

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

The FMSW6359 is a Single Pole Double Throw (SPDT) 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 85 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 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 SPDT, 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 Current @ 28 Volts		90		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.35	dB
Insertion Loss Repeatability				
Isolation	65	85		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	1.4:1			
Insertion Loss, Max	0.15	0.25	0.35			dB
Isolation, Min	85	75	65			dB
Power In, Typ (CW)	90	75	60			Watts

Mechanical Specifications

Size
 Weight 0.168 lbs [76.2 g]
 Package Type Connectorized
 Operating Life 5,000,000 Cycles



Features:

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 85 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 0.15 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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Connectors

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

Environmental Specifications

Temperature

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

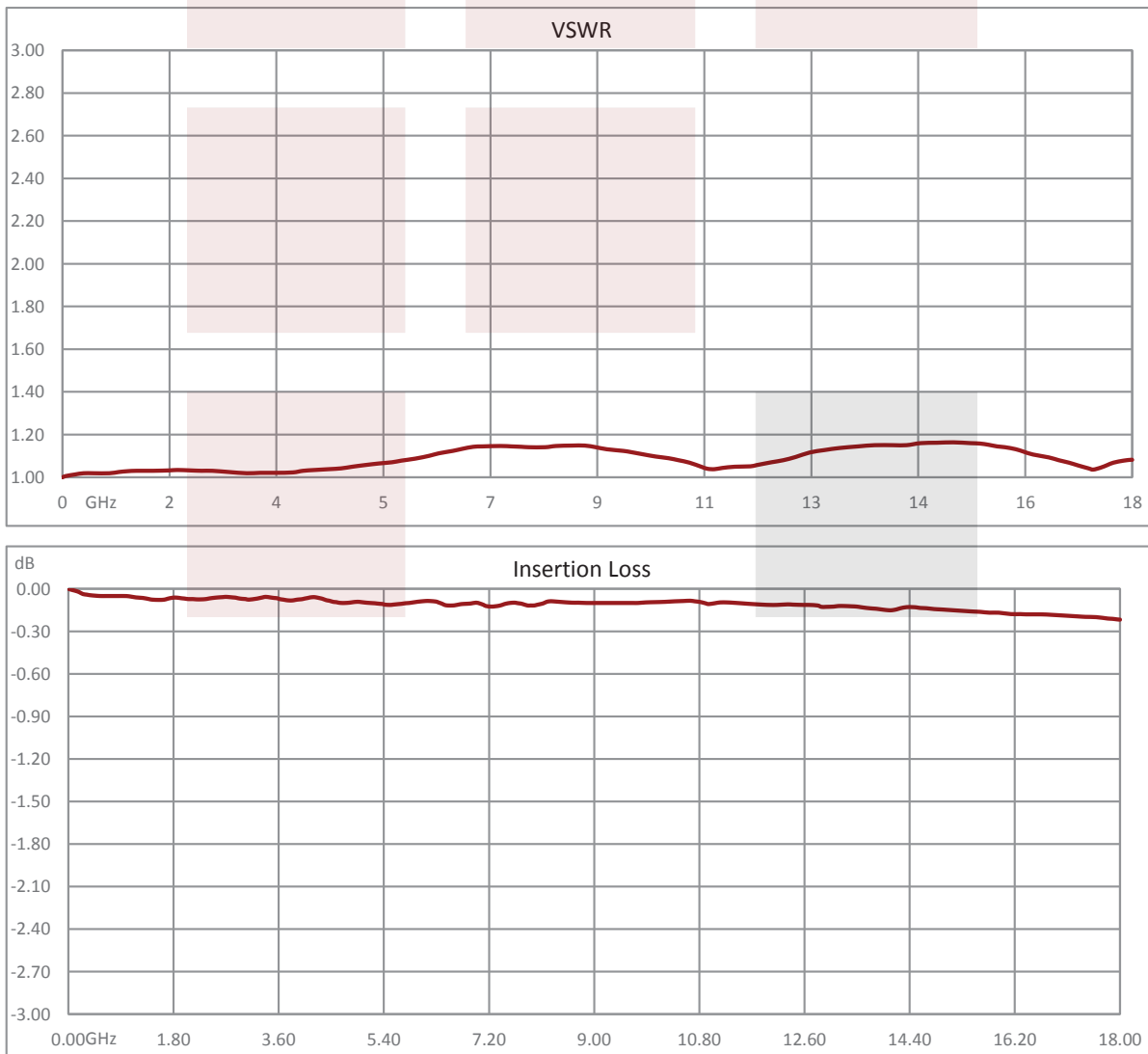
Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating
 Vibration MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

