

SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 12V, SMA

The FMSW6358 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 with 50 ohm terminations 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. This switch requires a +12Vdc 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	11	12	13	Volts
Actuating Current @ 12 Volts		200		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	0.169 lbs [76.66 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
- +12 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
Control Connector

SMA Female
9 Pin D-Sub

Environmental Specifications

Temperature

Operating Range
Storage Range

-25 to +70 deg C
-55 to +100 deg C

Shock
Vibration

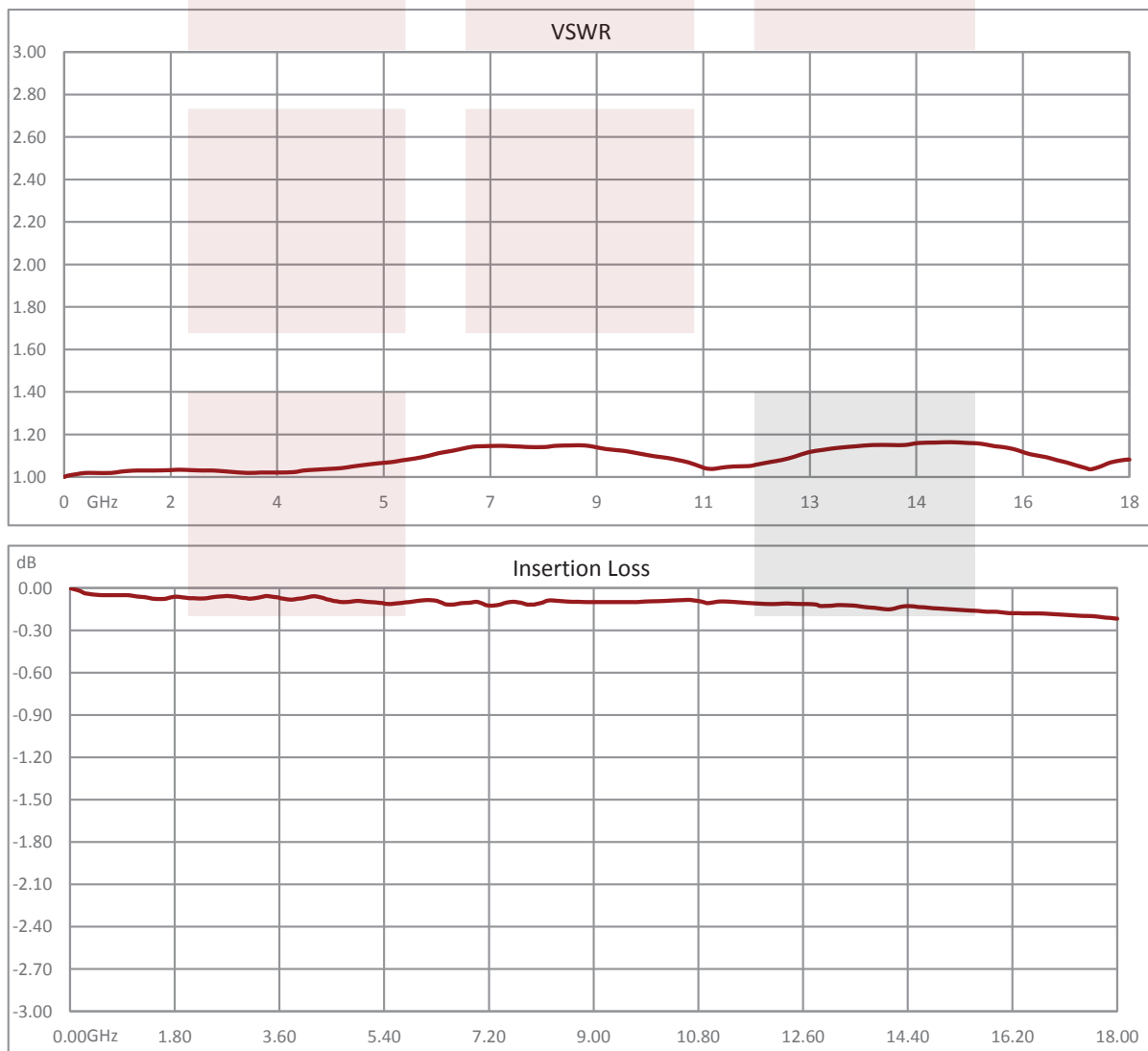
MIL-STD-202 Method 213, Cond. D 500G Non Operating
MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

