

## SPDT Failsafe DC to 22 GHz Terminated Electro-Mechanical Relay Switch, 20W, 12V, SMA

FMSW6293 is a Single Pole Double Throw (SPDT) Terminated Electromechanical Relay Switch that operates from DC to 22 GHz and has a rating of 20 Watts input power CW in a Break Before Make condition. The output port is terminated in 50 ohms when switched in the isolation (off) state. The design features a Failsafe Actuator with Internal Terminations and is rated for 1M Life Cycles for high reliability operation. Insertion loss is specified from 0.2 dB max and Isolation from 80 dB min at 3 GHz, with +12 Vdc operating voltage. Performance is guaranteed over -35°C to +85°C and the switch assembly is RoHS compliant. The package interface uses solder terminals and SMA Female connectors.

### Electrical Specifications

Switch Type SPDT, Terminated  
Actuator Type Failsafe  
Switching Sequence Break Before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		22	GHz
Impedance		50		Ohms
Operating Voltage	10.8	12	13.2	Volts
Actuating Current @ 12 Volts			420	mA
Input Power (CW)			20	Watts
Termination Input Power (CW)			5	Watts
Switching Time			35	ms

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 3	3 - 8	8 - 12.4	12.4 - 18	18 - 22	GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.5:1	1.7:1	
Insertion Loss, Max	0.2	0.3	0.4	0.5	0.6	dB
Isolation, Min	80	70	60	60	55	dB

### Mechanical Specifications

#### Size

Weight 0.1615 lbs [73.26 g]  
Body Material and Plating Aluminum, Nickel  
Package Type Connectorized  
Operating Life 1,000,000 Cycles

#### Connectors

RF Connector Type SMA Female  
RF Connector Contact Material & Plating Beryllium Copper, Gold  
RF Connector Body Material & Plating Passivated Stainless Steel  
Control Connector Solder Pin



### Features:

- Single Pole Double Throw Terminated Relay Switch
- DC to 22 GHz Frequency Range
- 1M Cycle Min Operating Life
- Failsafe Actuator
- Insertion Loss 0.6 dB max
- Isolation 55 dB min
- 20 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications:

- Test & Measurement
- Communications System
- Instrumentation
- Military Communications

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)

