

## Transfer Latching Electro-Mechanical Relay Switch From DC to 12.4 GHz, 50 Watts with Self Cut Off, Diodes, N

The FMSW6171 is a Transfer Electromechanical Relay Switch that operates over a wide frequency band from DC to 12.4 GHz and has a rating of 50 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, self cut off circuitry and suppression diodes. The switch exhibits exceptional electrical performance specified from 0.2 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 +28Vdc. External connectors include solder terminals and N female connectors.

### Electrical Specifications

Switch Type	Transfer, Reflective
Actuator Type	Latching
Switching Sequence	Break Before Make
Actuator Options	Self Cut Off, Diodes

Description	Min	Typ	Max	Units
Frequency Range	DC		12.4	GHz
Impedance		50		Ohms
Operating Voltage		28		Volts
Actuating Current @ 28 Volts		135		mA
VSWR			1.45:1	
Insertion Loss			0.4	dB
Isolation	60			dB
Input Power (CW) (at 12.4 GHz)			50	Watts

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 4	4 - 8	8 - 12.4			GHz
VSWR, Max	1.2:1	1.3:1	1.45:1			
Insertion Loss, Max	0.2	0.3	0.4			dB
Isolation, Min	80	70	60			dB

### Mechanical Specifications

<b>Size</b>	
Length	2.06 in [52.32 mm]
Width/Diameter	2 in [50.8 mm]
Height	2 in [50.8 mm]
Weight	0.875 lbs [396.89 g]
Body Material and Plating	Aluminum
Package Type	Connectorized Module
Operating Life	1,000,000 Cycles
Switching Time	20 ms Max



### Features:

- Transfer Relay Switch
- DC to 12.4 GHz Frequency Range
- 1M Cycle Operating Life Min
- Latching Actuator
- Self Cut Off, Suppression Diodes
- Insertion Loss 0.4 dB max
- Isolation 60 dB min
- 50 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications:

- Test & Measurement
- Communications System
- Instrumentation

Fairview Microwave  
1130 Junction Dr. #100  
Allen, TX 75013  
Tel: 1-800-715-4396 / (972) 649-6678  
Fax: (972) 649-6689  
[www.fairviewmicrowave.com](http://www.fairviewmicrowave.com)  
[sales@fairviewmicrowave.com](mailto:sales@fairviewmicrowave.com)

**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

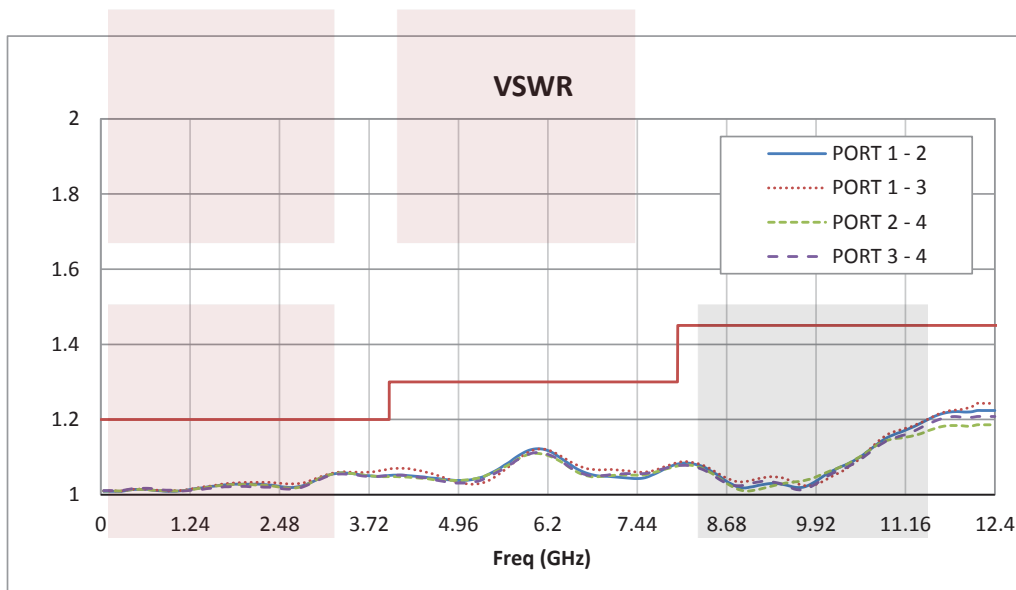
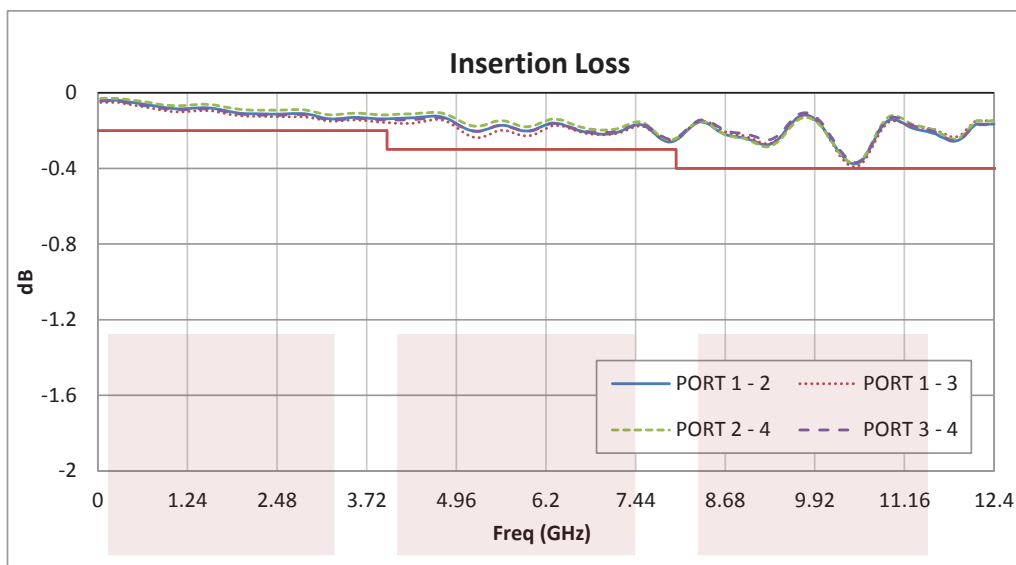
**Compliance Certifications** (visit [www.FairviewMicrowave.com](http://www.FairviewMicrowave.com) for current document)

