

### SP6T Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA

The FMSW6377 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across a wide frequency range of DC to 18 GHz and can handle up to 90 Watts of CW input power in a break before make condition. The design features a Latching actuator and is rated for 5M life cycles for high reliability operation. Impressive performance includes insertion loss less than 0.15 dB typical and isolation greater than 80 dB typical. The Latching actuator has 50 Ohm Terminations and a +28 Vdc bias voltage, and operates over a temperature range of -25°C to +70°C. The rugged and compact package assembly supports SMA Female connectors and a DB-15 Connector for DC Control. And for highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for shock and random vibration.

#### Electrical Specifications

Switch Type	SP6T, Terminated
Actuator Type	Latching
Switching Sequence	Break before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Termination Impedance		50		Ohms
Operating Voltage	26	28	30	Volts
Actuating Set Current @ 28 Volts		90		mA
VSWR		1.2:1	1.5:1	
Insertion Loss		0.15	0.5	dB
Isolation	80	80		dB
Input Power (CW)			60	Watts
Termination Input Power (CW)			5	Watts
Switching Time			20	ms

#### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18			GHz
VSWR, Max	1.2:1	1.3:1	1.5:1			
Insertion Loss, Max	0.15	0.25	0.5			dB
Isolation, Min	80	80	80			dB
Power In, Typ (CW)	90	75	60			Watts

#### Mechanical Specifications

<b>Size</b>	
Weight	0.3985 lbs [180.76 g]
Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	5,000,000 Cycles



#### Features:

- Single Pole Six Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 5M Cycle Min Operating Life
- +28 Volt DC
- 90 Watt average Power
- Latching Actuator
- Internally Terminated
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.5 dB Max
- VSWR as low as 1.5:1 max
- SMA Female RF connectors
- DB-15 Connector for DC Control
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request

#### Applications:

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

Fairview Microwave  
301 Leora Ln., Suite 100  
Lewisville, TX 75056  
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	SMA Female
RF Connector Contact Material & Plating	Beryllium Copper, Gold
RF Connector Body Material & Plating	Aluminum, Nickel
Control Connector	15-Pin D-Subminiatur

**Environmental Specifications**

**Temperature**

Operating Range	-25 to +70 deg C
Storage Range	-55 to +100 deg C

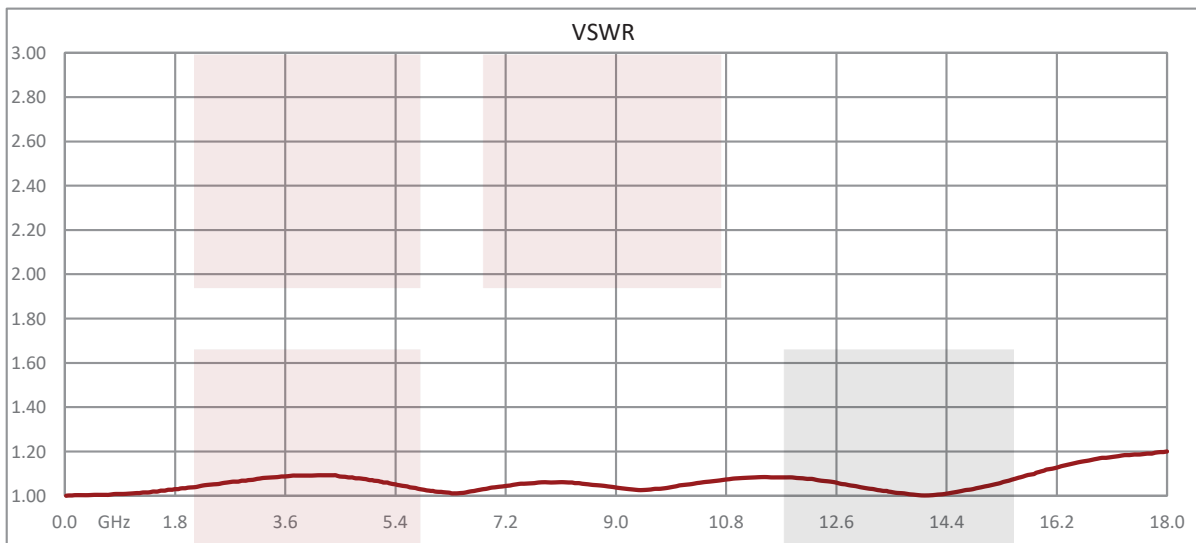
Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

