

**SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, Indicators, up to 90W, 24V, SMA**

The FMSW6406 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 includes Indicators and a +24 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	Latching
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
Termination Impedance		50		Ohms
Operating Voltage	22	24	26	Volts
Actuating Current @ 24 Volts		110		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	70	65			dB
Power In, Typ (CW)	90	75	60			Watts



**Features:**

- Single Pole Double Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 85 dB typical
- 5M Cycle Min Operating Life
- +24 Volt DC
- 90 Watt average Power
- Latching Actuator
- 1 Watt Indicators
- 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
- 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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**Mechanical Specifications**

**Size**

Weight 0.148 lbs [67.13 g]  
 Package Type Connectorized  
 Operating Life 5,000,000 Cycles

**Connectors**

RF Connector Type SMA Female  
 Control Connector Solder Pin

**Environmental Specifications**

**Temperature**

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

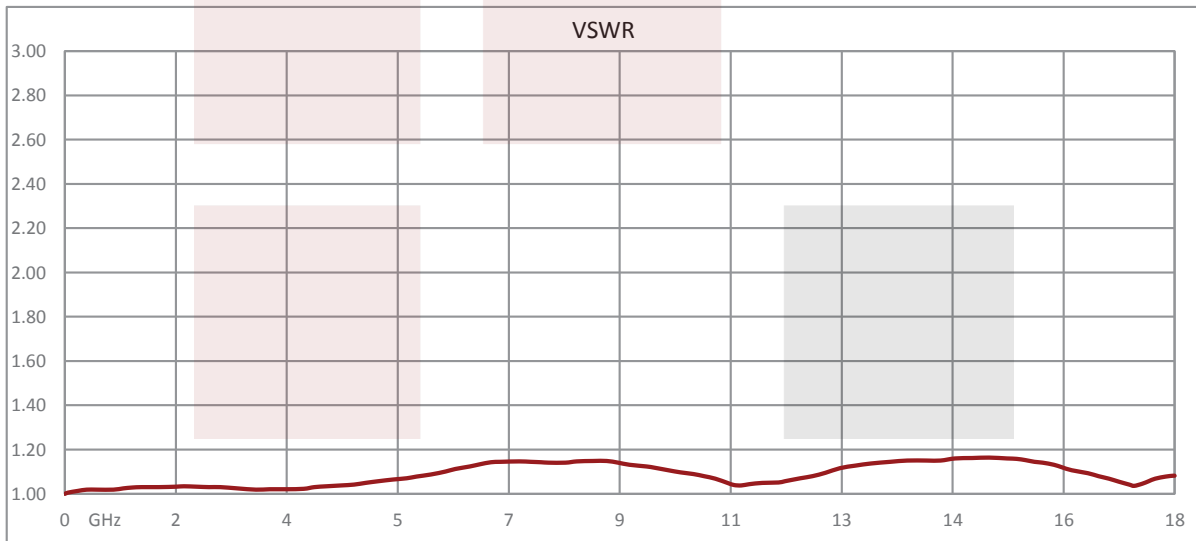
Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating  
 Vibration MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

