

SPDT Failsafe DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, up to 80W, 28V, 2.92mm

The SEMS-4054-SPDT-K is an SPDT Electromechanical Relay Switch that operates over a wide frequency band from DC to 40GHz with up to 80 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 and position indicators. The switch exhibits exceptional electrical performance specified from 0.3 dB max for insertion loss and from 70 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 2.92mm female connectors.

Electrical Specifications

Switch Type	SPDT
Actuator Type	Failsafe
Switching Sequence	Break before Make
Actuator Options	Indicators
Indicator Rating	1 Watts / 30 Volts / 100 mA

Description	Min	Typ	Max	Units
Frequency Range	DC		40	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Current @ 28 Volts		102		mA
VSWR			1.9:1	
Insertion Loss			0.8	dB
Isolation	50			dB
Input Power (CW)			10	Watts
Switching Time			10	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12.4	12.4 - 18	18 - 26.5	26.5 - 40	GHz
VSWR, Max	1.3:1	1.4:1	1.5:1	1.7:1	1.9:1	
Insertion Loss, Max	0.3	0.4	0.5	0.7	0.8	dB
Isolation, Min	70	60	60	55	50	dB
Power In, Max (CW)	80	60	50	20	10	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	0.1283 lbs [58.2 g]
Package Type	Connectorized
Operating Life	10,000,000 Cycles



Features:

- Single Pole Double Throw Relay Switch
- DC to 40 GHz Frequency Range
- 10M Cycle Operating Life Min
- 10 Watt Avg Power Max
- -40 to +85 Deg C Operating Temperature
- Insertion Loss 0.8 dB Max
- VSWR 1.9:1 Max

Applications:

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

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Connectors

RF Connector Type	2.92mm 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.

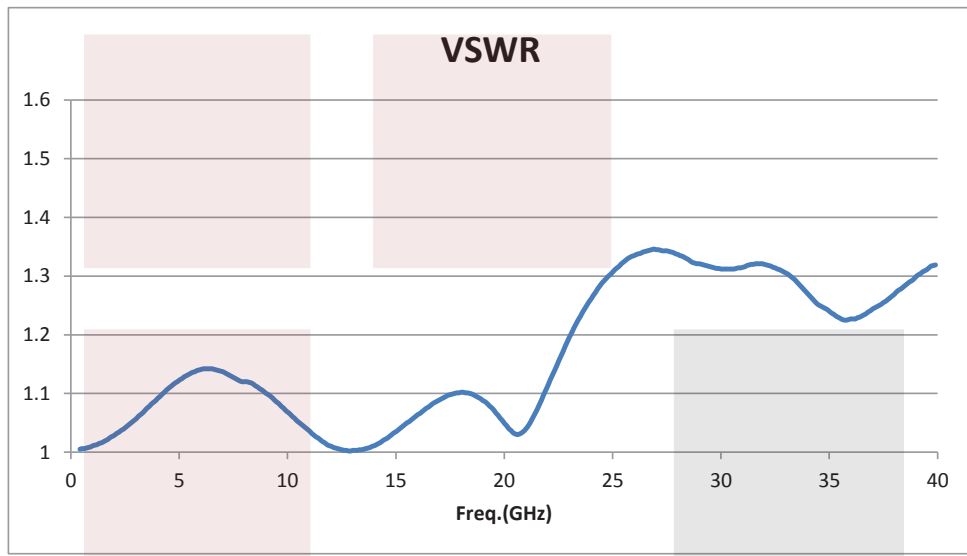
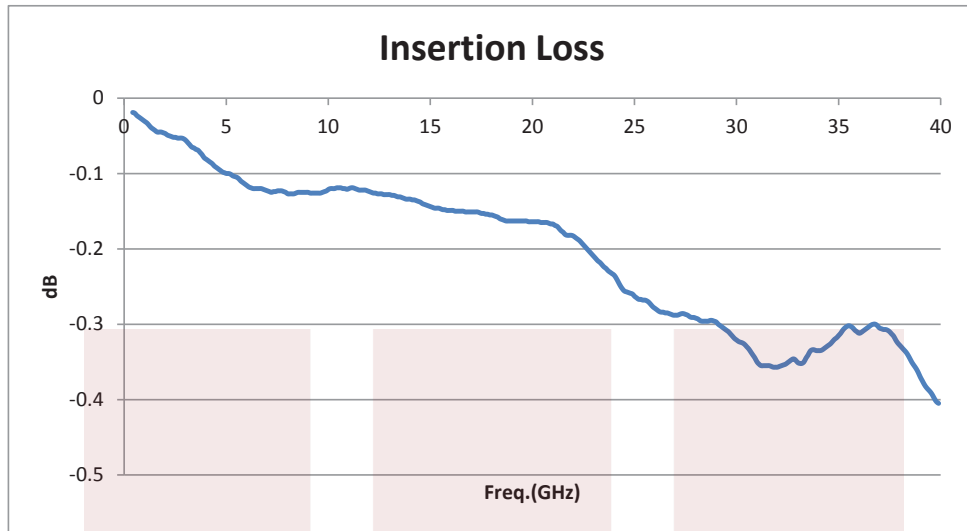
Compliance Certifications (see [product page](#) for current document)

