

## SP4T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 12V, SMA

The FMSW6363 is a Single Pole Four Throw (SP4T) 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 Normally Open actuator and is rated for 2M 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 Normally Open actuator has a +12 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 9 Pin D-Sub 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	SP4T
Actuator Type	Normally Open
Switching Sequence	Break before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts		200		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.4	dB
Insertion Loss Repeatability				
Isolation	80	80		dB
Input Power (CW)			60	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	1.4:1			
Insertion Loss, Max	0.15	0.25	0.4			dB
Isolation, Min	80	80	80			dB
Power In, Typ (CW)	90	75	60			Watts

### Mechanical Specifications

#### Size

Weight	0.232 lbs [105.23 g]
Package Type	Connectorized
Operating Life	2,000,000 Cycles

#### Connectors

RF Connector Type	SMA Female
Control Connector	9 Pin D-Sub



### Features:

- Single Pole Four Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 2M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Normally Open Actuator
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.15 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- 9 Pin D-Sub 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

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## Environmental Specifications

### Temperature

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

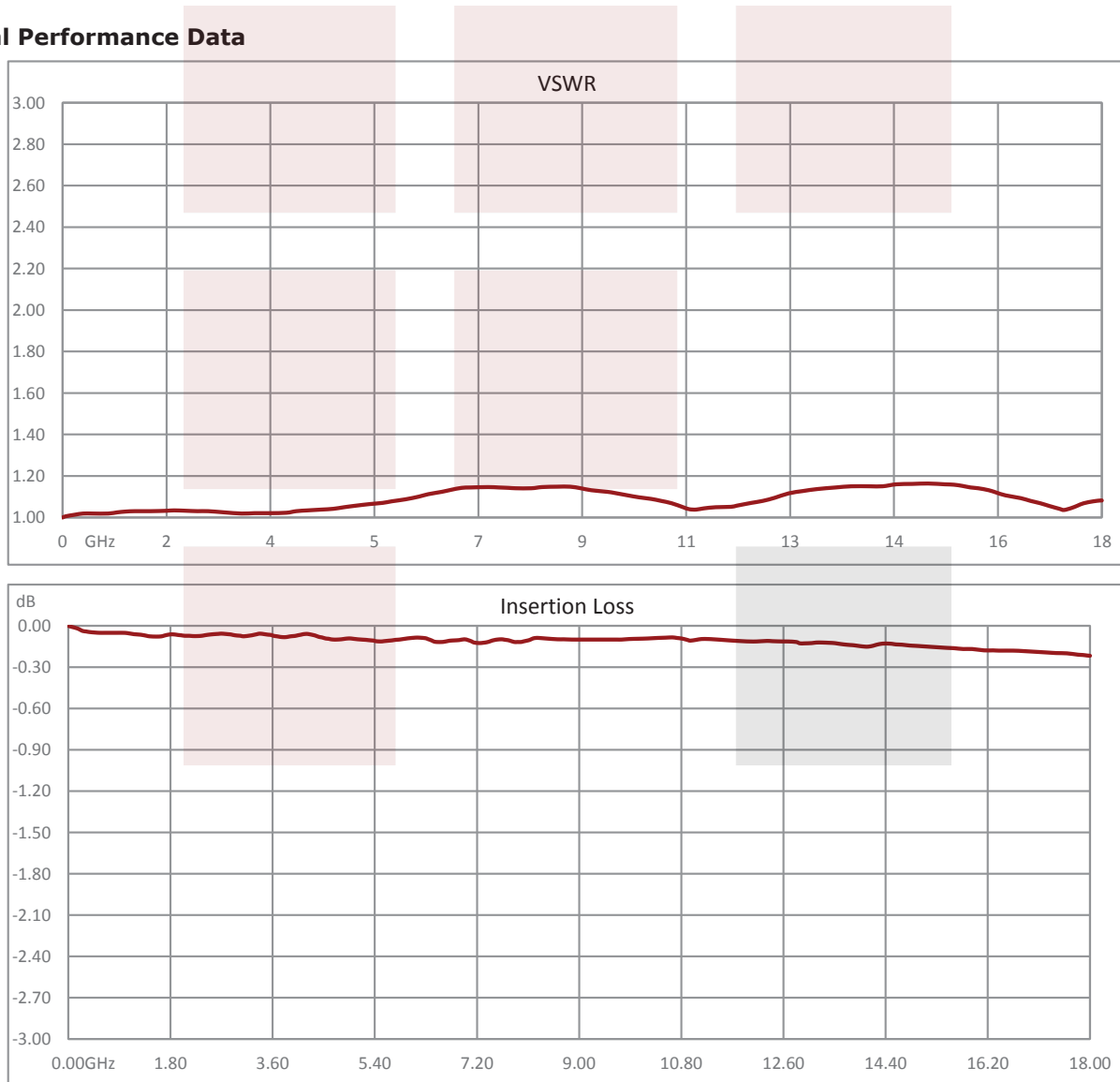
Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating  
Vibration MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