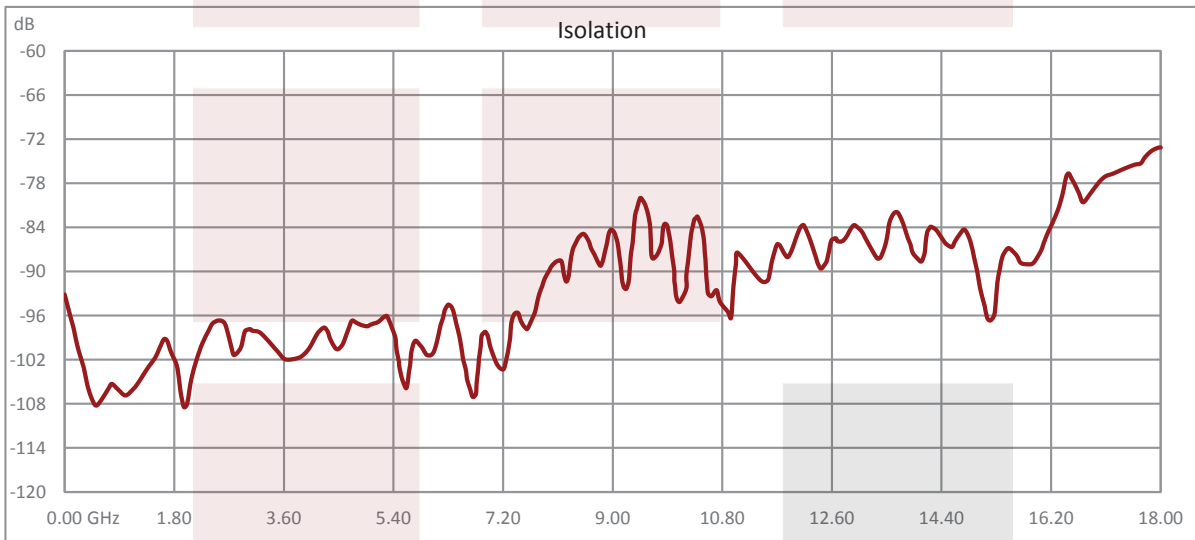
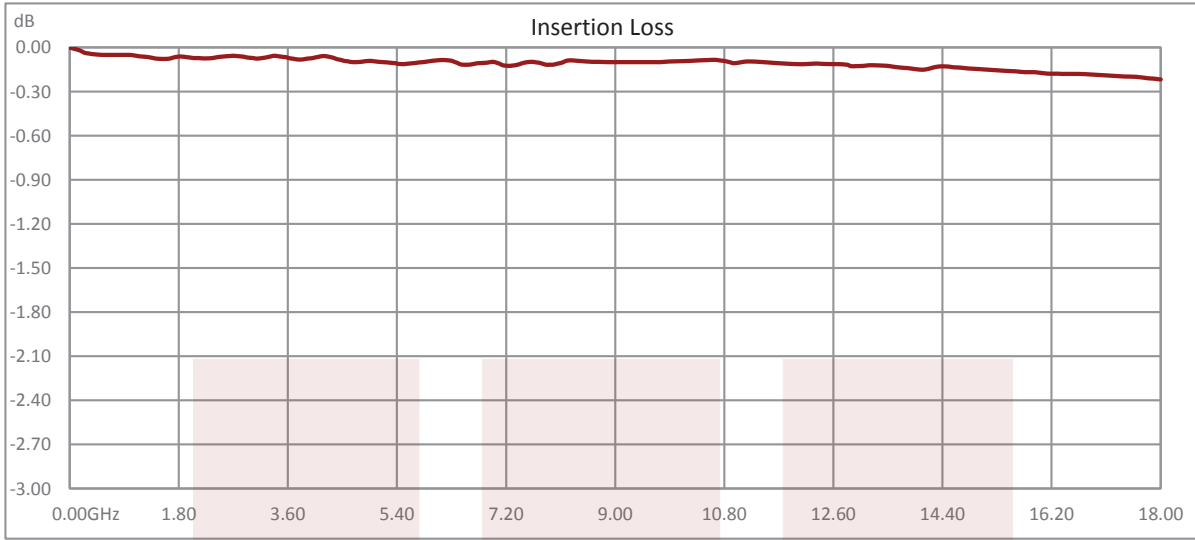
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