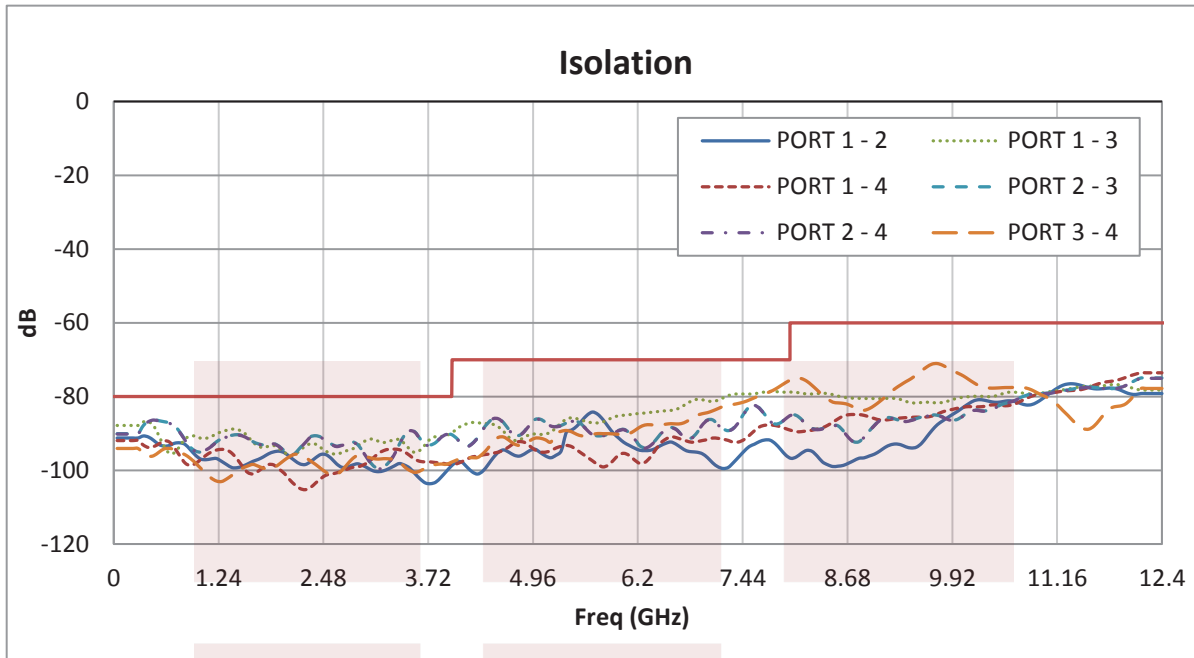
Not RoHS Compliant

**Plotted and Other Data**

Notes:

