

SP4T Normally Open Electro-Mechanical Relay Switch From DC to 22 GHz, 20 Watts, SMA

The FMSW6301 is an SP4T Terminated Electromechanical Relay Switch that operates over a wide frequency band from DC to 22 GHz and has a rating of 20 Watts input power (CW). Rated for 1M life cycles for high reliability operation, this design uses a Normally Open Actuator with a break before make configuration and internal terminations. The switch exhibits exceptional electrical performance specified from 0.3 dB max for insertion loss and 75 dB min for isolation, and guaranteed over -25°C to +65°C. The assembly requires an operating voltage of +12Vdc and is certified as RoHS compliant. External connectors include solder terminals and SMA female connectors.

Electrical Specifications

Switch Type	SP4T, Absorptive
Actuator Type	Normally Open
Switching Sequence	Break Before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		22	GHz
Impedance		50		Ohms
Operating Voltage		12		Volts
Actuating Current @ 12 Volts		380		mA
VSWR			1.6:1	
Insertion Loss			0.6	dB
Isolation	60			dB
Input Power (CW) (at 22 GHz)			20	Watts

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 4	4 - 8	8 - 12	12 - 18	18 - 22	GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.5:1	1.6:1	
Insertion Loss, Max	0.3	0.35	0.4	0.5	0.6	dB
Isolation, Min	75	70	65	60	60	dB

Mechanical Specifications

Size	
Length	2.13 in [54.1 mm]
Width/Diameter	2.13 in [54.1 mm]
Height	2.08 in [52.83 mm]
Weight	0.625 lbs [283.5 g]
Body Material and Plating	Aluminum
Package Type	Connectorized Module
Operating Life	1,000,000 Cycles
Switching Time	15 ms Max



Features:

- Single Pole Four Throw Terminated Relay Switch
- DC to 22 GHz Frequency Range
- 1M Cycle Operating Life Min
- Normally Open Actuator
- Insertion Loss 0.6 dB max
- Isolation 60 dB min
- 20 Watts Avg Power Max
- Switching Sequence Break Before Make

Applications:

- Test & Measurement
- Communications System
- Instrumentation

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Connectors

RF Connector Type	SMA Female
RF Connector Contact Material & Plating	Beryllium Copper, Gold
RF Connector Body Material & Plating	Passivated Stainless Steel
Control Connector	Solder Pin

Environmental Specifications

Temperature

Operating Range	-25 to +65 deg C
ESD Sensitivity	ESD Sensitive Material. Transport material in Approved ESD bags. Handle in approved ESD Workstation.



