

**SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA**

The FMSW6351 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 Failsafe actuator with indicators 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 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 indicator monitoring. 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
Actuator Type	Failsafe
Switching Sequence	Break before Make
Actuator Options	Indicators
Indicator Rating	1 Watts / 32 Volts / 125 mA

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	0.35	dB
Insertion Loss Repeatability				
Isolation	65	85		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	0.35			dB
Isolation, Min	85	75	65			dB
Power In, Typ (CW)	90	75	60			Watts

**Mechanical Specifications**

<b>Size</b>	
Weight	0.112 lbs [50.8 g]
Package Type	Connectorized
Operating Life	2,000,000 Cycles



**Features:**

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 85 dB typical
- 2M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Failsafe Actuator
- 1 Watt Indicators
- -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
- Hot Switching Capability - Consult Factory
- S-Parameter test 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

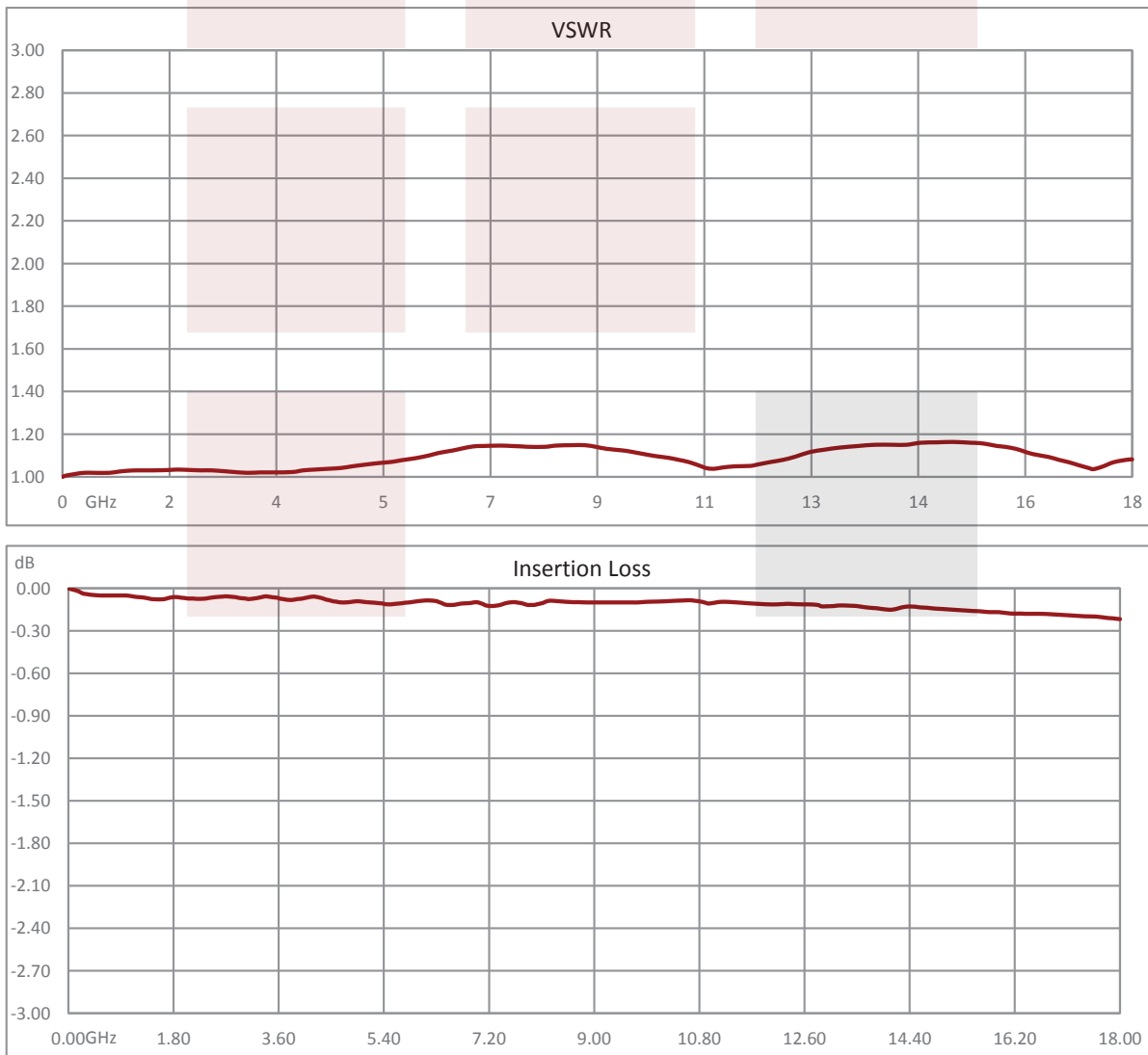
Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating  
 Vibration MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