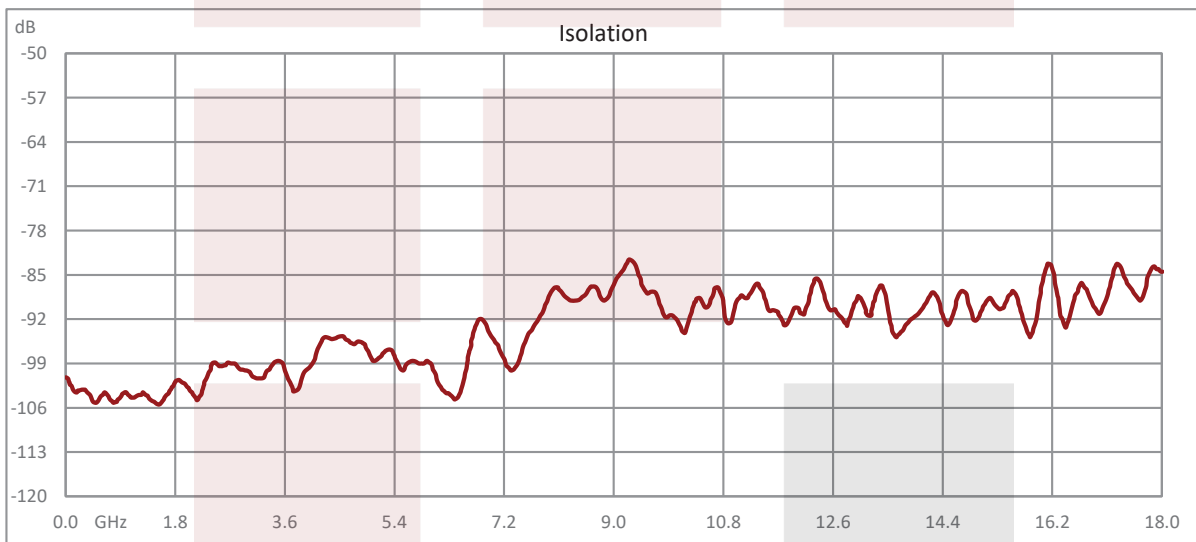
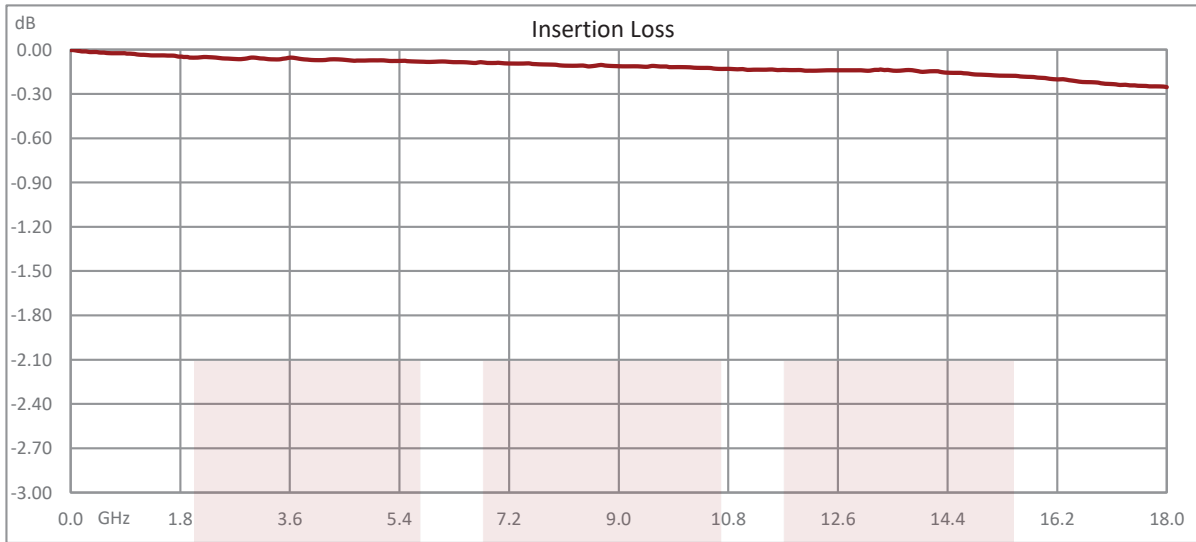
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