Environmental Specification Notes:
 Designed to meet MIL-DTL-3928

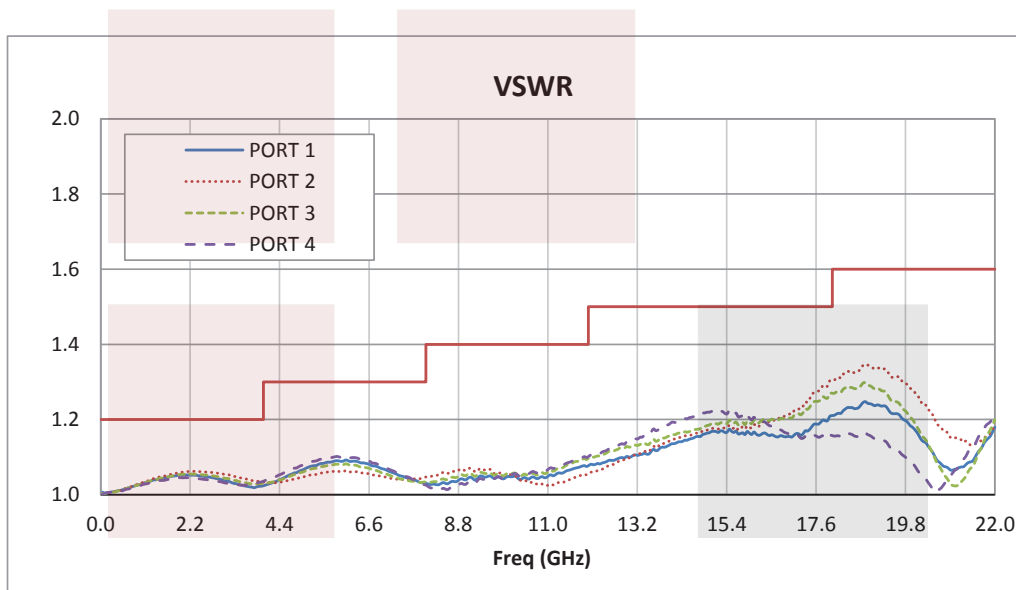
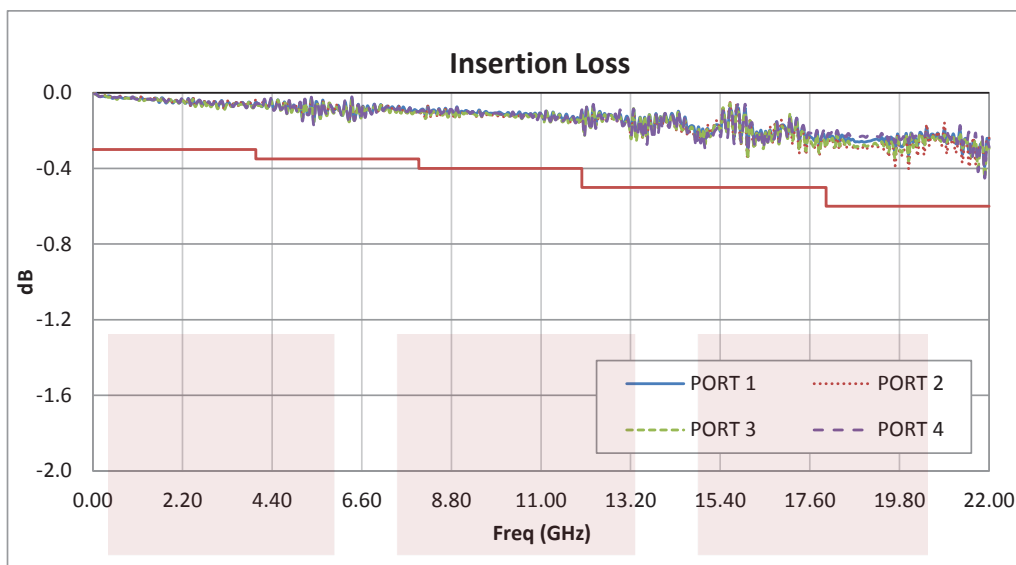
Compliance Certifications (visit www.FairviewMicrowave.com for current document)

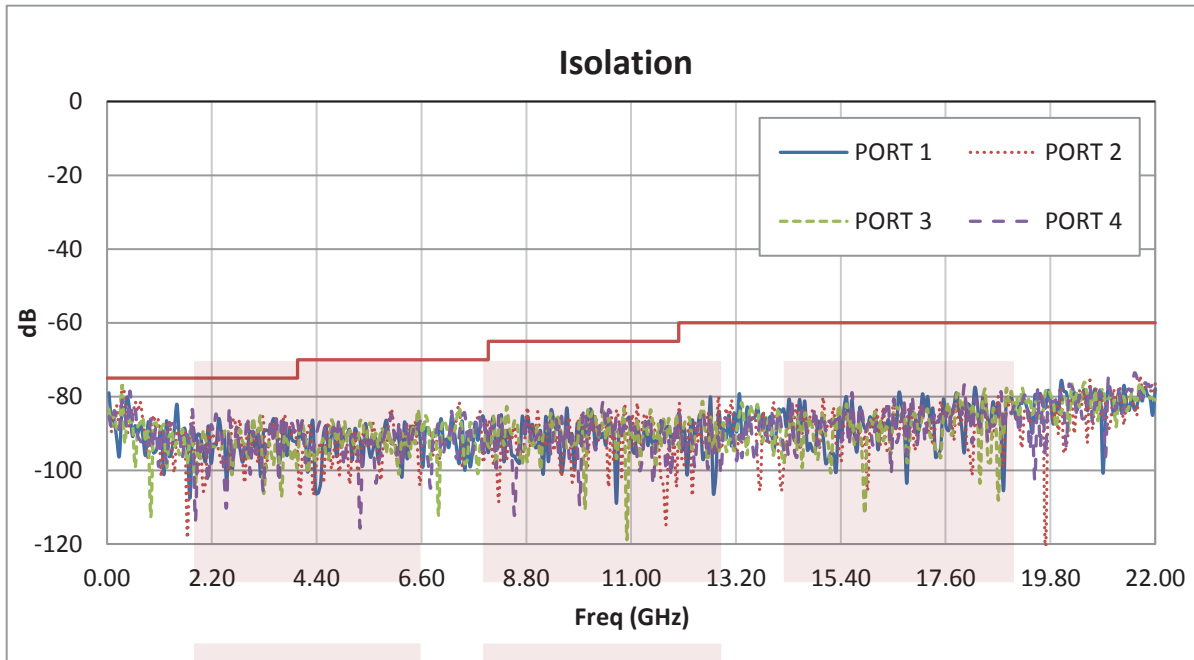
RoHS Compliant

Plotted and Other Data

Notes:

Typical Performance Data



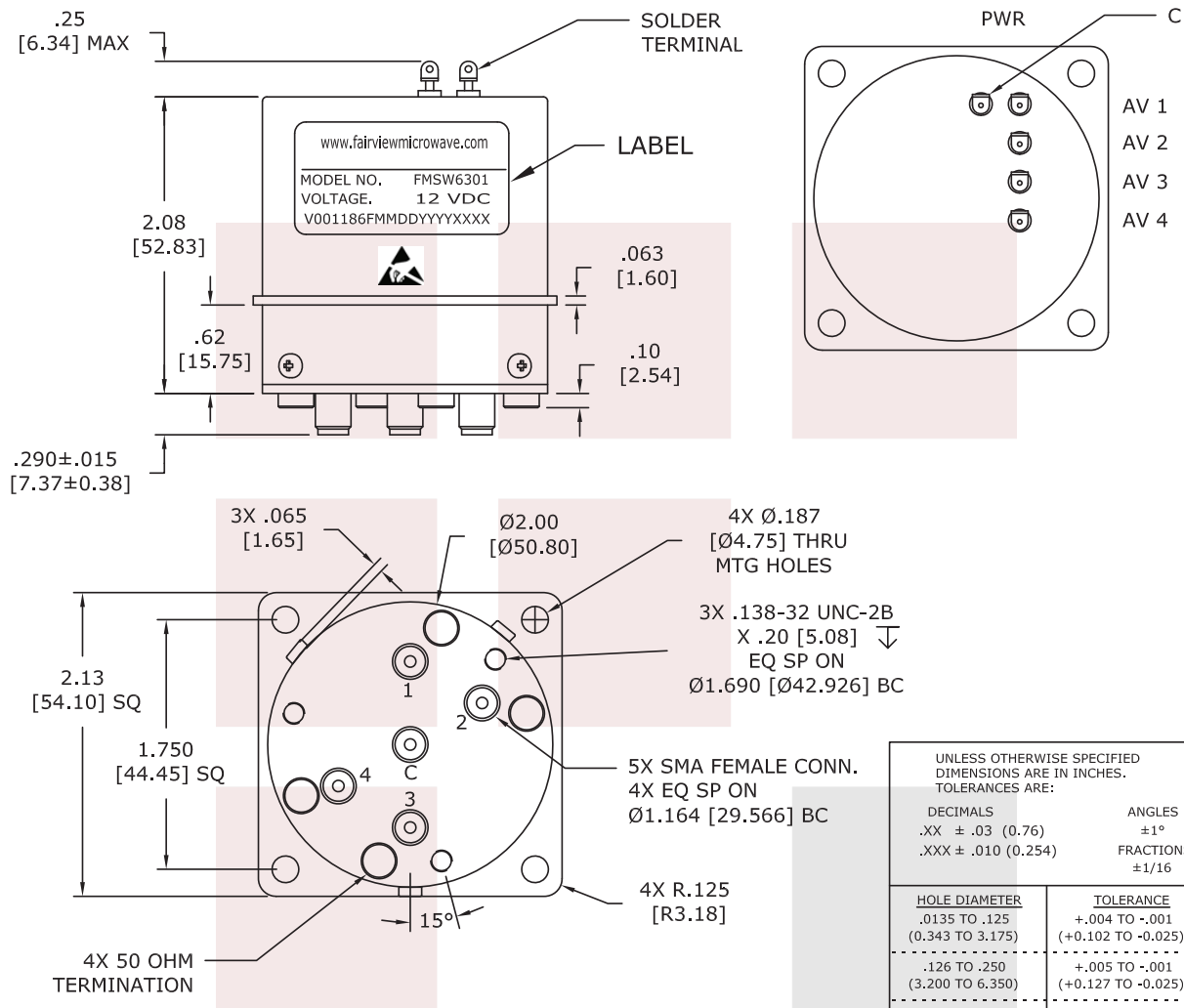


SP4T Normally Open Electro-Mechanical Relay Switch From DC to 22 GHz, 20 Watts, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP4T Normally Open Electro-Mechanical Relay Switch From DC to 22 GHz, 20 Watts, SMA FMSW6301](http://www.fairviewmicrowave.com/sp4t-normally-open-electro-mechanical-relay-switch-fmsw6301-p.aspx)

