

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

The FMSW6404 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 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. The Failsafe actuator and 5 Watt Internal Terminations with 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 Solder Pins 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	Failsafe
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 Set Current @ 28 Volts		90		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.4	dB
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	0.4			dB
Isolation, Min	85	70	65			dB
Power In, Typ (CW)	90	75	60			Watts

### Mechanical Specifications

<b>Size</b>	
Weight	0.151 lbs [68.49 g]
Body Material and Plating	Aluminum
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
- +28 Volt DC
- 90 Watt average Power
- Failsafe Actuator
- Internally Terminated
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.4 dB Max
- VSWR as low as 1.4:1 max
- SMA Female RF connectors
- Solder Pins 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
RF Connector Contact Material & Plating	Beryllium Copper, Gold
RF Connector Body Material & Plating	Aluminum, Nickel
Control Connector	Solder Pin

**Environmental Specifications**

**Temperature**

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

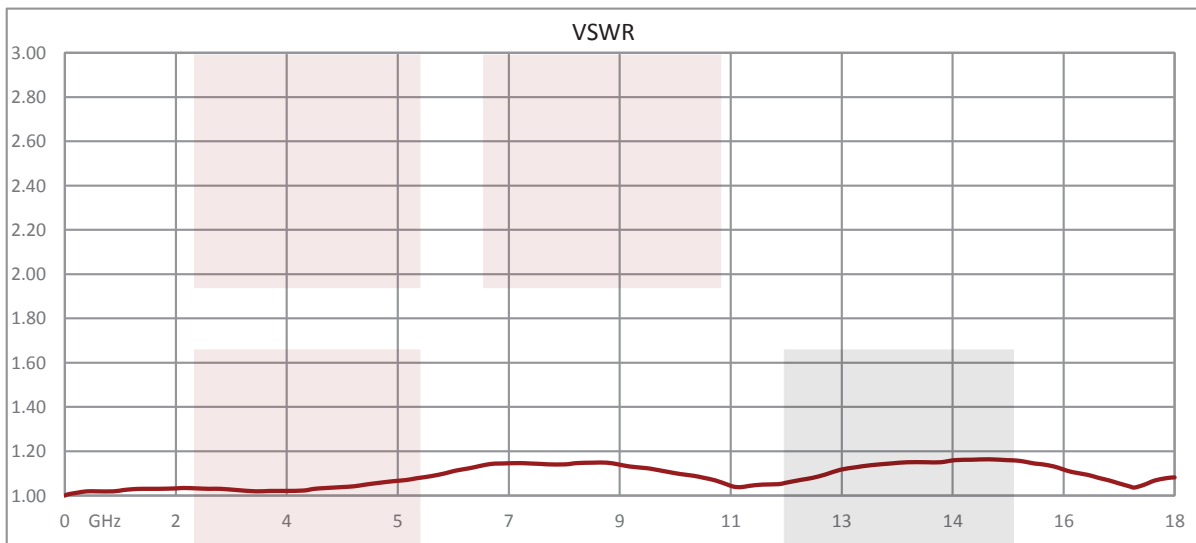
Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