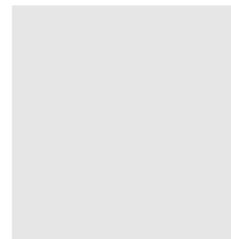
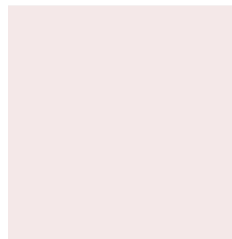
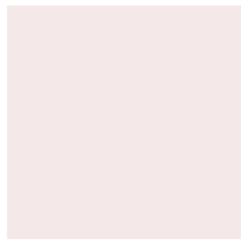
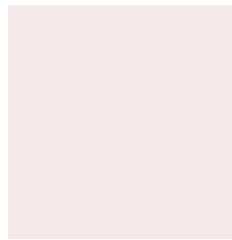
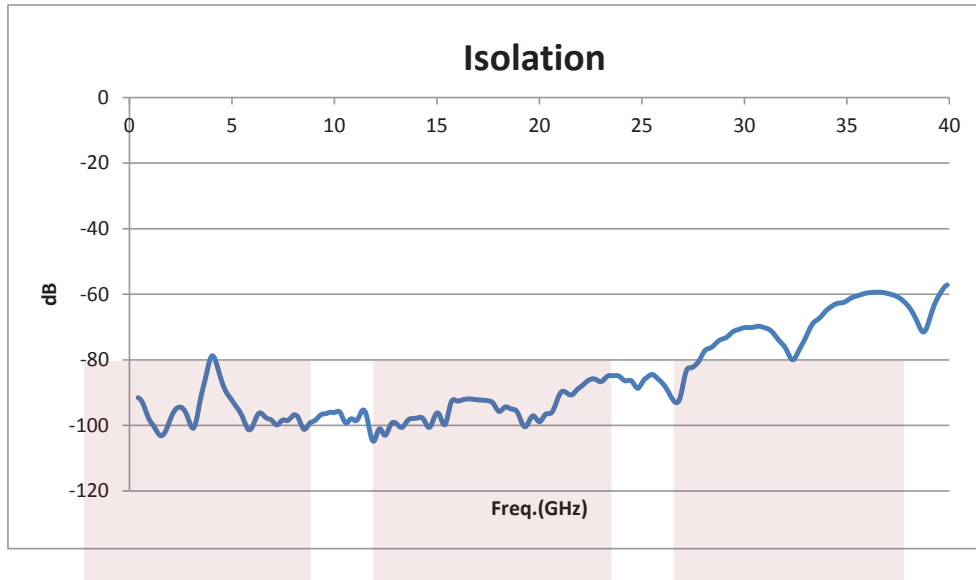
Plotted and Other Data

Notes:

- Values shown are typical at 25°C.