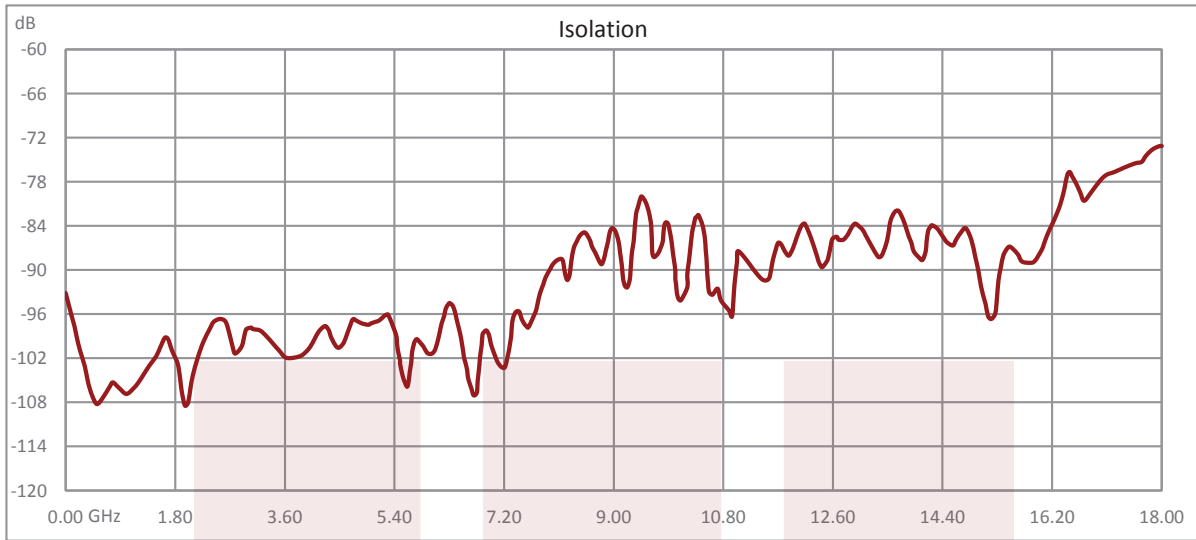
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