**Typical Performance Data**



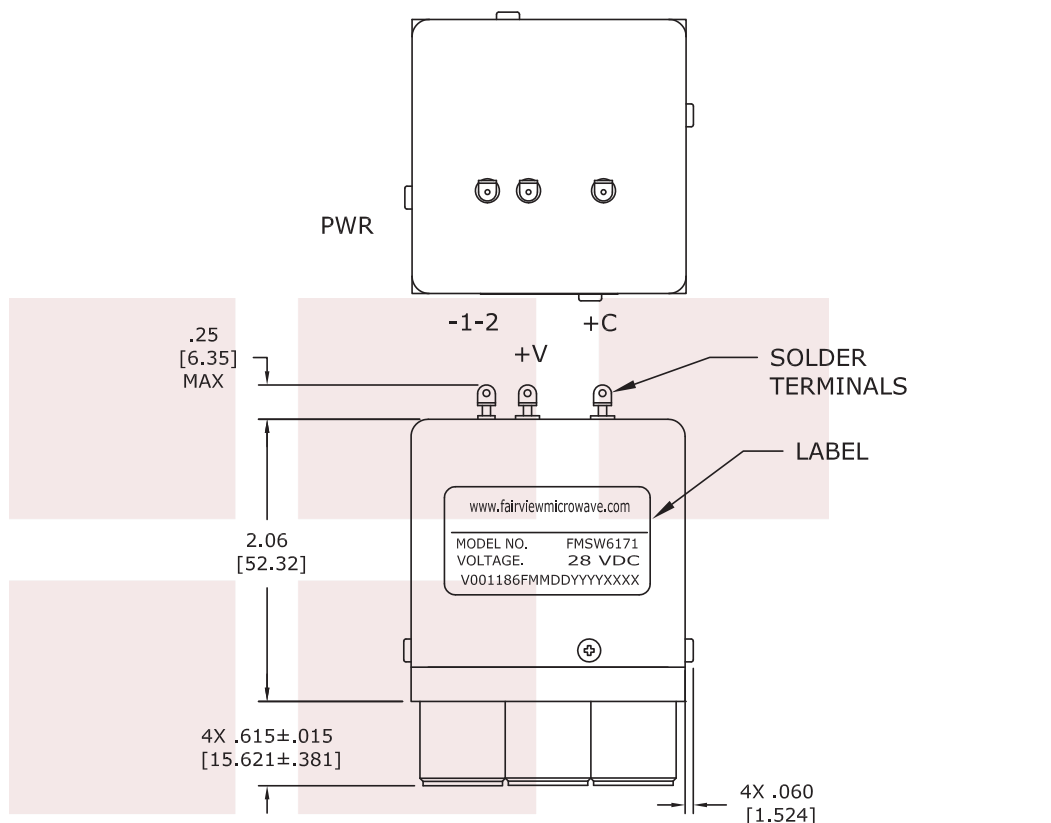


Transfer Latching Electro-Mechanical Relay Switch From DC to 12.4 GHz, 50 Watts with Self Cut Off, Diodes, N from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Transfer Latching Electro-Mechanical Relay Switch From DC to 12.4 GHz, 50 Watts with Self Cut Off, Diodes, N FMSW6171](http://www.fairviewmicrowave.com/transfer-latching-electro-mechanical-relay-switch-fmsw6171-p.aspx)

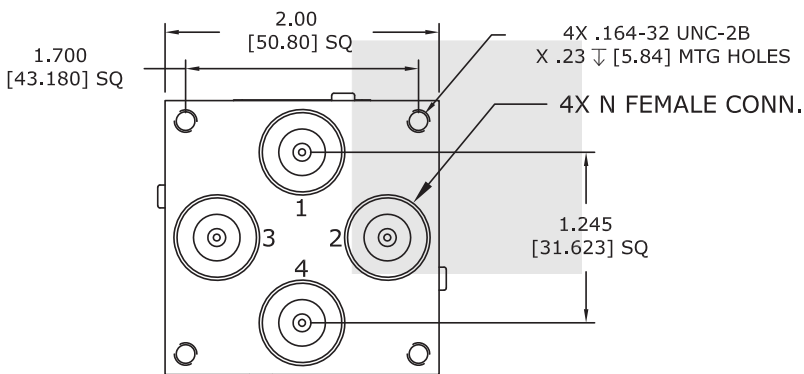
URL: <http://www.fairviewmicrowave.com/transfer-latching-electro-mechanical-relay-switch-fmsw6171-p.aspx>

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.