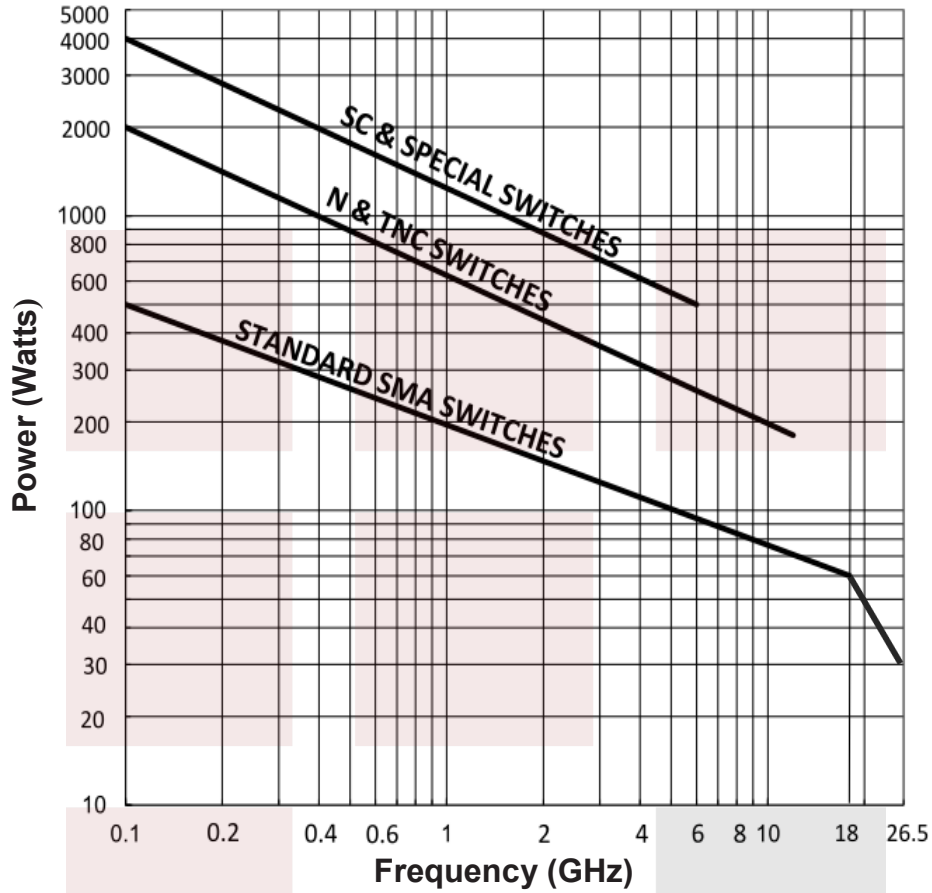
Notes:

**Typical Performance Data**





**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

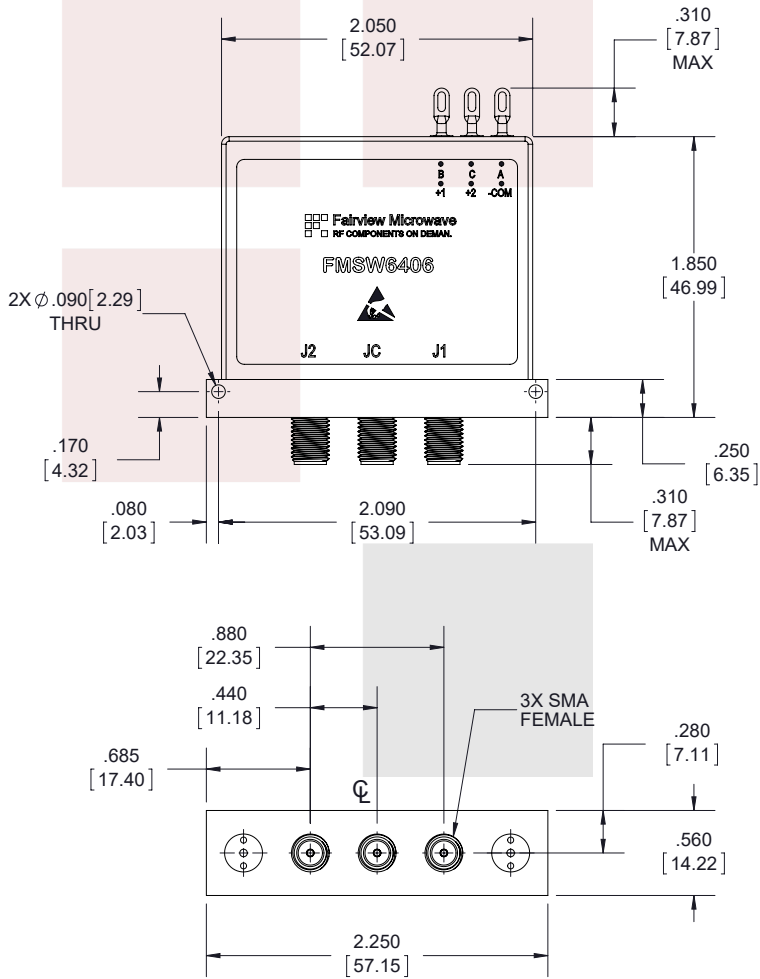
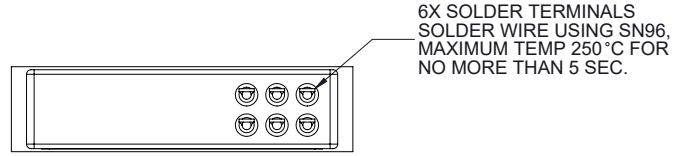
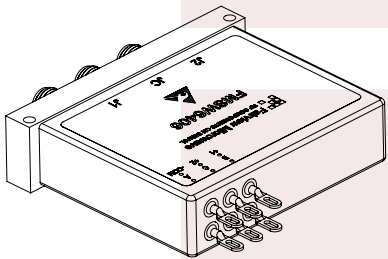
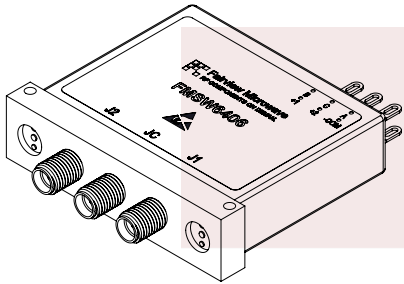
SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, Indicators, up to 90W, 24V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview 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, Indicators, up to 90W, 24V, SMA FMSW6406](#)