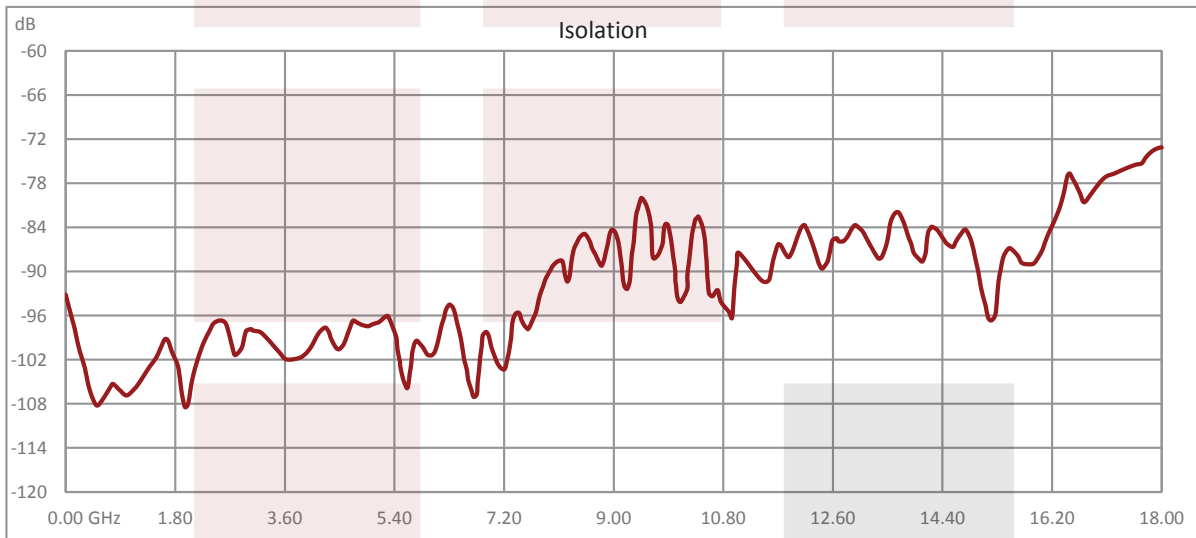
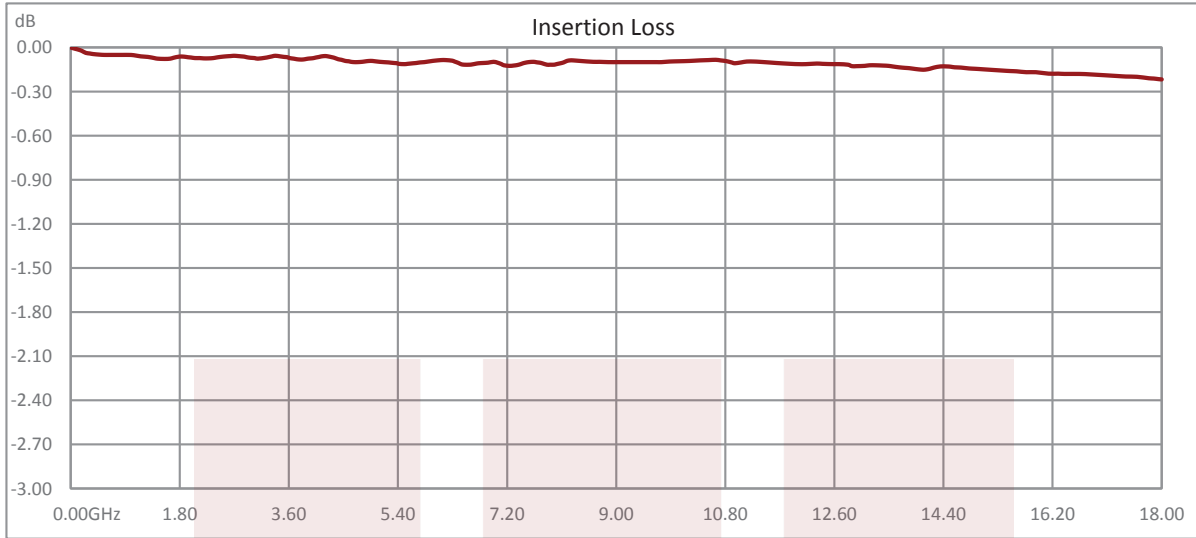
**Compliance Certifications** (see [product page](#) for current document)