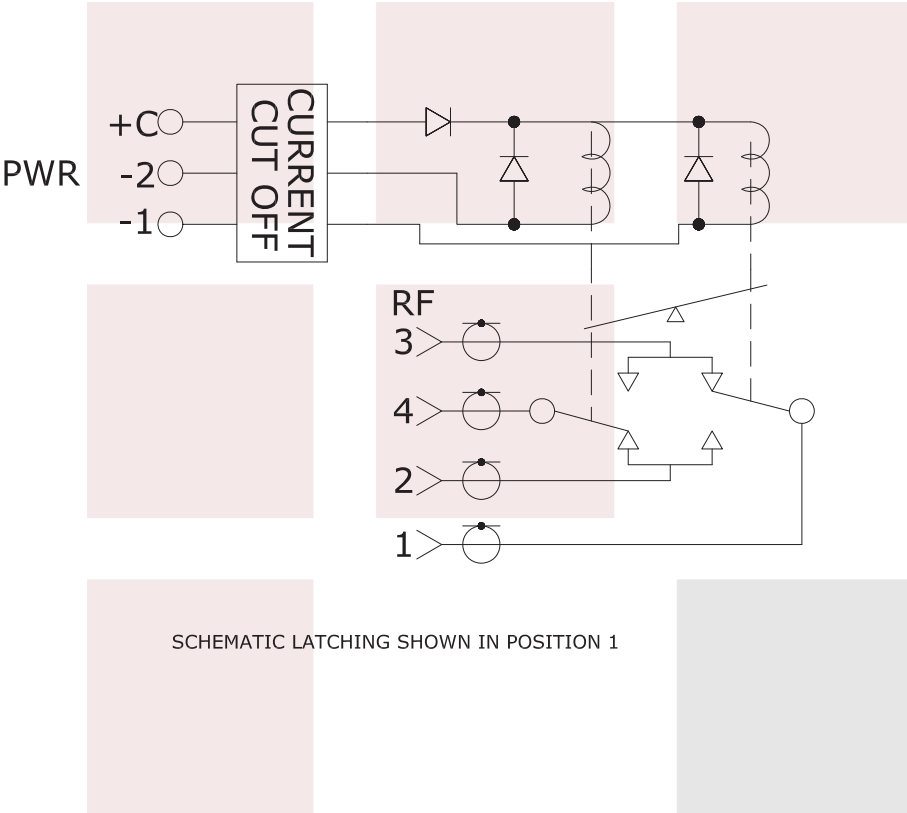
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:	
DECIMALS .XX ± .03 (0.76) .XXX ± .010 (0.254)	ANGLES ±1° FRACTIONS ±1/16
<b>HOLE DIAMETER</b>	<b>TOLERANCE</b>
.0135 TO .125 (0.343 TO 3.175)	+.004 TO -.001 (+.0102 TO -0.025)
.126 TO .250 (3.200 TO 6.350)	+.005 TO -.001 (+.0127 TO -0.025)
.251 TO .500 (6.375 TO 12.700)	+.006 TO -.001 (+.0152 TO -0.025)
.501 TO .750 (12.725 TO 19.050)	+.008 TO -.001 (+.0203 TO -0.025)
.751 TO 1.000 (19.075 TO 25.400)	+.010 TO -.001 (+.0254 TO -0.025)
1.001 TO 2.000 (25.425 TO 50.800)	+.012 TO -.001 (+.0305 TO -0.025)

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



RF STATUS		
RF	FAILSAFE	LATCHING
1-3, 2-4	DE-ENERGIZED	POSITION 1
1-2, 3-4	ENERGIZED	POSITION 2

<b>FAIRVIEW MICROWAVE INC.</b> 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 Transfer Latching Electro-Mechanical Relay Switch From DC to 12.4 GHz, 50 Watts with Self Cut Off, Diodes, N		DWG NO FMSW6171		CAGE CODE 3FKR5	
CAD FILE	042815	SHEET	SCALE	N/A	SIZE A 2233



<div>FAIRVIEW MICROWAVE INC.</div> <div>ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM</div>				<div>NOTES:</div> <div>1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.</div> <div>2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.</div> <div>3. DIMENSIONS ARE IN INCHES [mm].</div>			
<div>TITLE</div> <div>Transfer Latching Electro-Mechanical Relay Switch</div> <div>From DC to 12.4 GHz, 50 Watts with Self Cut Off,</div> <div>Diodes, N</div>				DWG NO		CAGE CODE	
				FMSW6171		3FKR5	
				CAD FILE	042815	SHEET	SCALE N/A