## Environmental Specifications

### Temperature

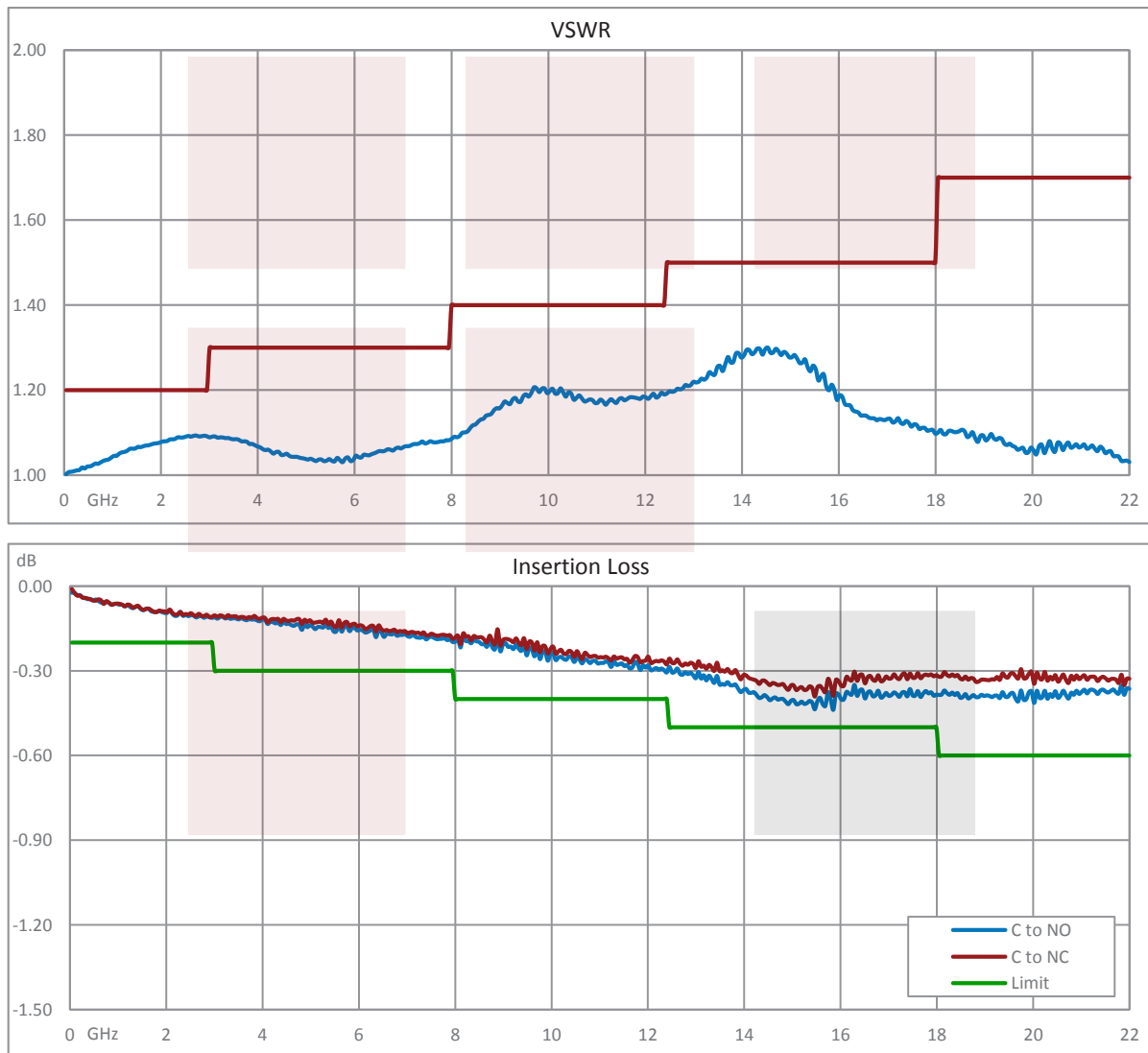
Operating Range -35 to +85 deg C

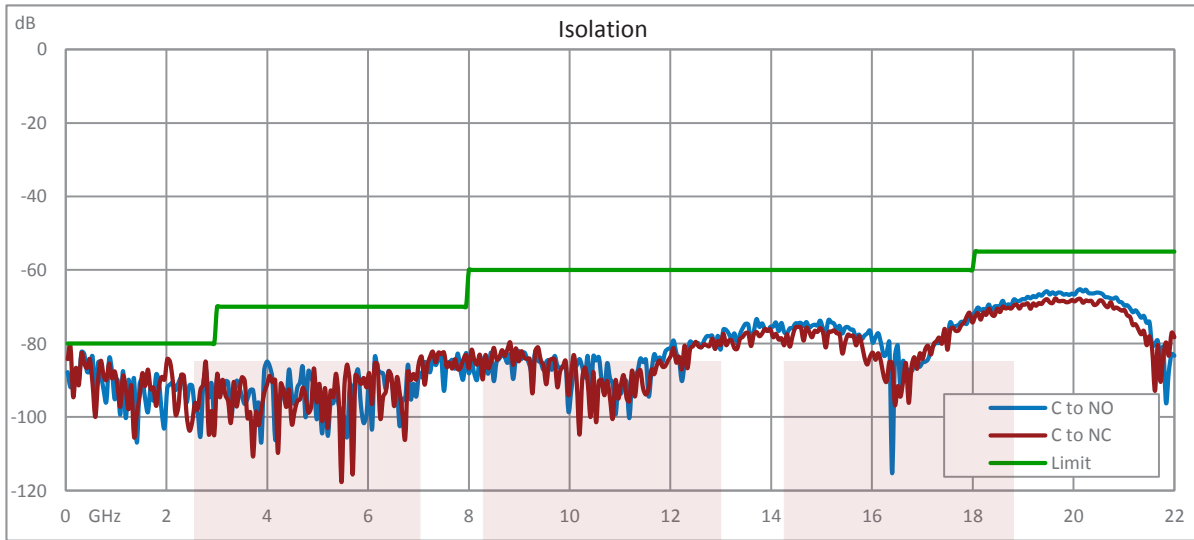
**Compliance Certifications** (see [product page](#) for current document)