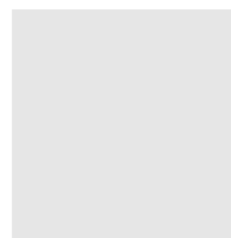
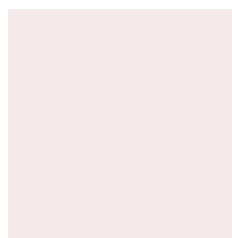
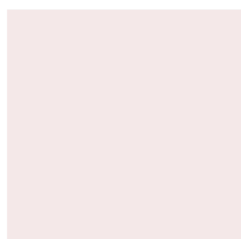
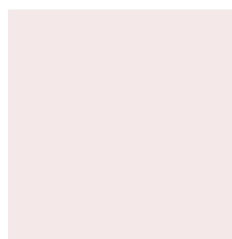
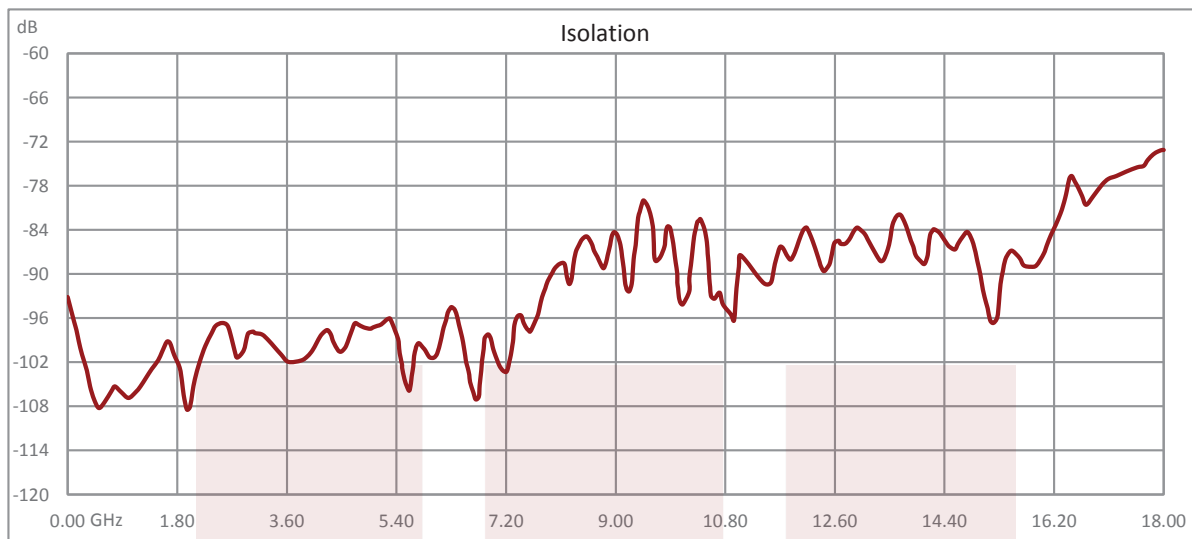
Compliance Certifications (see [product page](#) for current document)

