

**SP4T Normally Open Electro-Mechanical Relay
Switch From DC to 10 GHz, 160 Watts, N**

The FMSW6190 is an SP4T Electromechanical Relay Switch that operates over a wide frequency band from DC to 10 GHz and has a rating of 160 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. The switch exhibits exceptional electrical performance specified from 0.25 dB max for insertion loss and 80 dB min for isolation, and guaranteed over -25°C to +65°C. The assembly requires an operating voltage of +12Vdc. External connectors include solder terminals and N female connectors.



Electrical Specifications

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

Description	Min	Typ	Max	Units
Frequency Range	DC		10	GHz
Impedance		50		Ohms
Operating Voltage		12		Volts
Actuating Current @ 12 Volts		255		mA
VSWR			1.6:1	
Insertion Loss			0.6	dB
Isolation	60			dB
Input Power (CW) (at 10 GHz)			160	Watts

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 4	4 - 8	8 - 10			GHz
VSWR, Max	1.25:1	1.4:1	1.6:1			
Insertion Loss, Max	0.25	0.4	0.6			dB
Isolation, Min	80	70	60			dB

Mechanical Specifications

Size:
Length: 2.3 in [58.42 mm]
Width/Diameter: 2.47 in [62.74 mm]
Height: 2.47 in [62.74 mm]
Weight: 1.156 lbs [524.35 g]
Body Material and Plating: Aluminum
Package Type: Connectorized Module
Operating Life: 1,000,000 Cycles
Switching Time: 50 ms Max

Features:

- Single Pole Four Throw Relay Switch
- DC to 10 GHz Frequency Range
- 1M Cycle Operating Life Min
- Normally Open Actuator
- Insertion Loss 0.6 dB max
- Isolation 60 dB min
- 160 Watts Avg Power Max
- Switching Sequence Break Before Make

Applications:

- Test & Measurement
- Communications System
- Instrumentation

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Connectors

RF Connector Type	N 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)

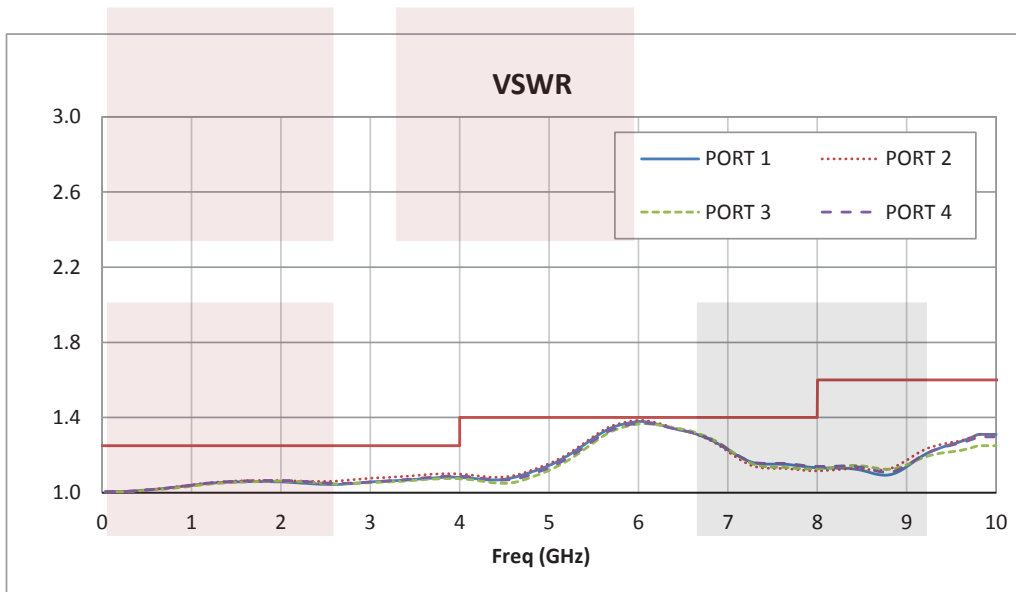
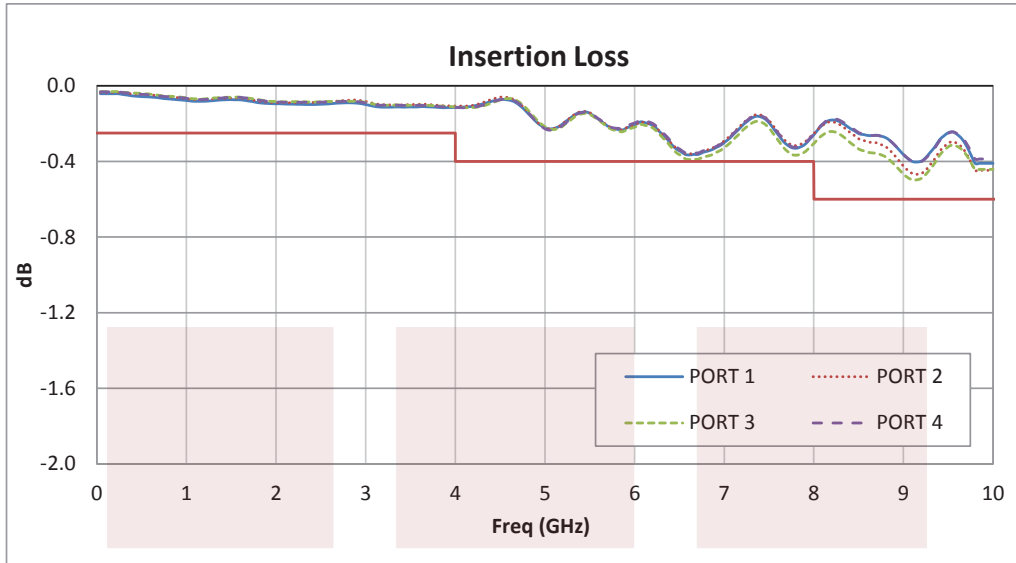
Not RoHS Compliant