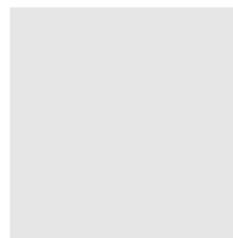
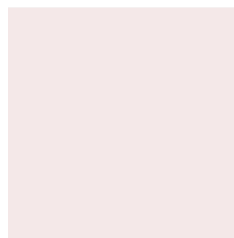
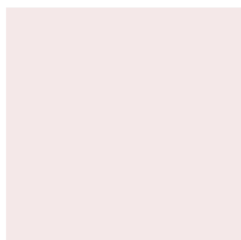
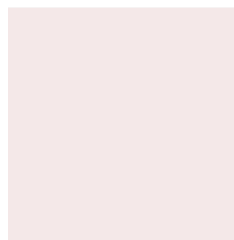
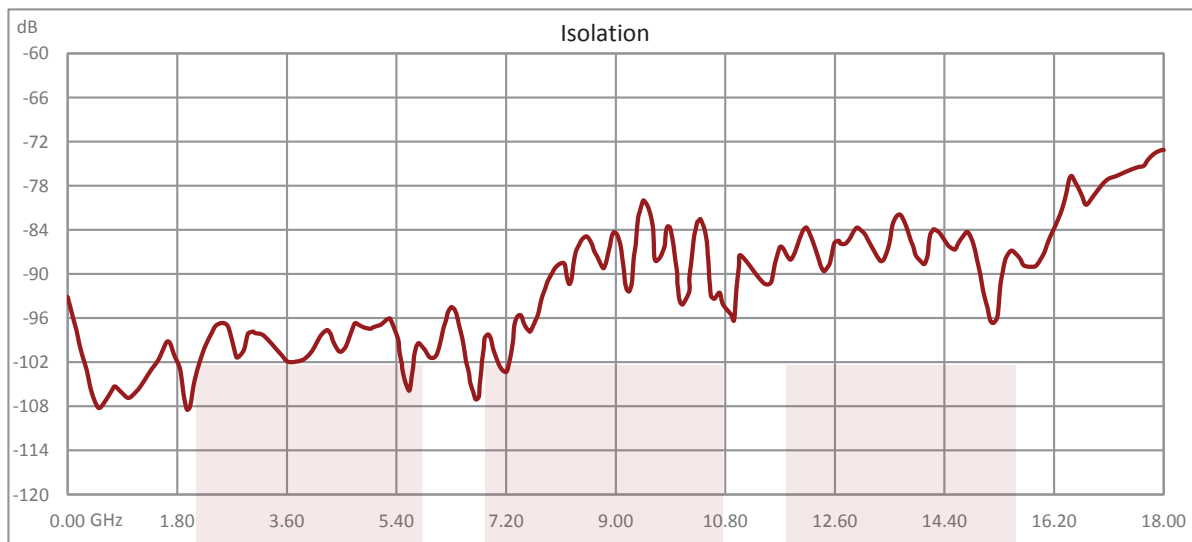
## Compliance Certifications (see [product page](#) for current document)