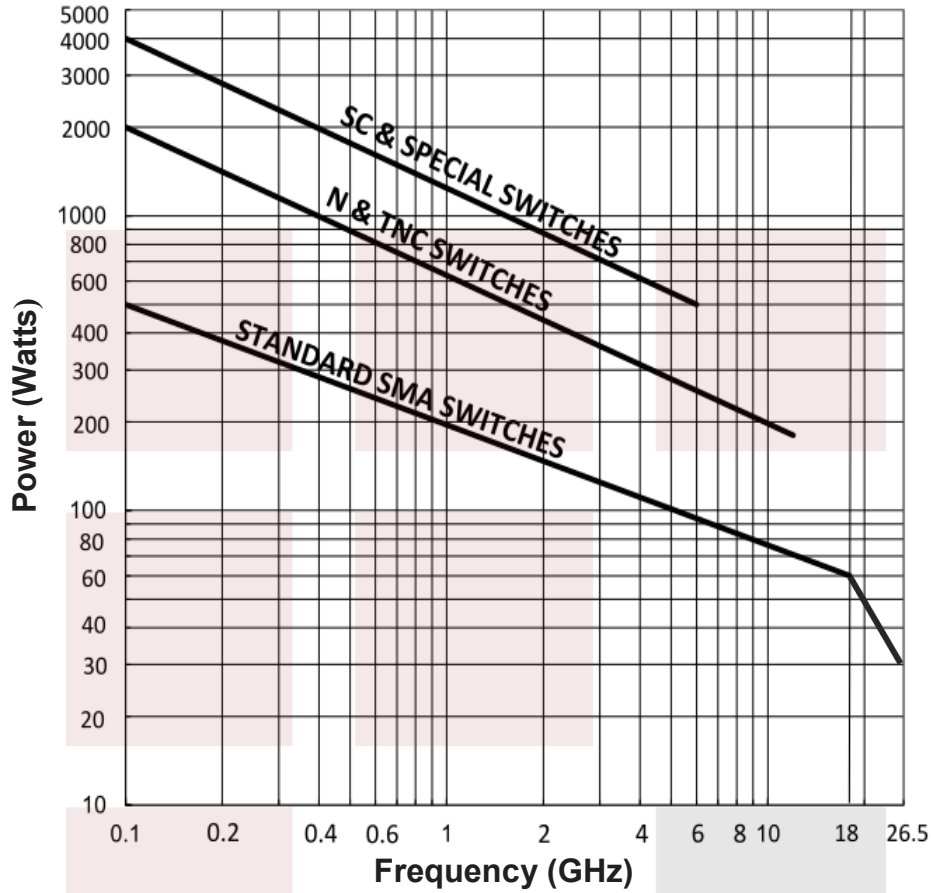
Notes:

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

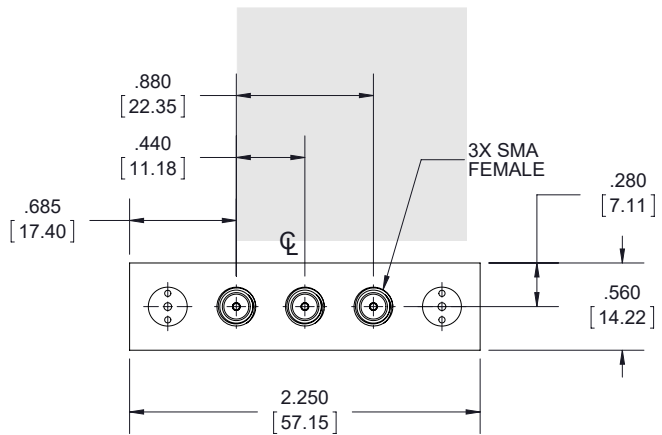
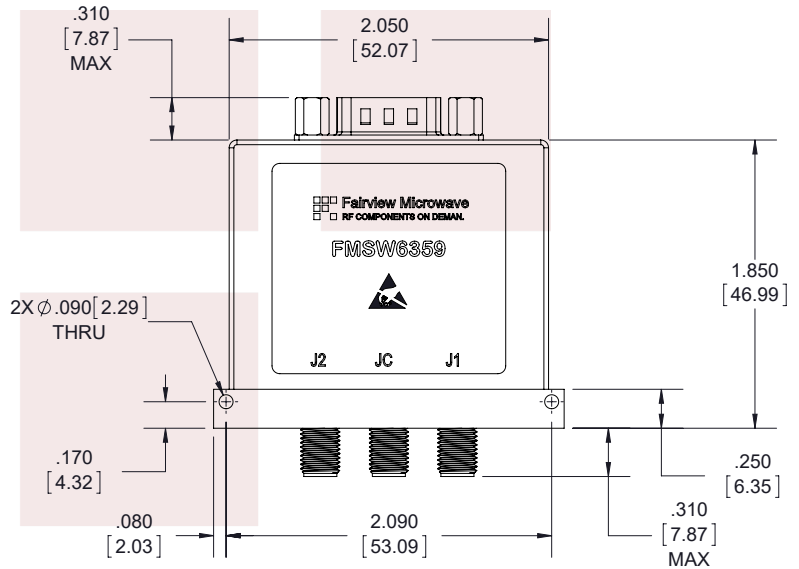
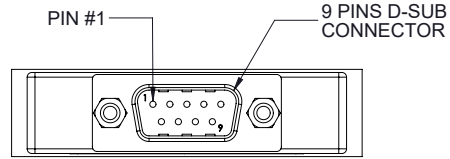
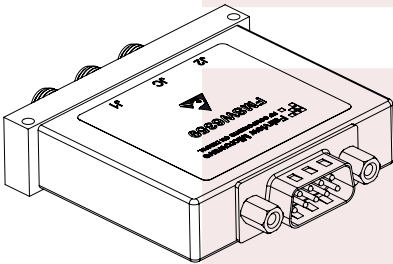
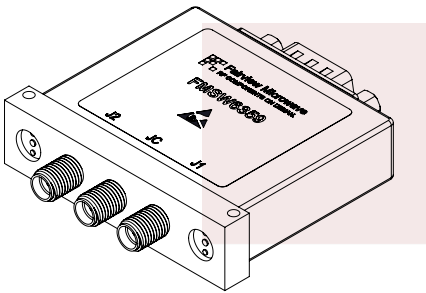
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For additional information on this product, please click the following link: [SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA FMSW6359](#)

