

## SP4T Latching Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts with Self Cut Off, Diodes, Reset, 2.92mm

The FMSW6318 is a Single Pole Four Throw (SP4T) 50 Ohm Terminated RF Coaxial Relay Switch that operates over a wide frequency band from DC to 40 GHz and has a rating of 3 Watts input power (CW). Rated for 1M life cycles for high reliability operation, this design uses a Latching Actuator with a break before make configuration, internal terminations, self cut off, reset circuitry and suppression diodes. The switch exhibits exceptional electrical performance specified from 0.2 dB max for insertion loss and 70 dB min for isolation, and guaranteed over -35°C to +85°C with an operating voltage of +28Vdc. External connectors include solder terminals and 2.92mm female connectors.

### Electrical Specifications

Switch Type	SP4T, Absorptive
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	Self Cut Off, Diodes, Reset
Polarity	Positive

Description	Min	Typ	Max	Units
Frequency Range	DC		40	GHz
Impedance		50		Ohms
Operating Voltage	24	28	30	Volts
Actuating Current @ 28 Volts			300	mA
VSWR			2:1	
Insertion Loss			1	dB
Isolation	50			dB
Input Power (CW) (at 40 GHz)			3	Watts

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18	18 - 26.5	26.5 - 40	GHz
VSWR, Max	1.3:1	1.4:1	1.5:1	1.7:1	2:1	
Insertion Loss, Max	0.2	0.4	0.5	0.7	1	dB
Isolation, Min	70	60	60	55	50	dB

### Mechanical Specifications

Size	
Length	2.25 in [57.15 mm]
Width/Diameter	2.25 in [57.15 mm]
Height	2.375 in [60.33 mm]
Weight	0.5015 lbs [227.48 g]
Body Material and Plating	Aluminum, Nickel
Package Type	Connectorized Module
Operating Life	1,000,000 Cycles
Switching Time	35 ms Max



### Features:

- Single Pole Four Throw Terminated Relay Switch
- DC to 40 GHz Frequency Range
- 1M Cycle Operating Life Min
- Latching Actuator
- Self Cut Off, Reset Circuitry, Suppression Diodes
- Insertion Loss 1 dB max
- Isolation 50 dB min
- 3 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications:

- Test & Measurement
- Military Communication
- Commercial Communication
- Wireless Communications
- SATCOM
- Military Electronic Systems
- RF Test Stations

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**Connectors**

RF Connector Type	2.92mm Female
RF Connector Contact Material & Plating	Beryllium Copper, Gold
RF Connector Body Material & Plating	Passivated Stainless Steel
Control Connector	Solder Pins

**Environmental Specifications**

**Temperature**

Operating Range	-35 to +85 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-3929