Typical Performance Data





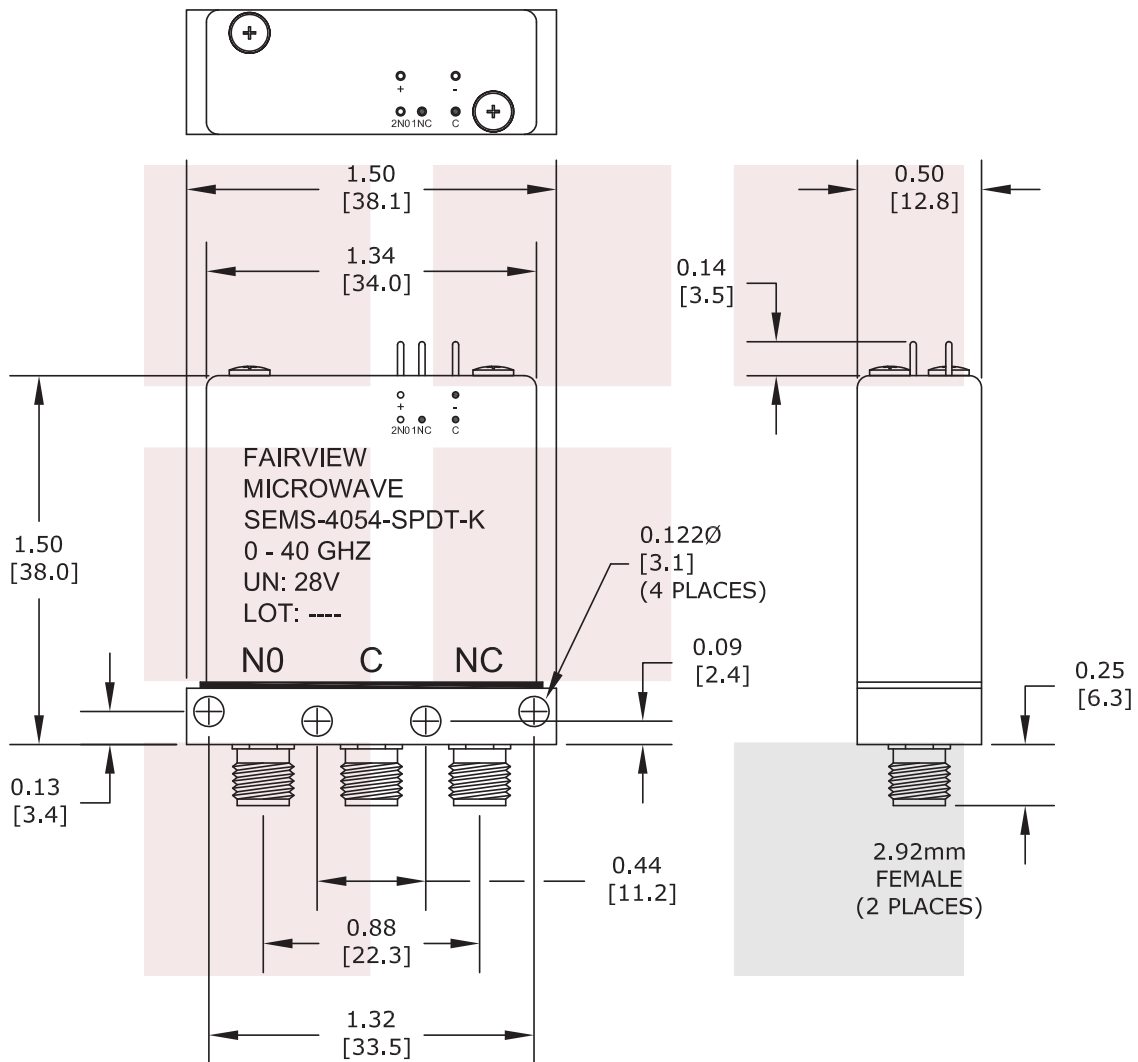
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For additional information on this product, please click the following link: [SPDT Failsafe DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, up to 80W, 28V, 2.92mm SEMS-4054-SPDT-K](#)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-electro-mechanical-relay-switch-indicators-sems-4054-spdt-k-p.aspx>

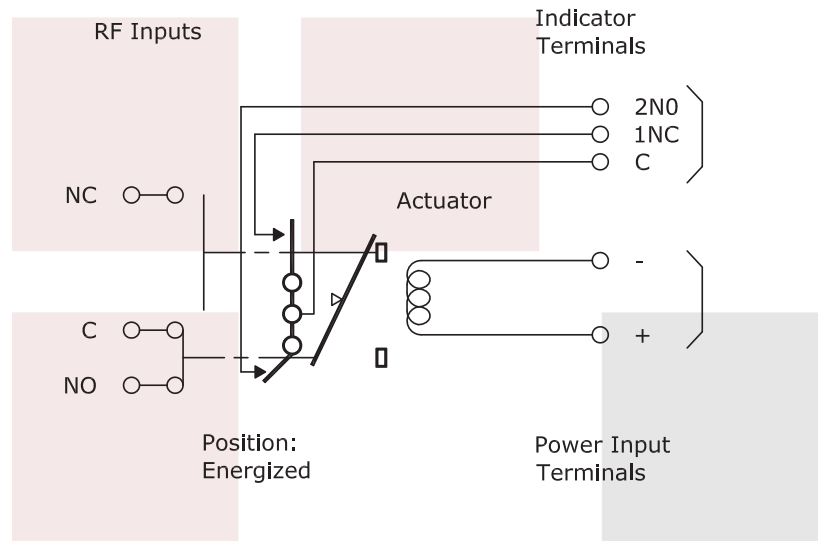
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TITLE SPDT Failsafe DC to 40 GHz Electro-Mechanical Relay Switch, Indicators, up to 80W, 28V, 2.92mm		DWG NO SEMS-4054-SPDT-K		CAGE CODE 3FKR5	
CAD FILE	092614	SHEET	SCALE	N/A	SIZE A 150

Voltage	RF Continuity	Indicator
De-Energized	C ↔ NC	C . 1NC
Energized	C ↔ NO	C . 2NO



SCHEMATIC DIAGRAM

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