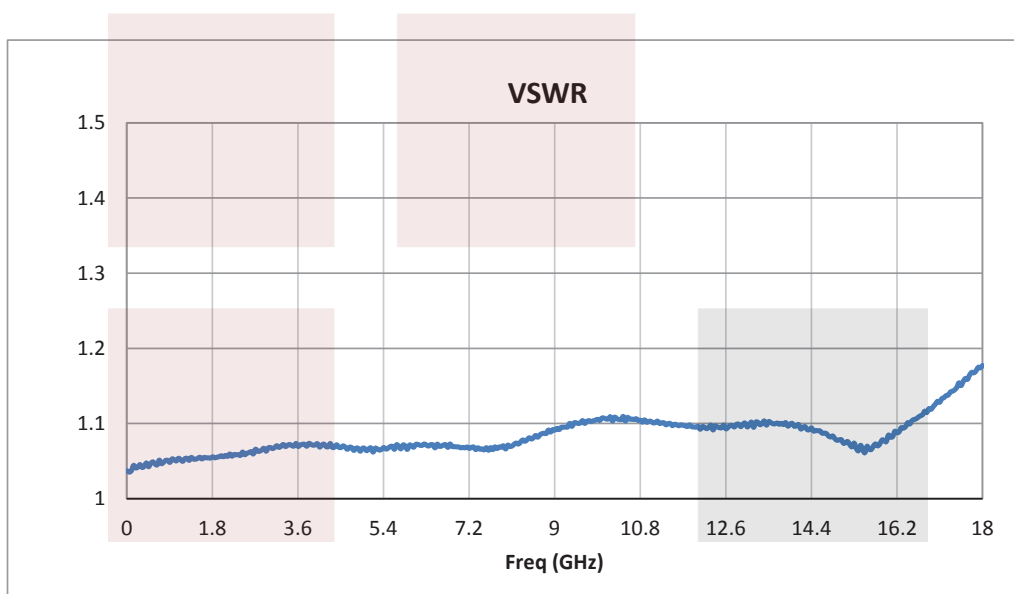
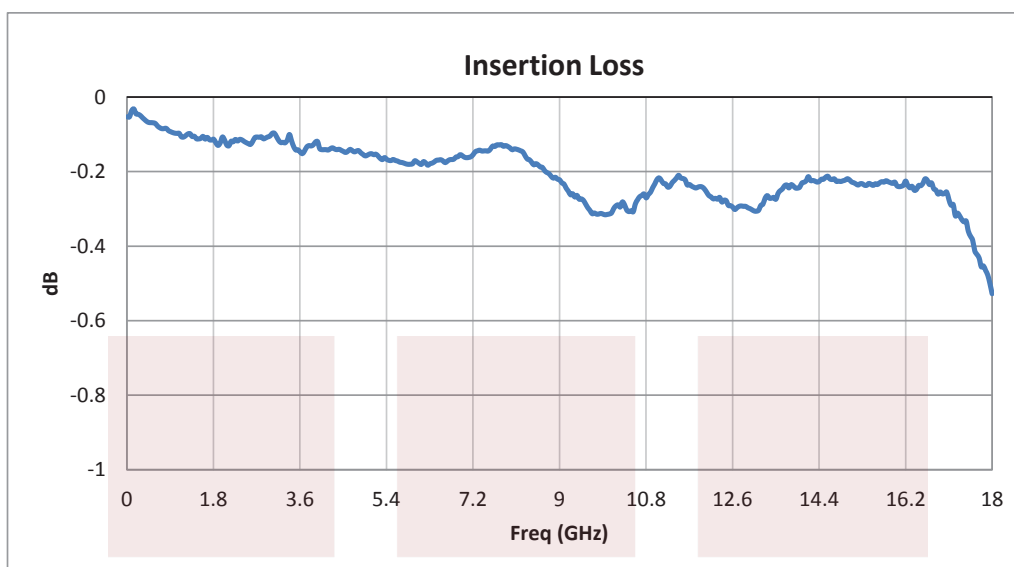
Environmental Specification Notes:
Environmental specifications are guaranteed but not tested.