URL: <https://www.fairviewmicrowave.com/spdt-latching-18-ghz-terminated-electro-mechanical-relay-switch-60w-28v-sma-fmsw6359-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

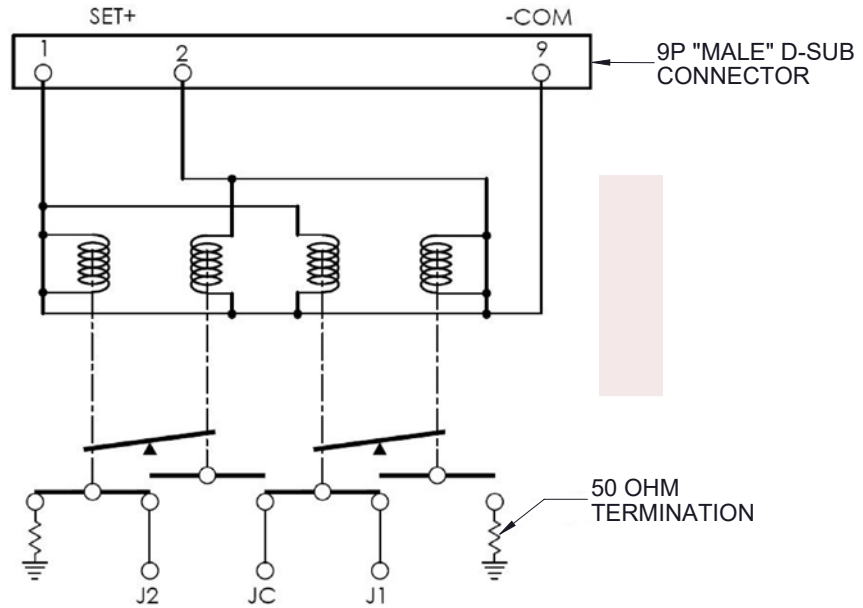
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- NOTES:
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.
3. DIMENSIONS ARE IN INCHES [mm].

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

DWG NO	FMSW6359		CAGE CODE			3FKR5		
CAD FILE	090617	SHEET	1 OF 2	SCALE	N/A	SIZE	A	7361



SCHEMATIC SHOWN IN LATCHING POSITION

OPERATIONAL					
TERMINALS		RF PORTS		TERMINATION	
1	2	J1-JC	J2-JC	J2 TERMINATED	J1 TERMINATED
0	0	NO CHANGE		NO CHANGE	
0	1	OFF	ON	OFF	ON
1	0	ON	OFF	ON	OFF
1	1	FORBIDDEN		FORBIDDEN	

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