URL: <http://www.fairviewmicrowave.com/sp4t-normally-open-electro-mechanical-relay-switch-fmsw6301-p.aspx>

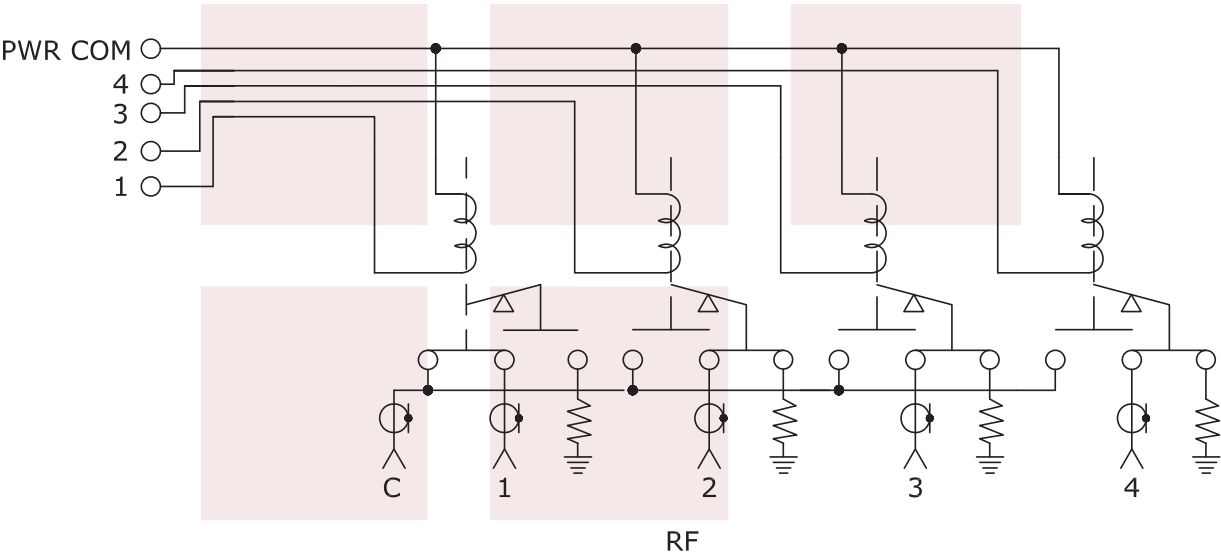
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to 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.



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:	
DECIMALS .XX ± .03 (0.76) .XXX ± .010 (0.254)	ANGLES ±1° FRACTIONS ±1/16
HOLE DIAMETER	TOLERANCE
.0135 TO .125 (0.343 TO 3.175)	+.004 TO -.001 (+.0102 TO -.0025)
.126 TO .250 (3.200 TO 6.350)	+.005 TO -.001 (+.0127 TO -.0025)
.251 TO .500 (6.375 TO 12.700)	+.006 TO -.001 (+.0152 TO -.0025)
.501 TO .750 (12.725 TO 19.050)	+.008 TO -.001 (+.0203 TO -.0025)
.751 TO 1.000 (19.075 TO 25.400)	+.010 TO -.001 (+.0254 TO -.0025)
1.001 TO 2.000 (25.425 TO 50.800)	+.012 TO -.001 (+.0305 TO -.0025)

* THESE DIMENSIONS AND TOLERANCES
SUPERSEDE NOTE #1 ON TITLE BLOCK.

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TITLE SP4T Normally Open Electro-Mechanical Relay Switch From DC to 22 GHz, 20 Watts, SMA		DWG NO FMSW6301		CAGE CODE 3FKR5	
CAD FILE	090815	SHEET	SCALE	N/A	SIZE A 2233



SCHEMATIC NORMALLY OPEN SHOWN IN DE-ENERGIZED POSITION

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