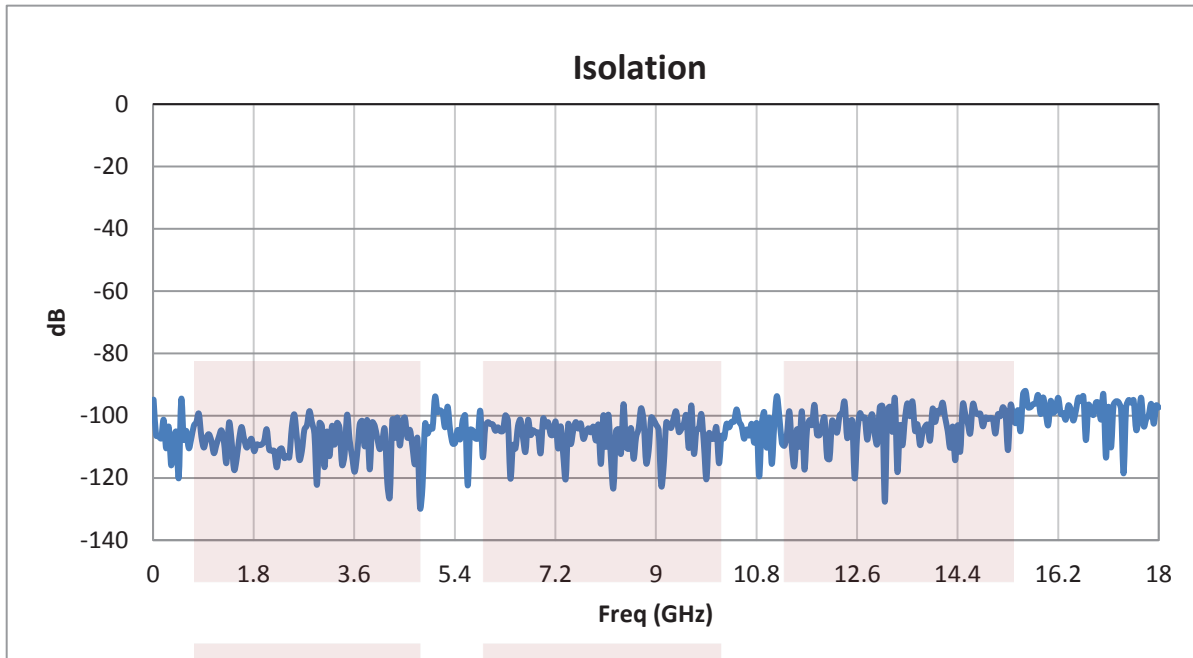
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

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

Typical Performance Data





SP10T NO 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: [SP10T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA SEMS-4074-SP10T-SMA](#)

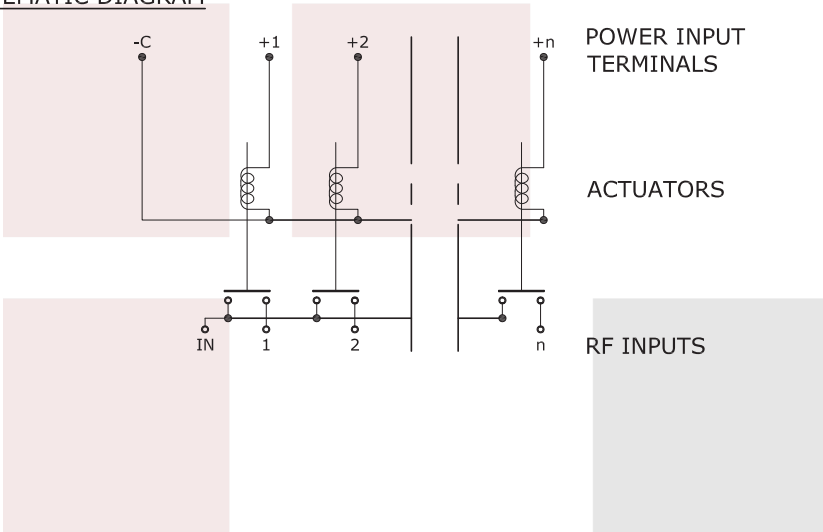
URL: <https://www.fairviewmicrowave.com/sp10t-normally-open-electro-mechanical-relay-switch-sems-4074-sp10t-sma-p.aspx>

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Voltage	RF Continuity
- C + 1	IN ↔ 1
- C + 2	IN ↔ 2
- C + 3	IN ↔ 3
- C + 4	IN ↔ 4
- C + 5	IN ↔ 5
- C + 6	IN ↔ 6
- C + 7	IN ↔ 7
- C + 8	IN ↔ 8
- C + 9	IN ↔ 9
- C + 10	IN ↔ 10

SCHEMATIC DIAGRAM



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<div>TITLE</div> <div>SP10T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 240W, 28V, SMA</div>	<div>DWG NO</div> <div>SEMS-4074-SP10T-SMA</div>	<div>CAGE CODE</div> <div>3FKR5</div>			
<div>CAD FILE</div> <div>120214</div>	<div>SHEET</div> <div></div>	<div>SCALE</div> <div>N/A</div>	<div>SIZE</div> <div>A</div>	<div></div> <div>150</div>	