## Plotted and Other Data

Notes:

### Typical Performance Data



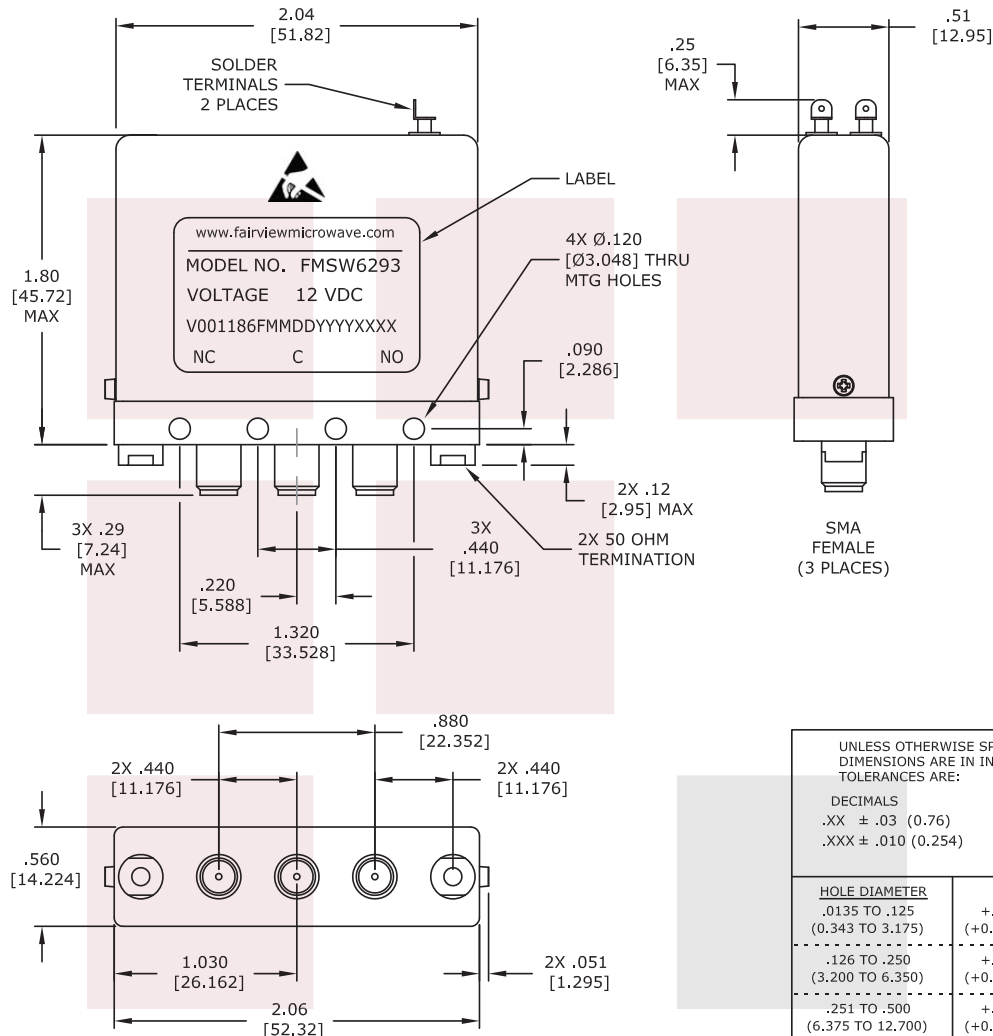


SPDT Failsafe DC to 22 GHz Terminated Electro-Mechanical Relay Switch, 20W, 12V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Failsafe DC to 22 GHz Terminated Electro-Mechanical Relay Switch, 20W, 12V, SMA FMSW6293](https://www.fairviewmicrowave.com/spdt-failsafe-dc-to-22-ghz-terminated-electro-mechanical-relay-switch-20w-12v-sma-fmsw6293)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-electromechanical-relay-switch-terminated-fmsw6293-p.aspx>