URL: <https://www.fairviewmicrowave.com/spdt-latching-18-ghz-terminated-electro-mechanical-relay-switch-60w-24v-sma-fmsw6406-p.aspx>

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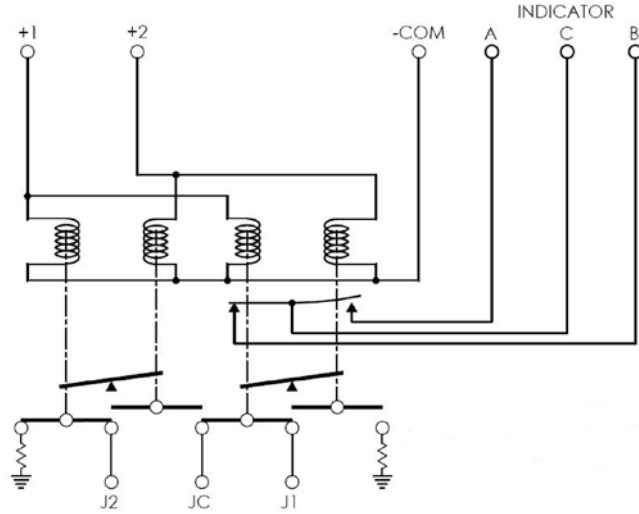




**STANDARD TOLERANCES**  
.X ±0.2  
.XX ±0.01  
.XXX ±0.005

\*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	FMSW6406			CAGE CODE	3FKR5
SPDT Latching DC to 18 GHz Terminated Electro-Mechanical Relay Switch, Indicators, up to 90W, 24V, SMA	CAD FILE	090617	SHEET	1 OF 1	SCALE	N/A
					SIZE	A
						7361



**SCHEMATIC SHOWN IN LATCHING POSITON**

OPERATIONAL LOGIC TABLE							
TERMINALS		RF PORTS		INDICATOR		TERMINATION	
1	2	J1-JC	J2-JC	B-C	A-C	J2 TERMINATED	J1 TERMINATED
0	0	NO CHANGE		NO CHANGE		NO CHANGE	
0	1	OFF	ON	OFF	ON	OFF	ON
1	0	ON	OFF	ON	OFF	ON	OFF
1	1	FORBIDDEN		FORBIDDEN		FORBIDDEN	

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CAD FILE 090617

SHEET 2 OF 2

SCALE N/A

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