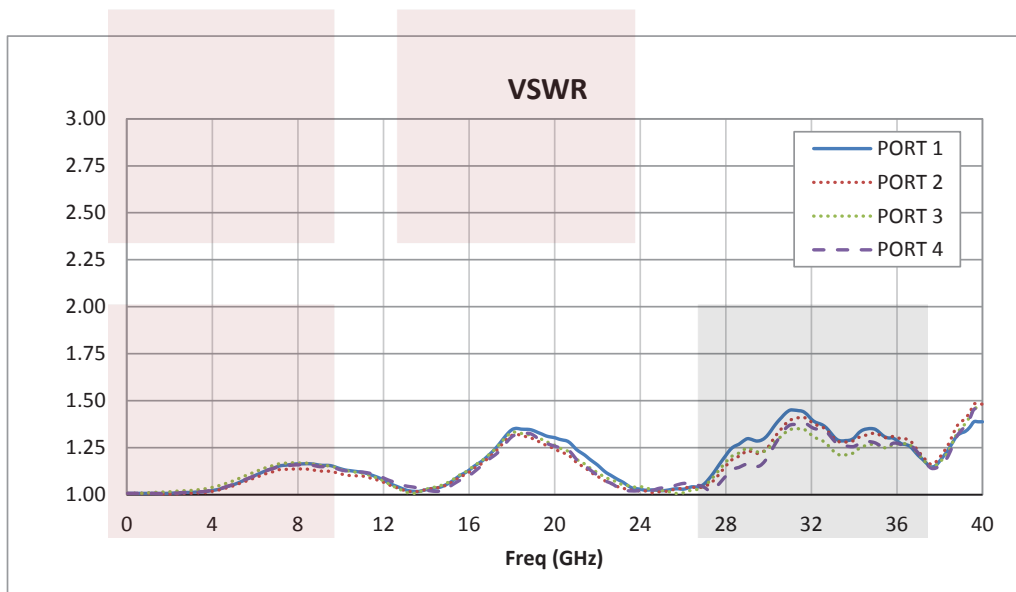
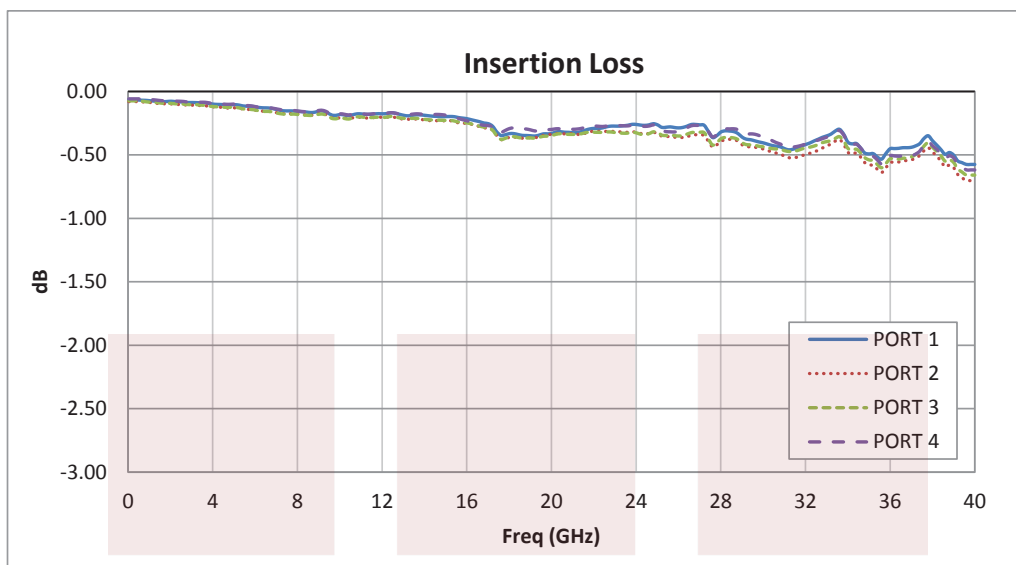
**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