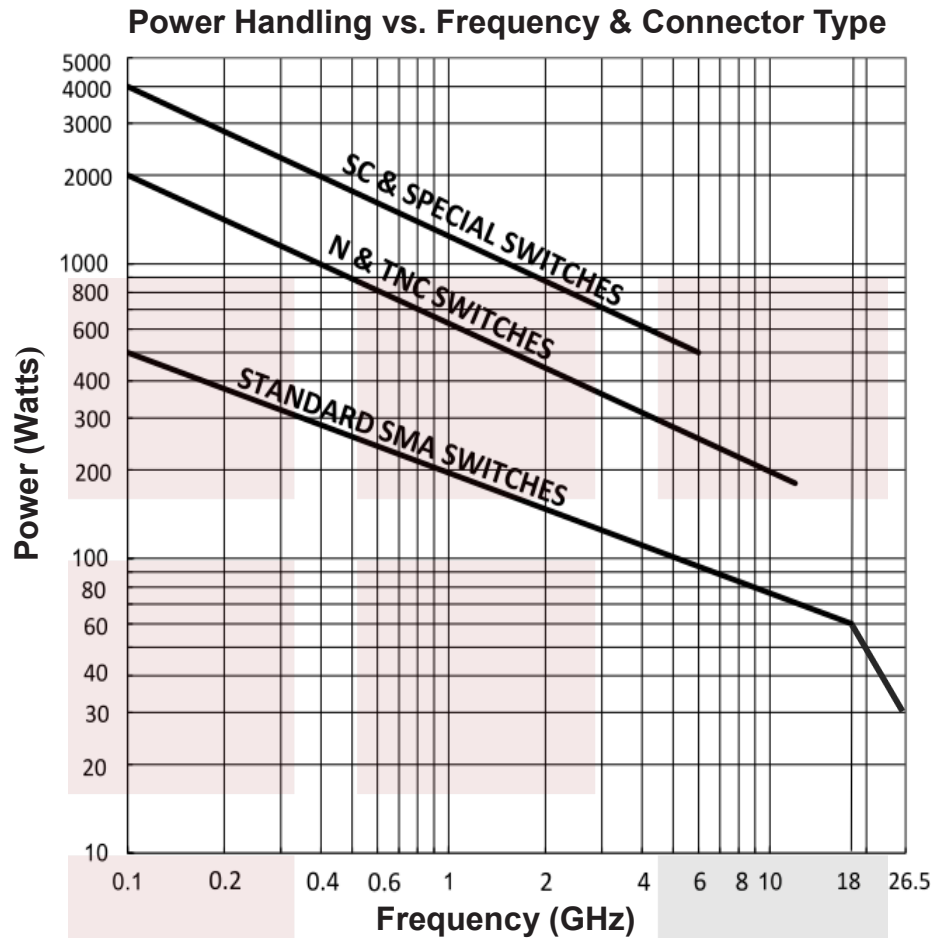
Plotted and Other Data

Notes:

Typical Performance Data







Environmental and Test Conditions:

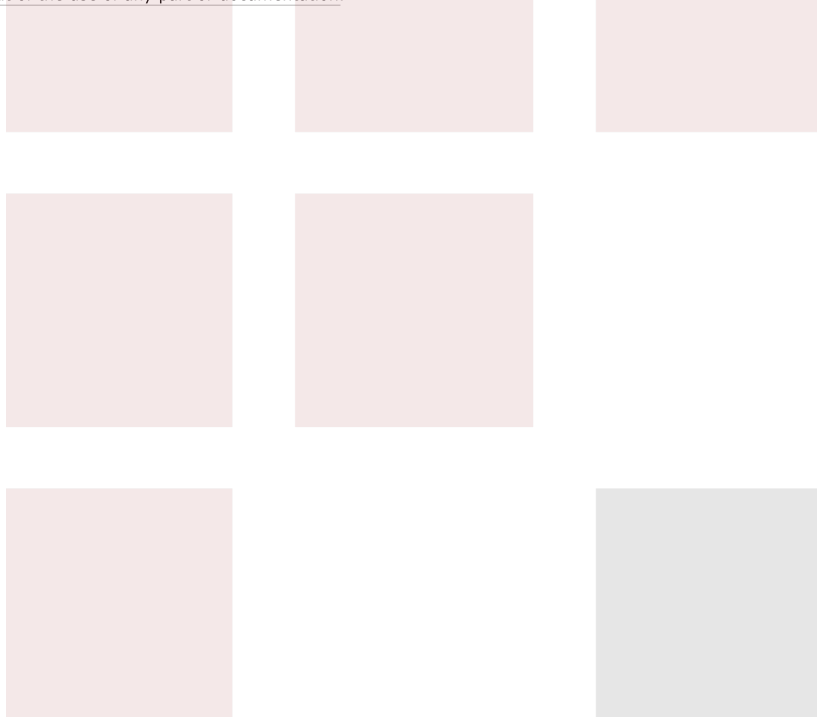
- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

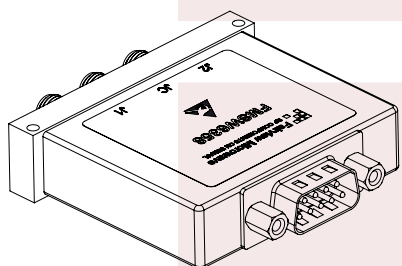
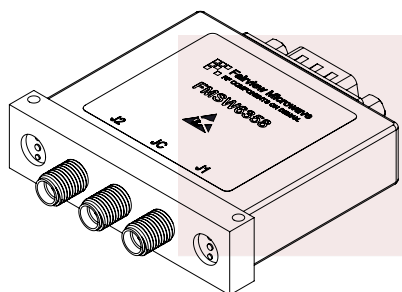
SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 12V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

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, 12V, SMA FMSW6358](#)

URL: <https://www.fairviewmicrowave.com/spdt-latching-18-ghz-terminated-electro-mechanical-relay-switch-60w-12v-sma-fmsw6358-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.