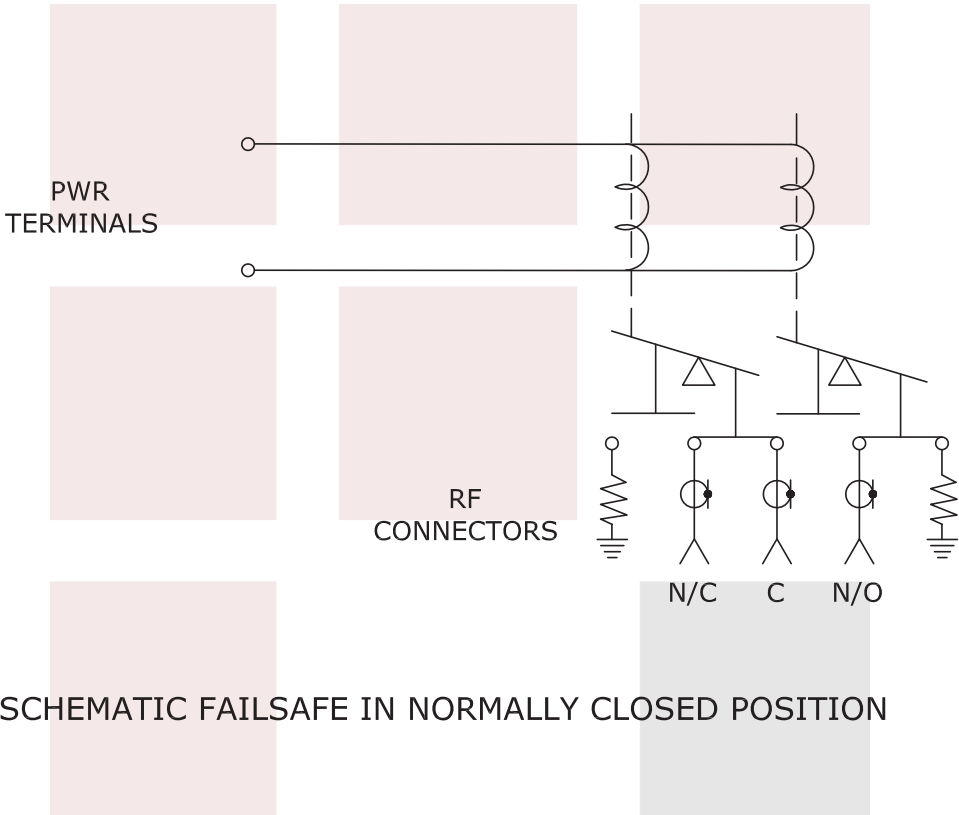
The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to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



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ARE:	
DECIMALS .XX ± .03 (0.76) .XXX ± .010 (0.254)	ANGLES ±1° FRACTIONS ±1/16
HOLE DIAMETER	TOLERANCE
.0135 TO .125 (0.343 TO 3.175)	+.004 TO -.001 (+.0102 TO -.0025)
.126 TO .250 (3.200 TO 6.350)	+.005 TO -.001 (+.0127 TO -.0025)
.251 TO .500 (6.375 TO 12.700)	+.006 TO -.001 (+.0152 TO -.0025)
.501 TO .750 (12.725 TO 19.050)	+.008 TO -.001 (+.0203 TO -.0025)
.751 TO 1.000 (19.075 TO 25.400)	+.010 TO -.001 (+.0254 TO -.0025)
1.001 TO 2.000 (25.425 TO 50.800)	+.012 TO -.001 (+.0305 TO -.0025)

\* THESE DIMENSIONS AND TOLERANCES  
SUPERSEDE NOTE #1 ON TITLE BLOCK.

FAIRVIEW MICROWAVE INC.		NOTES:	
ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		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		DWG NO	
SPDT Fail-safe DC to 22 GHz Terminated Electro-Mechanical Relay Switch, 20W, 12V, SMA		FMSW6293	
		CAGE CODE	
		3FKR5	
		CAD FILE	071116
		SHEET	
		SCALE	N/A
		SIZE	A
			2233



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