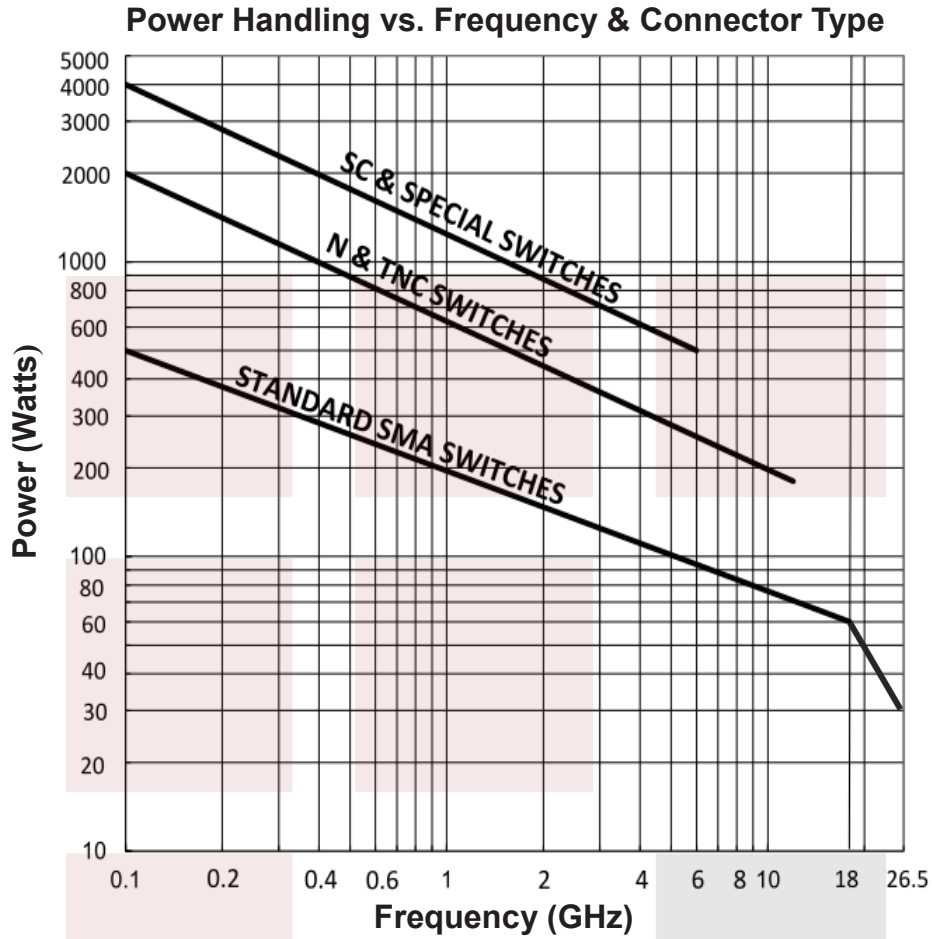
**Plotted and Other Data**

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

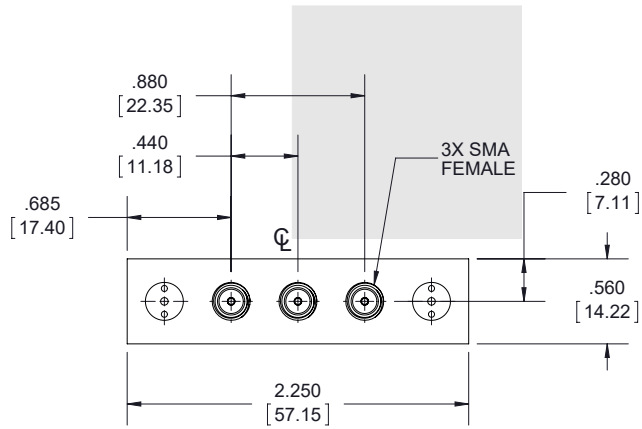
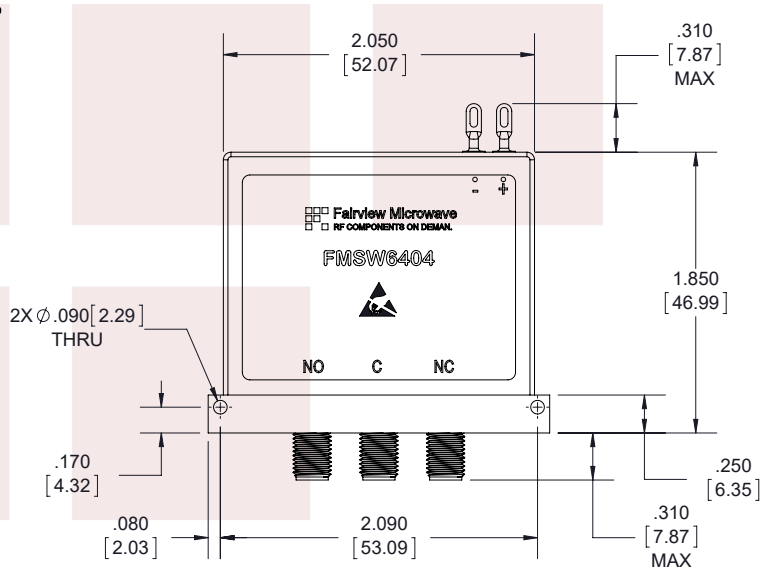
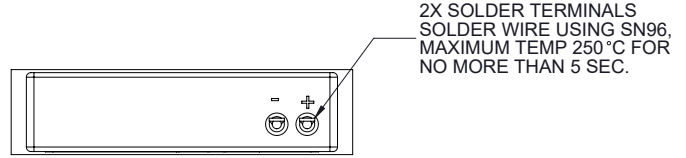
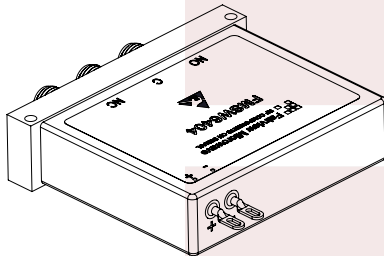
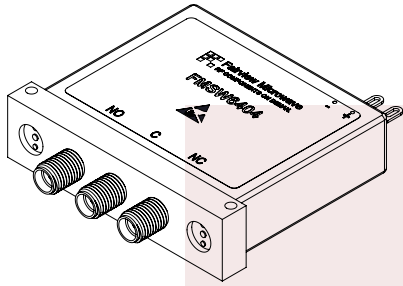
SPDT Failsafe DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Failsafe DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA FMSW6404](#)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-18-ghz-terminated-electro-mechanical-relay-switch-60w-28v-sma-fmsw6404-p.aspx>