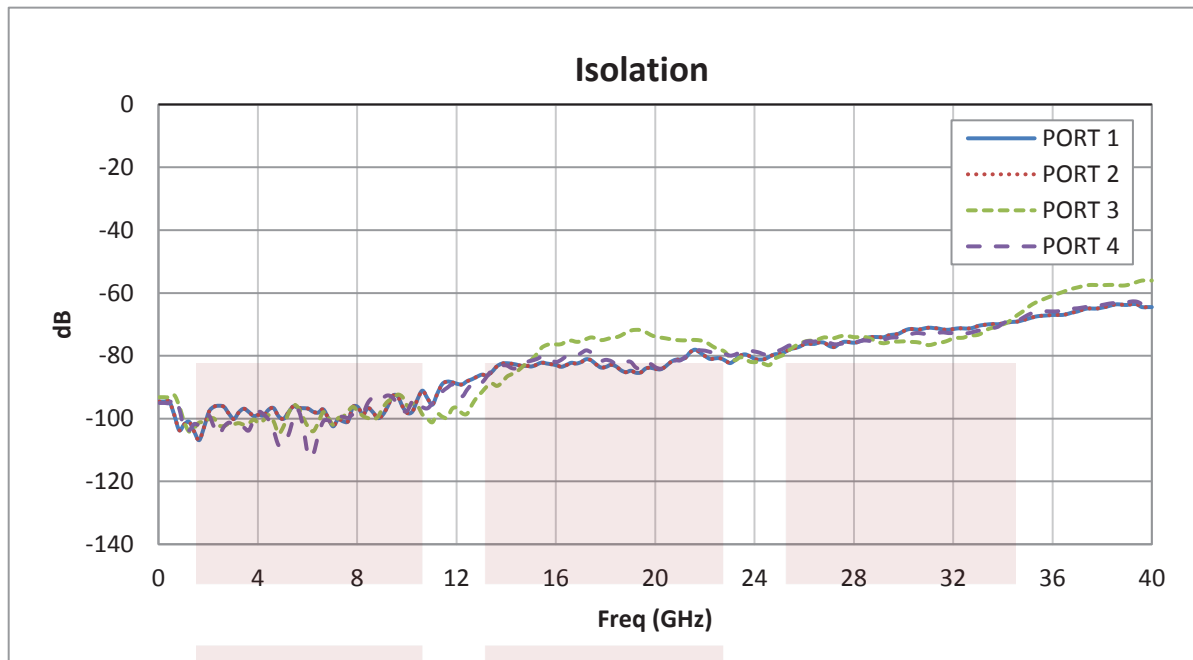
Not RoHS Compliant

**Plotted and Other Data**

Notes:

**Typical Performance Data**



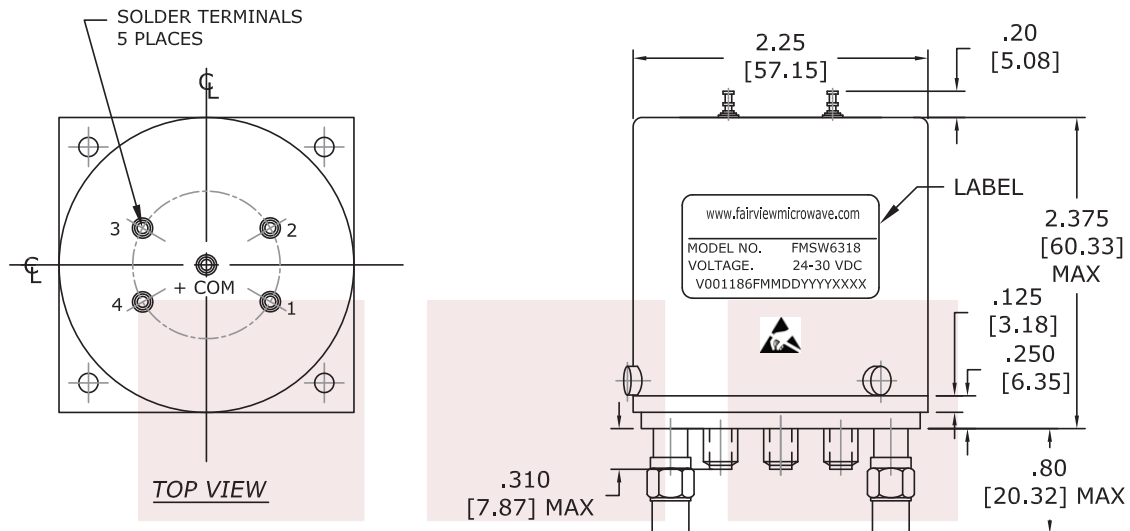


SP4T Latching Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts with Self Cut Off, Diodes, Reset, 2.92mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP4T Latching Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts with Self Cut Off, Diodes, Reset, 2.92mm FMSW6318](http://www.fairviewmicrowave.com/sp4t-latching-electro-mechanical-relay-switch-self-cut-off-diodes-reset-fm-sw6318-p.aspx)