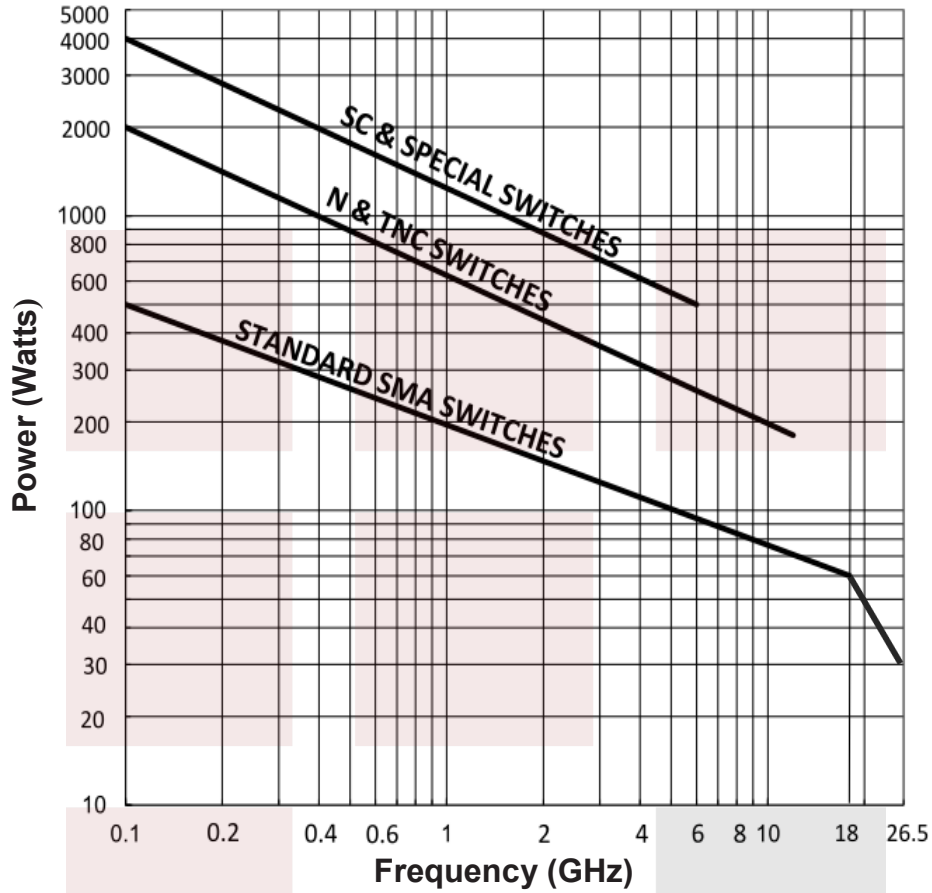
Notes:

**Typical Performance Data**





**Power Handling vs. Frequency & Connector Type**



**Environmental and Test Conditions:**

- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

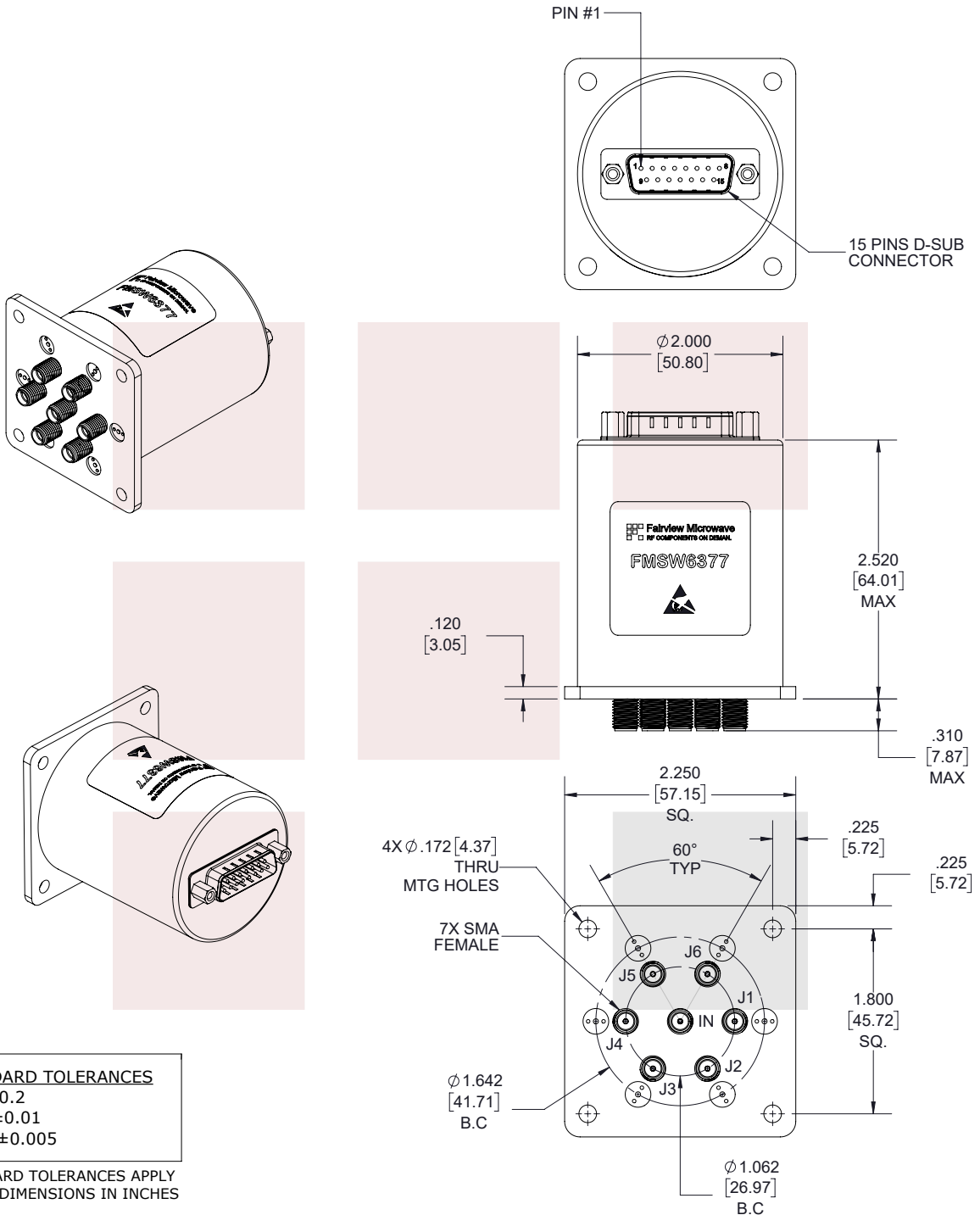
SP6T Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP6T Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA FMSW6377](#)