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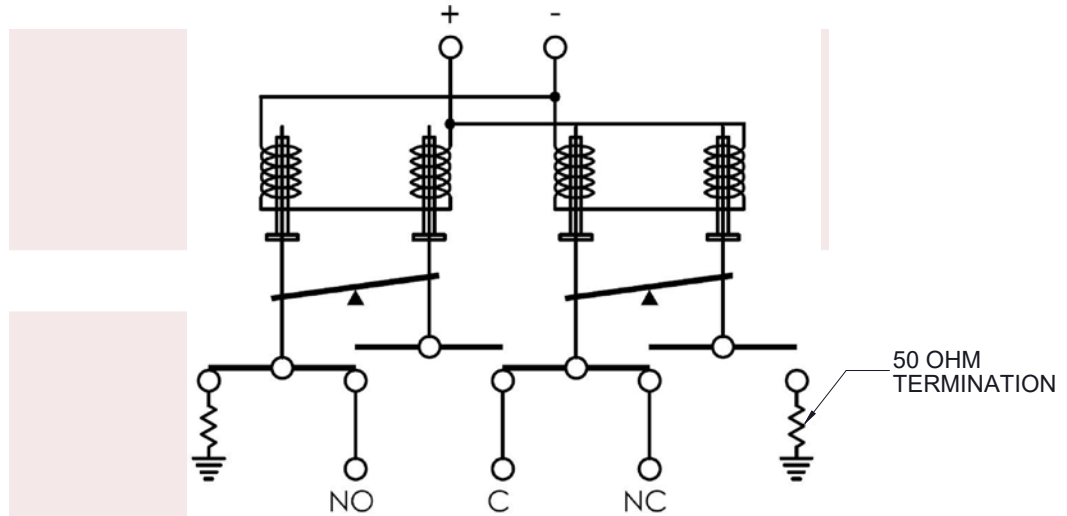




**STANDARD TOLERANCES**  
.X ±0.2  
.XX ±0.01  
.XXX ±0.005

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

<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	DWG NO	CAGE CODE	
SPDT Failsafe DC to 18 GHz Terminated Electro-Mechanical Relay Switch, up to 90W, 28V, SMA	FMSW6404	3FKR5	
CAD FILE	SHEET	SCALE	SIZE
090617	1 OF 1	N/A	A
			7361



**SCHEMATIC SHOWN IN FAILSAFE POSITON**

**STANDARD TOLERANCES**

- .X ±0.2
- .XX ±0.01
- .XXX ±0.005

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SHEET 2 OF 2

SCALE N/A

SIZE A

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