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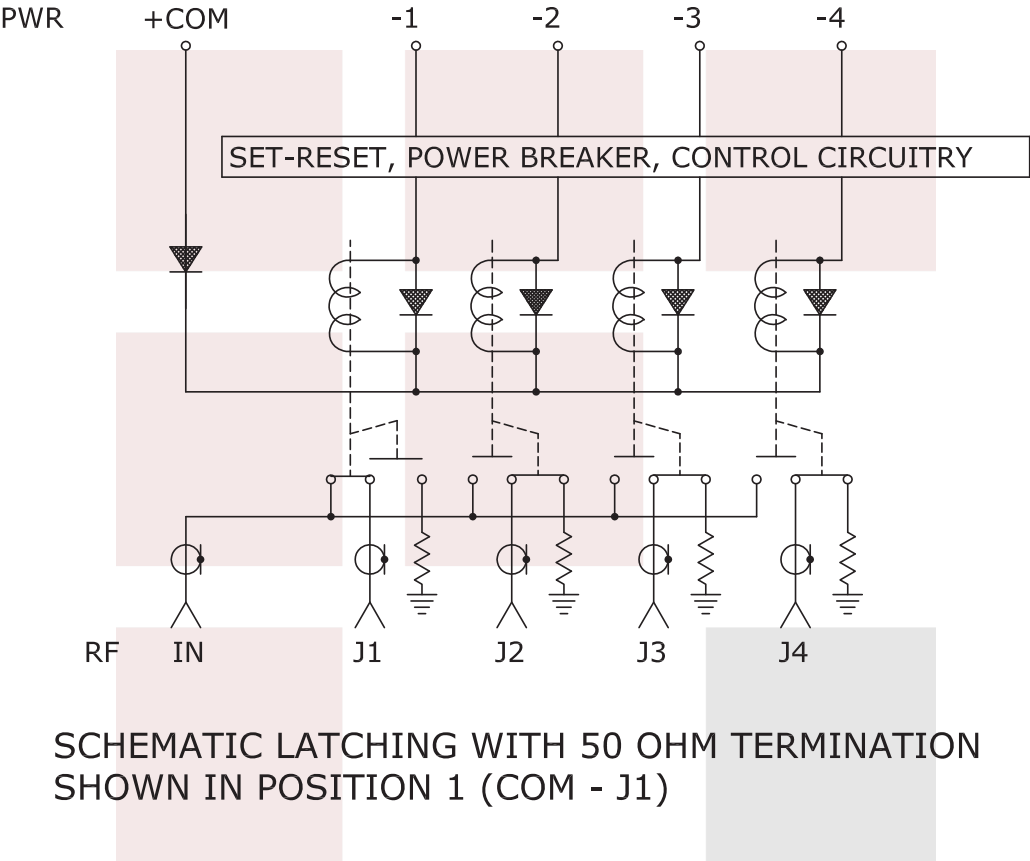
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to 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
<b>HOLE DIAMETER</b>	<b>TOLERANCE</b>
.0135 TO .125 (0.343 TO 3.175)	+.004 TO -.001 (+0.102 TO -.025)
.126 TO .250 (3.200 TO 6.350)	+.005 TO -.001 (+0.127 TO -.025)
.251 TO .500 (6.375 TO 12.700)	+.006 TO -.001 (+0.152 TO -.025)
.501 TO .750 (12.725 TO 19.050)	+.008 TO -.001 (+0.203 TO -.025)
.751 TO 1.000 (19.075 TO 25.400)	+.010 TO -.001 (+0.254 TO -.025)
1.001 TO 2.000 (25.425 TO 50.800)	+.012 TO -.001 (+0.305 TO -.025)

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

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TITLE SP4T Latching Electro-Mechanical Relay Switch From DC to 40 GHz, 3 Watts with Self Cut Off, Diodes, Reset, 2.92mm		DWG NO FMSW6318		CAGE CODE 3FKR5	
CAD FILE	122115	SHEET	SCALE	N/A	SIZE A 2233



SCHEMATIC LATCHING WITH 50 OHM TERMINATION  
SHOWN IN POSITION 1 (COM - J1)

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