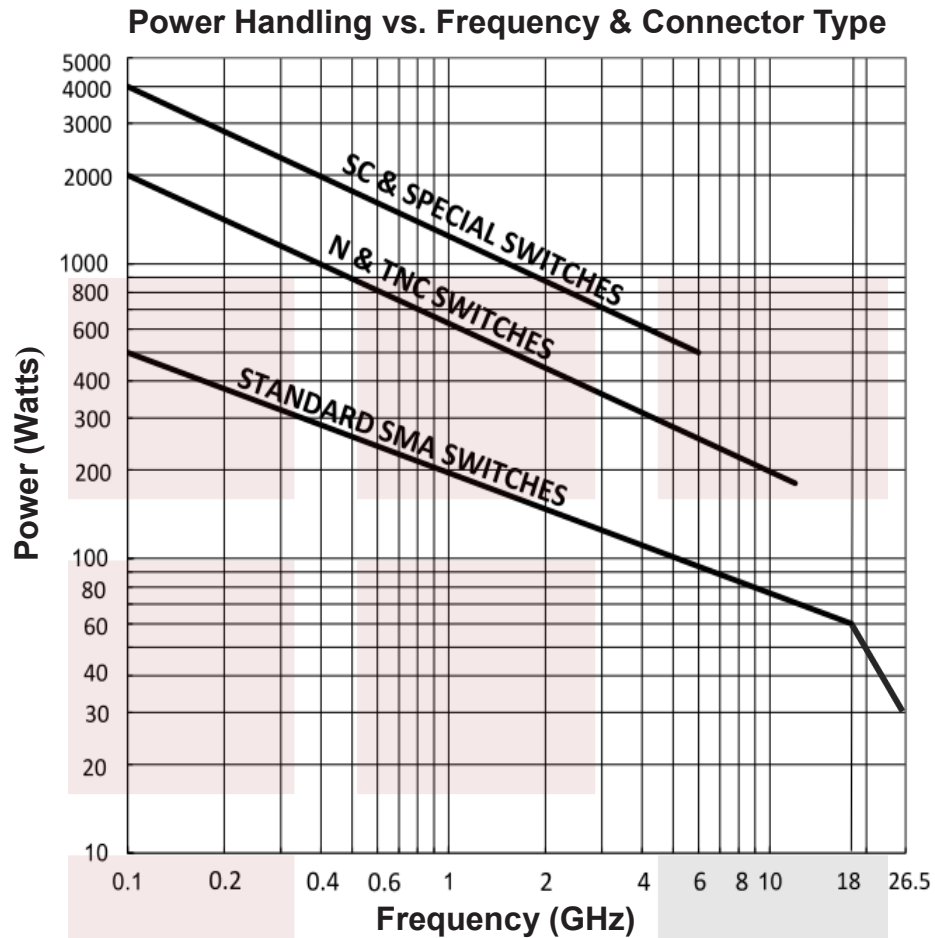
## Plotted and Other Data

Notes:

### Typical Performance Data



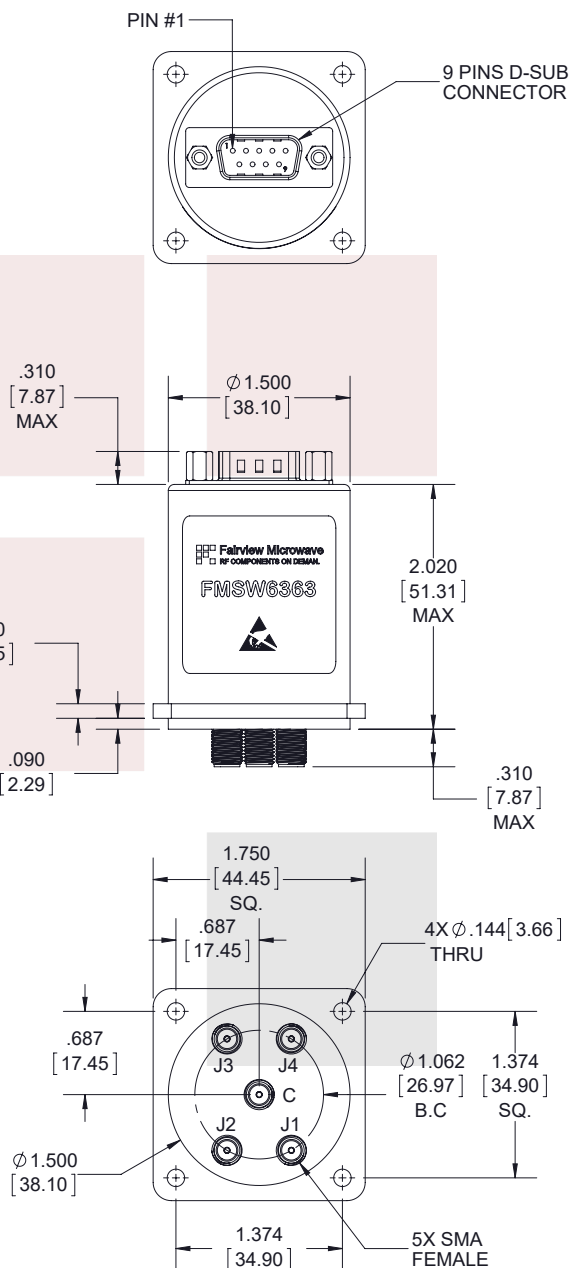
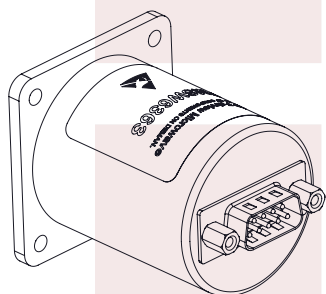




**Environmental and Test Conditions:**

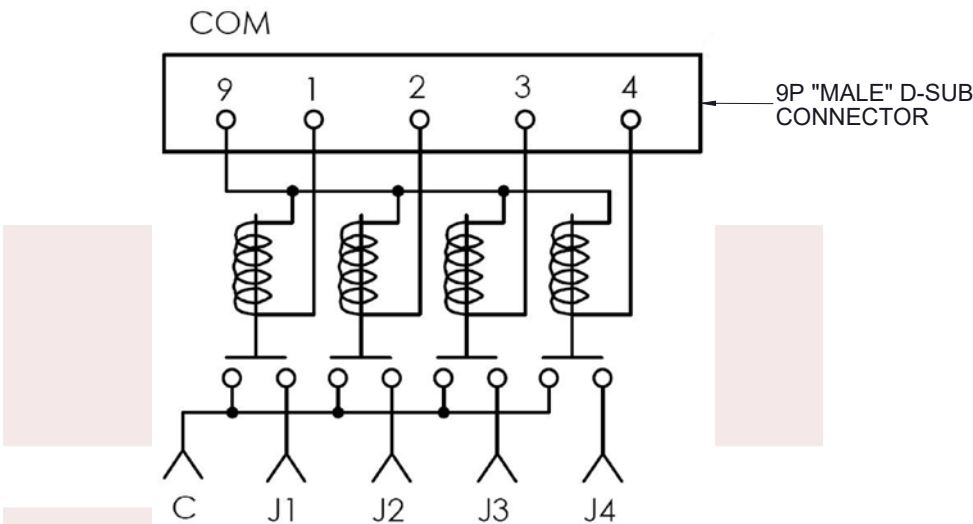
- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

URL: <https://www.fairviewmicrowave.com/sp4t-normally-open-18-ghz-electro-mechanical-relay-switch-60w-12v-sma-fmsw6363-p.aspx>



.X	±0.2
.XX	±0.01
.XXX	±0.005

7361



SCHEMATIC SHOWN IN NORMALLY OPEN POSITION

TERMINALS D-SUB PIN ASSIGNMENT	RF PATH			
	J1	J2	J3	J4
1 (SET+)	ON	OFF	OFF	OFF
2 (SET+)	OFF	ON	OFF	OFF
3 (SET+)	OFF	OFF	ON	OFF
4 (SET+)	OFF	OFF	OFF	ON

STANDARD TOLERANCES

.X   ±0.2  
.XX   ±0.01  
.XXX   ±0.005

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES

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 NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 12V, SMA	DWG NO FMSW6363		CAGE CODE 3FKR5		
	CAD FILE   090817	SHEET   2 OF 2	SCALE   N/A	SIZE   A	7361