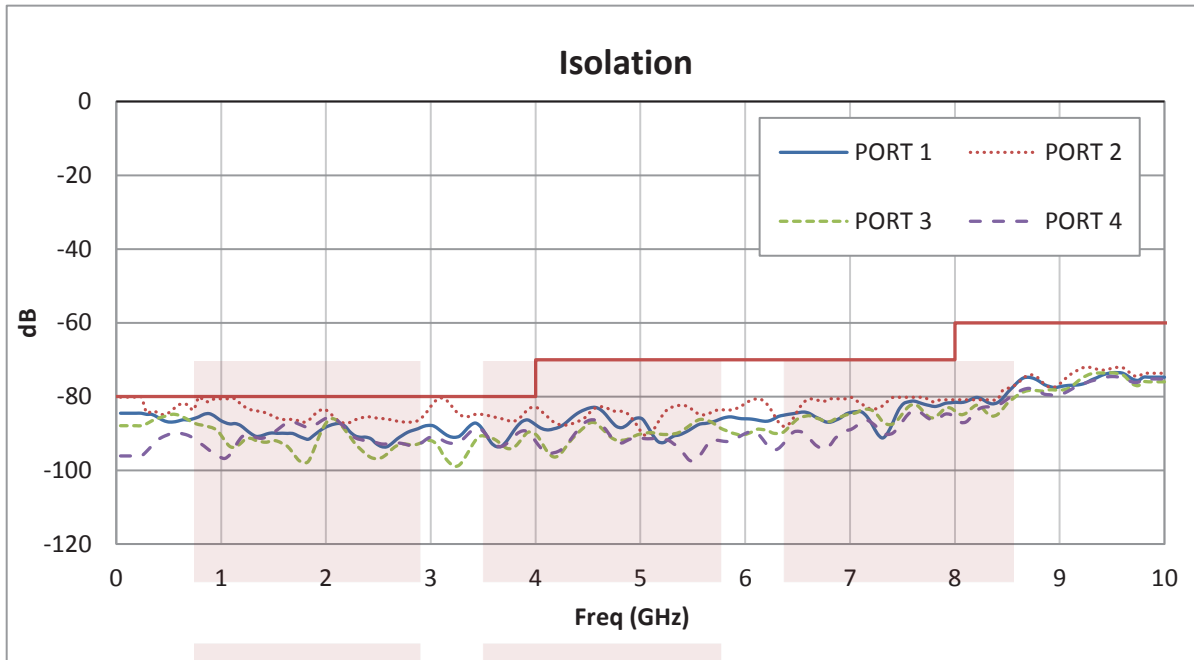
Plotted and Other Data

Notes:



Typical Performance Data



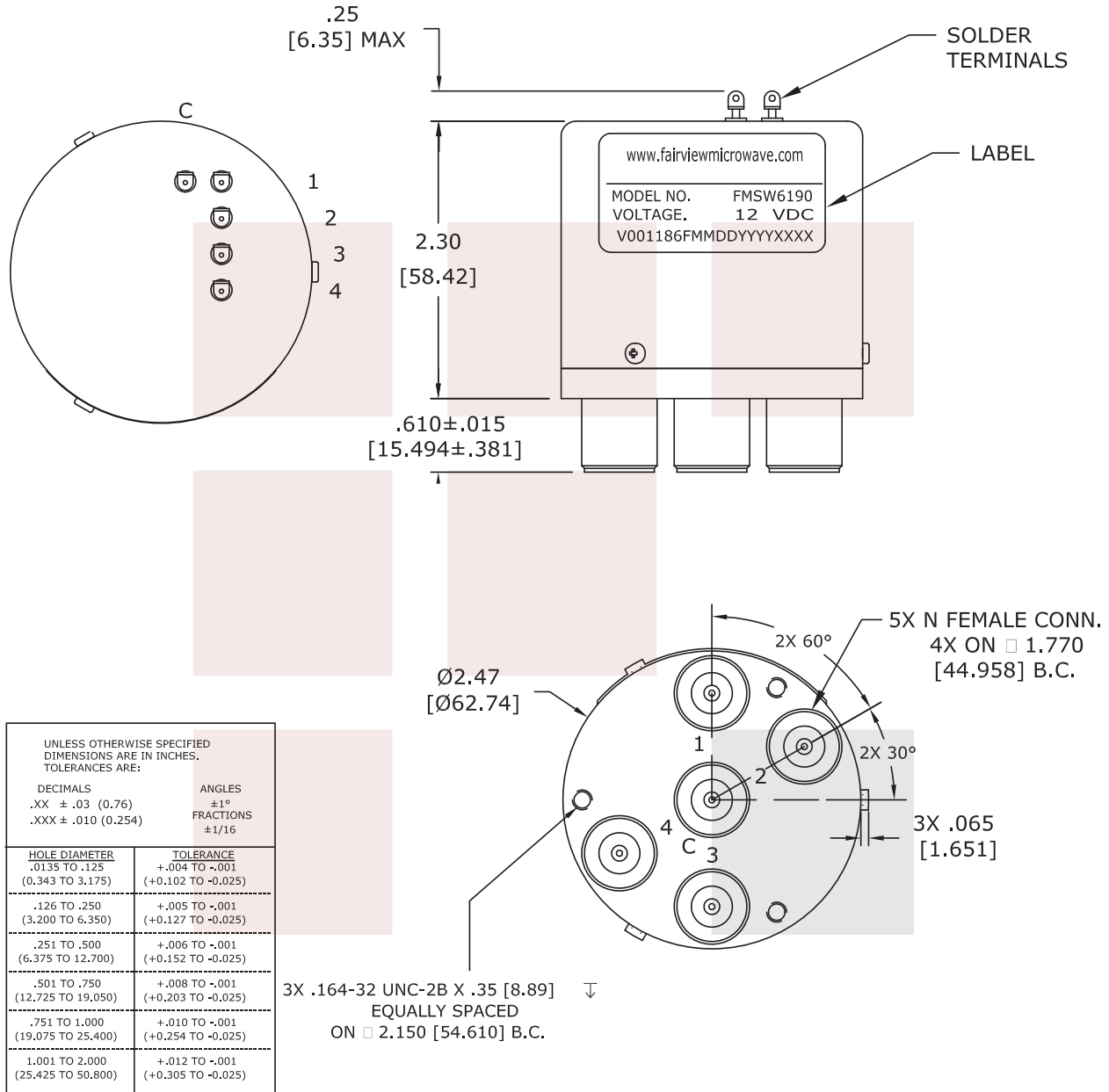


SP4T Normally Open Electro-Mechanical Relay Switch From DC to 10 GHz, 160 Watts, N from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP4T Normally Open Electro-Mechanical Relay Switch From DC to 10 GHz, 160 Watts, N FMSW6190](#)

URL: <http://www.fairviewmicrowave.com/sp4t-normally-open-electro-mechanical-relay-switch-fmsw6190-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.



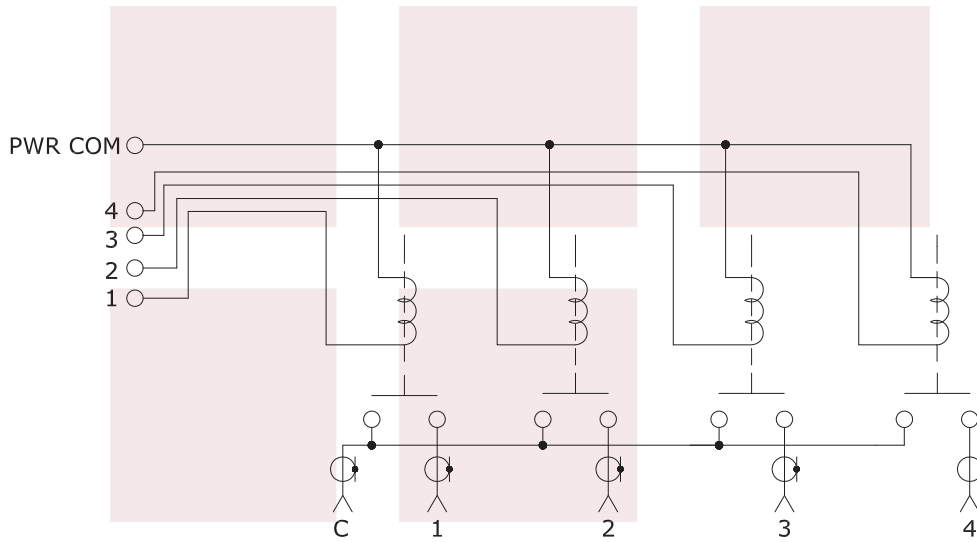
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:

DECIMALS	ANGLES
.XX \pm .03 (0.76)	$\pm 1^\circ$
.XXX \pm .010 (0.254)	FRACTIONS $\pm 1/16$

HOLE DIAMETER	TOLERANCE
.0135 TO .125 (0.343 TO 3.175)	+.004 TO -.001 (+0.102 TO -0.025)
.126 TO .250 (3.200 TO 6.350)	+.005 TO -.001 (+0.127 TO -0.025)
.251 TO .500 (6.375 TO 12.700)	+.006 TO -.001 (+0.152 TO -0.025)
.501 TO .750 (12.725 TO 19.050)	+.008 TO -.001 (+0.203 TO -0.025)
.751 TO 1.000 (19.075 TO 25.400)	+.010 TO -.001 (+0.254 TO -0.025)
1.001 TO 2.000 (25.425 TO 50.800)	+.012 TO -.001 (+0.305 TO -0.025)

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

FAIRVIEW MICROWAVE INC. ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		NOTES: 1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL. 2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME. 3. DIMENSIONS ARE IN INCHES [mm].			
TITLE SP4T Normally Open Electro-Mechanical Relay Switch From DC to 10 GHz, 160 Watts, N	DWG NO FMSW6190	CAGE CODE 3FKR5			
CAD FILE 042815	SHEET	SCALE N/A	SIZE A	2233	



SCHEMATIC NORMALLY OPEN SHOWN IN DE-ENERGIZED POSITION

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