URL: <https://www.fairviewmicrowave.com/sp6t-latching-18-ghz-terminated-electro-mechanical-relay-switch-60w-28v-sma-fmsw6377-p.aspx>

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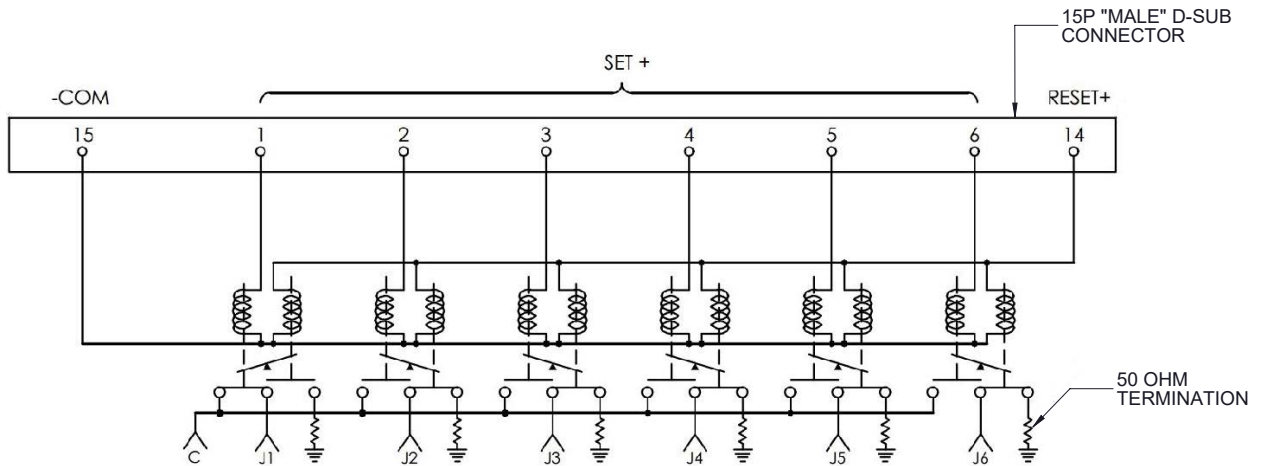




**STANDARD TOLERANCES**  
 .X ±0.2  
 .XX ±0.01  
 .XXX ±0.005

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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CAD FILE	091117	SHEET	1 OF 2	SCALE	N/A	SIZE	A	7361



**SCHEMATIC SHOWN IN LATCHING POSITION**

(COIL 1 SHOWN LAST ENERGIZED)

TERMINALS D-SUB PIN ASSIGNMENT	RF PATH					
	J1	J2	J3	J4	J5	J6
1 (SET+)	ON	OFF	OFF	OFF	OFF	OFF
2 (SET+)	OFF	ON	OFF	OFF	OFF	OFF
3 (SET+)	OFF	OFF	ON	OFF	OFF	OFF
4 (SET+)	OFF	OFF	OFF	ON	OFF	OFF
5 (SET+)	OFF	OFF	OFF	OFF	ON	OFF
6 (SET+)	OFF	OFF	OFF	OFF	OFF	ON
14 (RESET+)	ALL OFF					

PIN 15. -COM

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