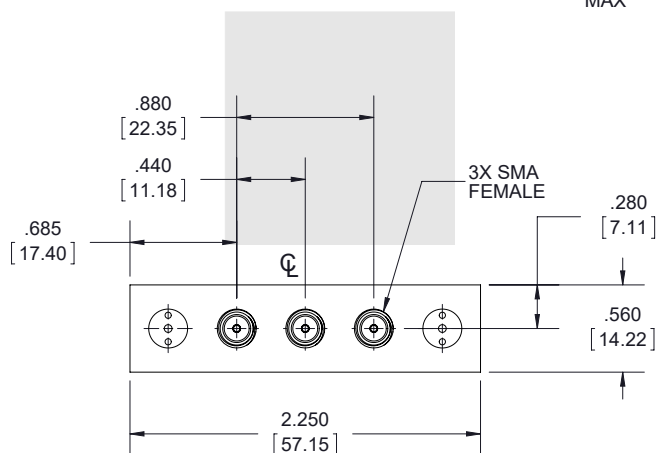
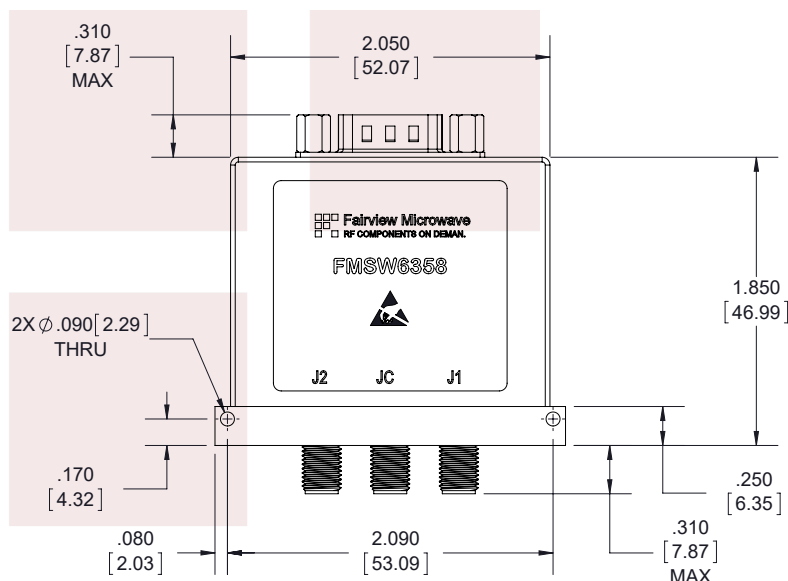
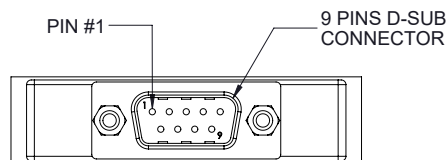




STANDARD TOLERANCES

.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

TITLE

SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 12V, SMA

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].

DWG NO

FMSW6358

CAGE CODE

3FKR5

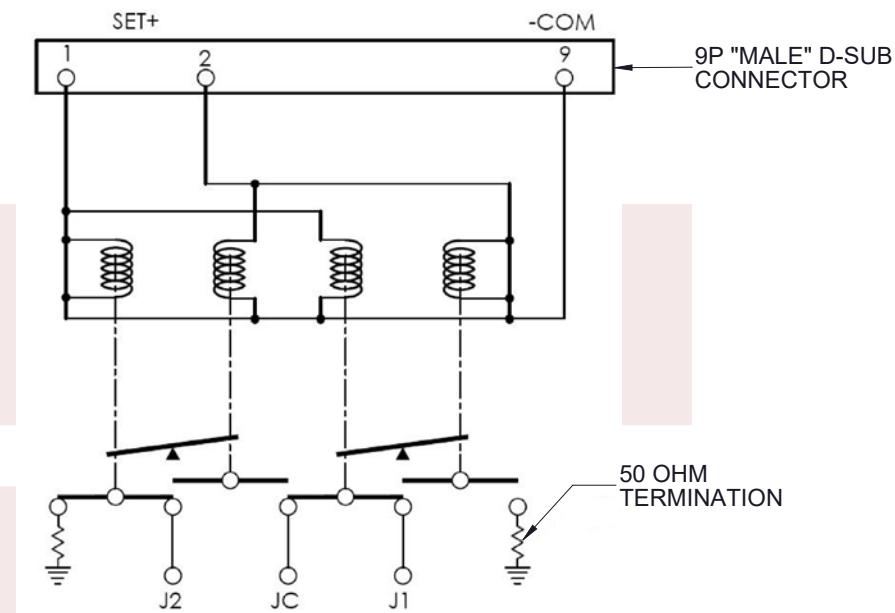
CAD FILE 090617

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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		FMSW6358		3FKR5	
CAD FILE		090617	SHEET	2 OF 2	SCALE N/A
				SIZE	A
					7361