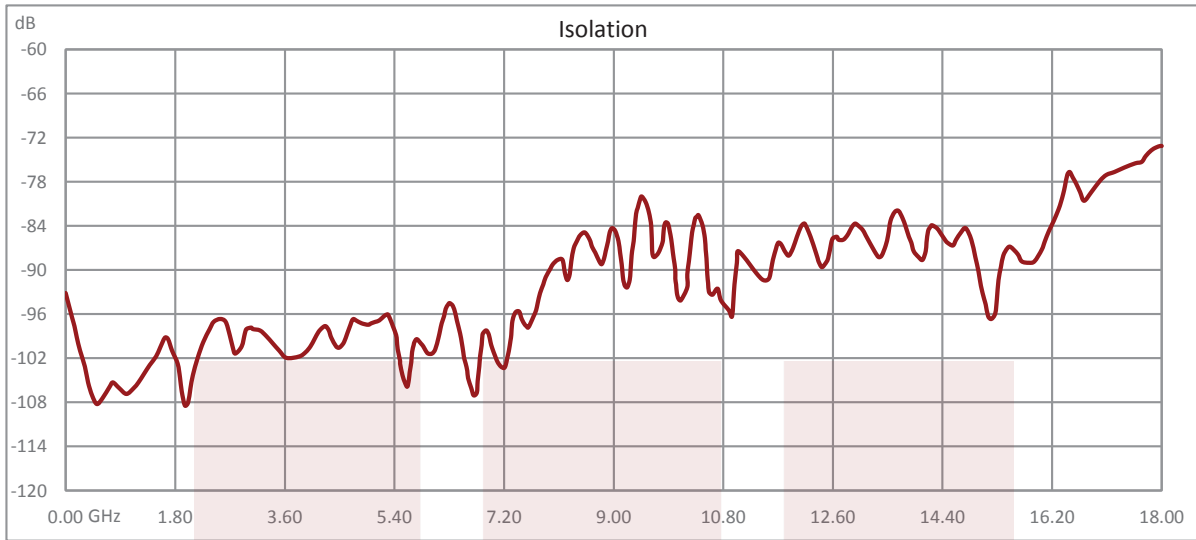
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

Notes:

**Typical Performance Data**



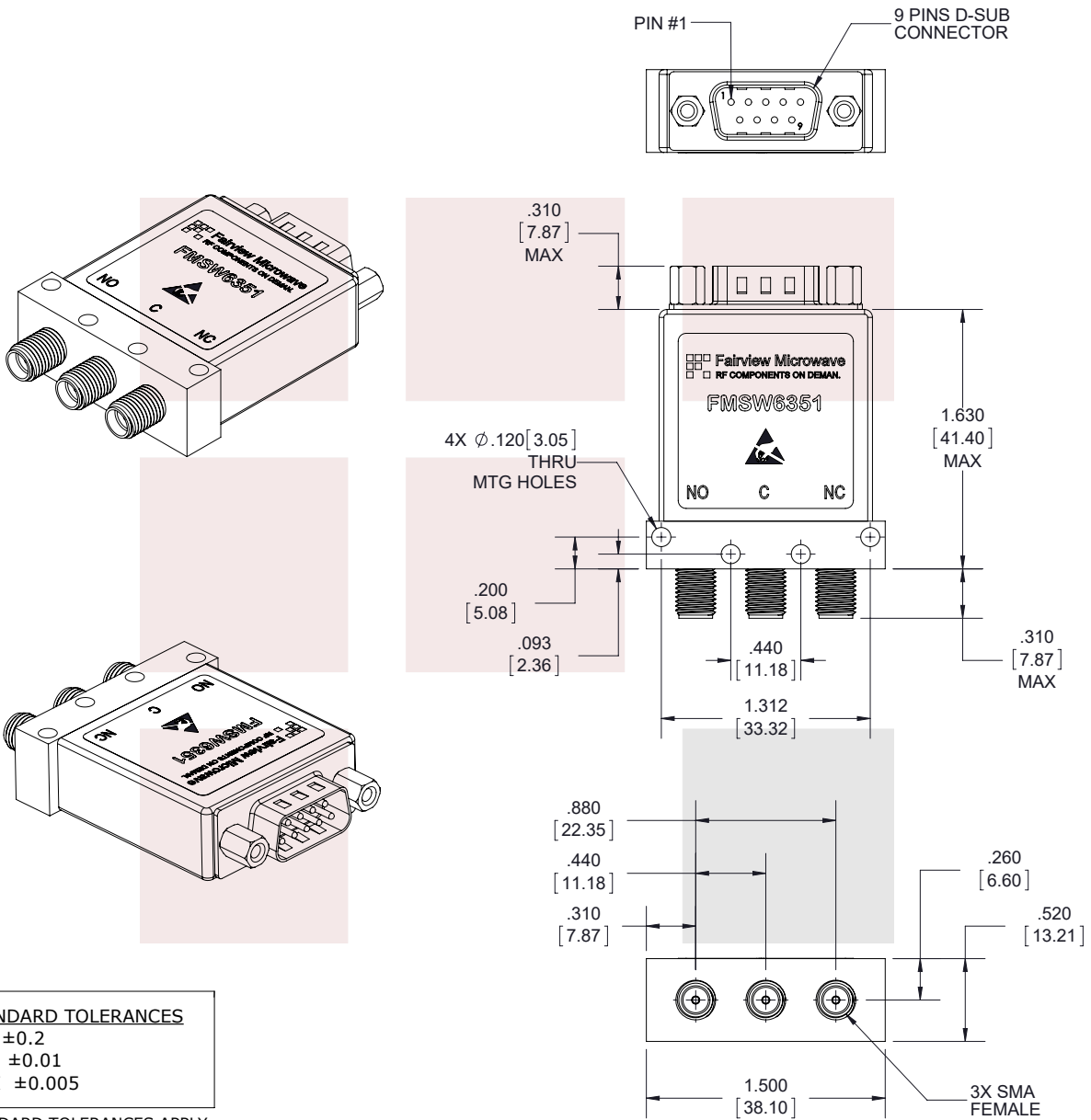


SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave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

For additional information on this product, please click the following link: [SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA FMSW6351](https://www.fairviewmicrowave.com/spdt-failsafe-dc-to-18-ghz-electro-mechanical-relay-switch-indicators-up-to-90w-12v-sma-fmsw6351)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-18-ghz-electro-mechanical-relay-switch-indicators-60w-12v-sma-fmsw6351-p.aspx>

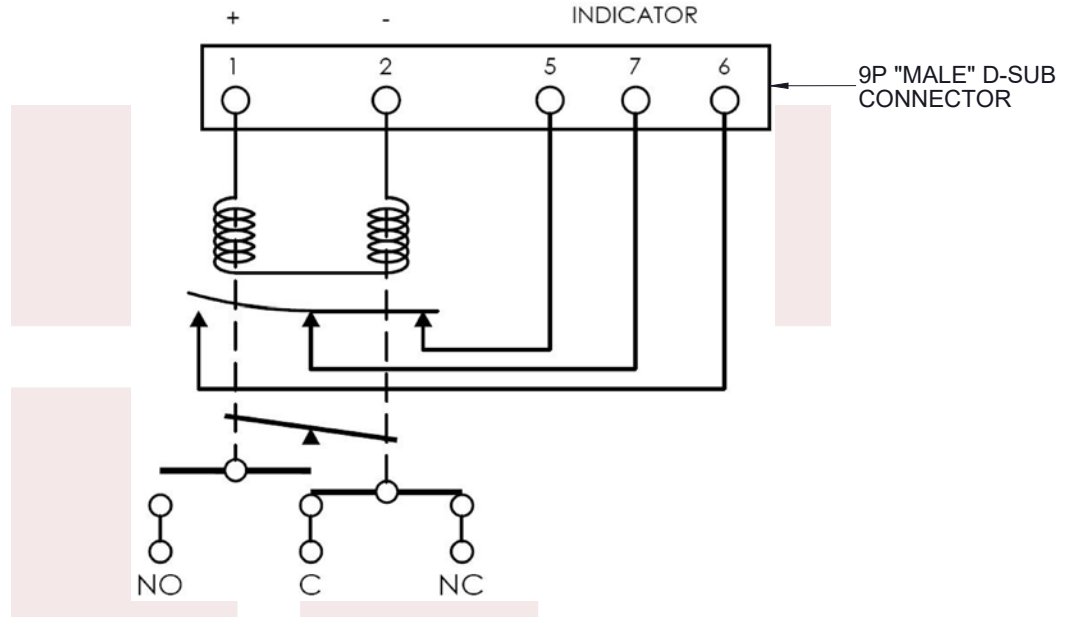
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to 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

<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 SPDT Fail-safe DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA		DWG NO <b>FMSW6351</b>		CAGE CODE <b>3FKR5</b>		
CAD FILE	090617	SHEET	1 OF 2	SCALE	N/A	SIZE A 7361



**SCHEMATIC SHOWN IN FAILSAFE POSITION**

**STANDARD TOLERANCES**

- .X ±0.2
- .XX ±0.01
- .XXX ±0.005

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TITLE SPDT Fail-safe DC to 18 GHz Electro-Mechanical Relay Switch, Indicators, up to 90W, 12V, SMA		CAD FILE 090617	SHEET 2 OF 2	SCALE N/A	SIZE A	7361