

SP4T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA

The FMSW6408 is a Single Pole Four Throw (SP4T) 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 Normally Open 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 80 dB typical. The Normally Open actuator has 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	SP4T
Actuator Type	Normally Open
Switching Sequence	Break before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
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	80	80		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	0.4			dB
Isolation, Min	80	80	80			dB
Power In, Typ (CW)	90	75	60			Watts

Mechanical Specifications

Size

Weight	0.219 lbs [99.34 g]
Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	2,000,000 Cycles



Features:

- Single Pole Four Throw
- DC to 18 GHz Frequency Range
- Isolation greater than 80 dB typical
- 2M Cycle Min Operating Life
- +28 Volt DC
- 90 Watt average Power
- Normally Open Actuator
- -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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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

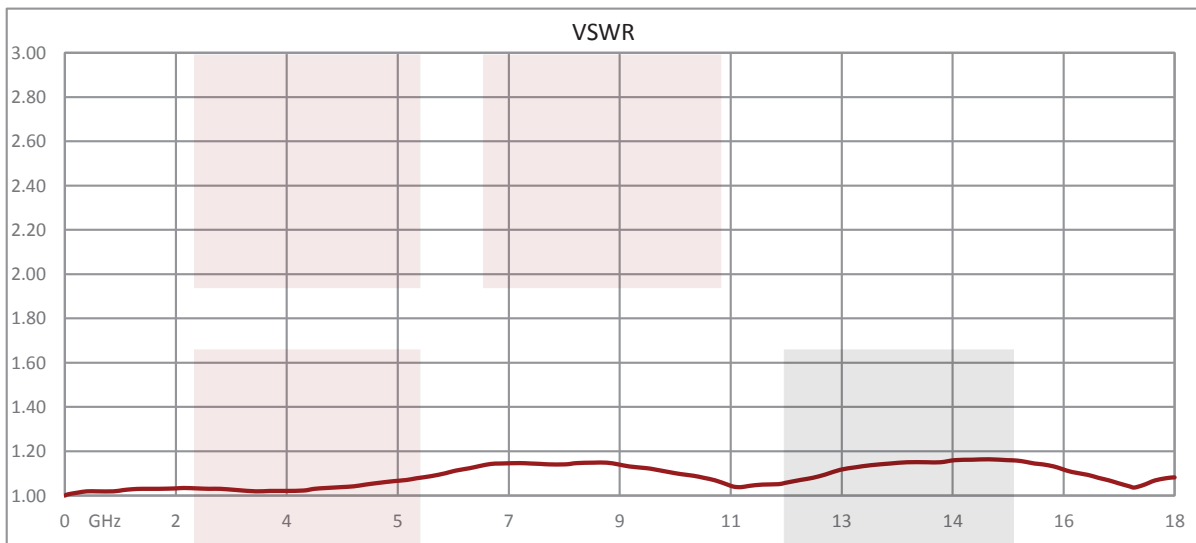
Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

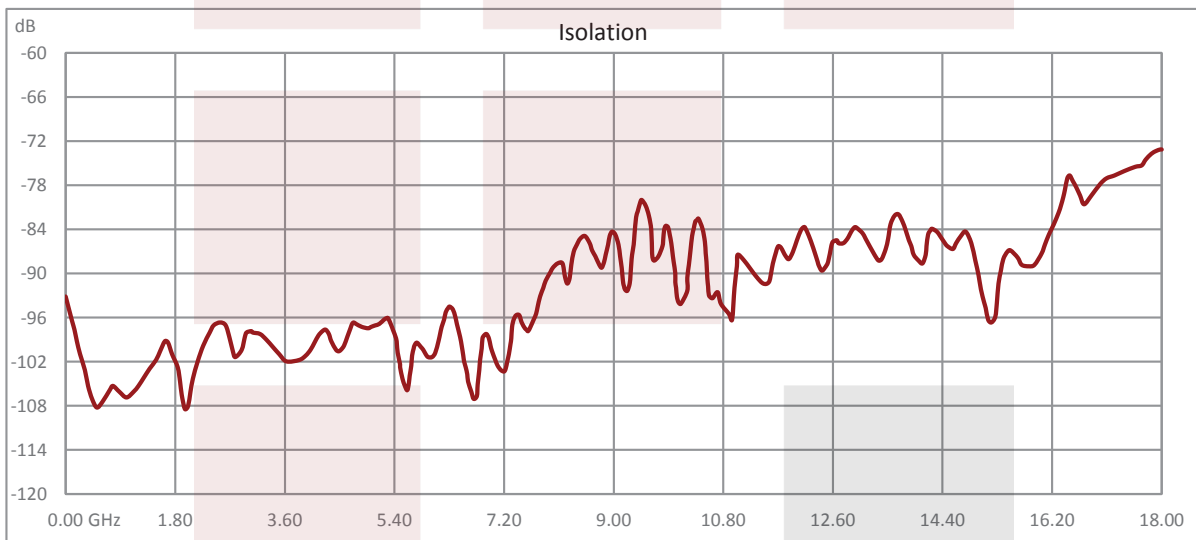
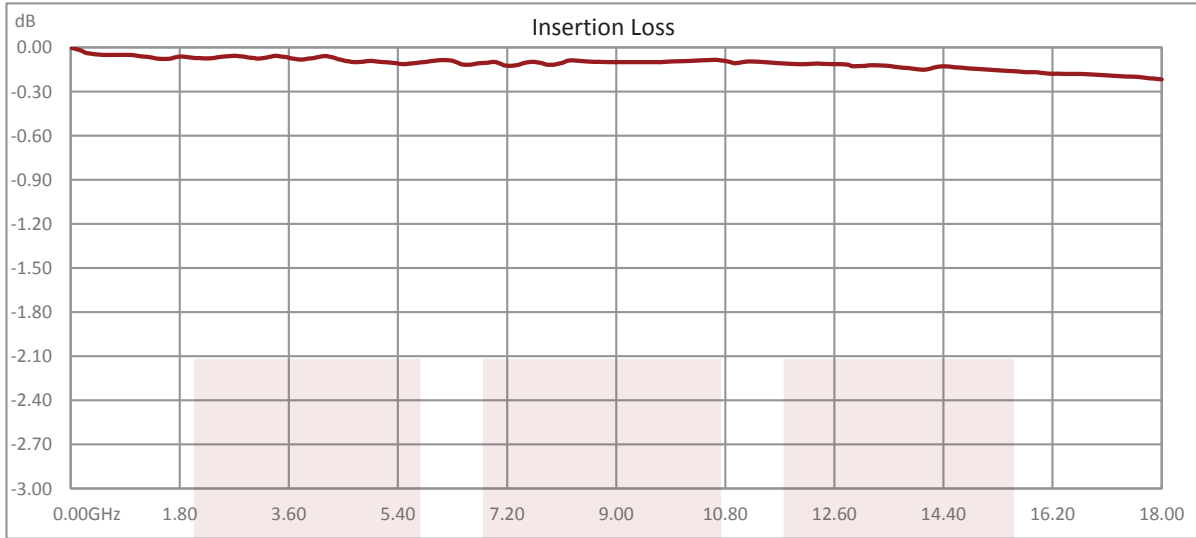
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

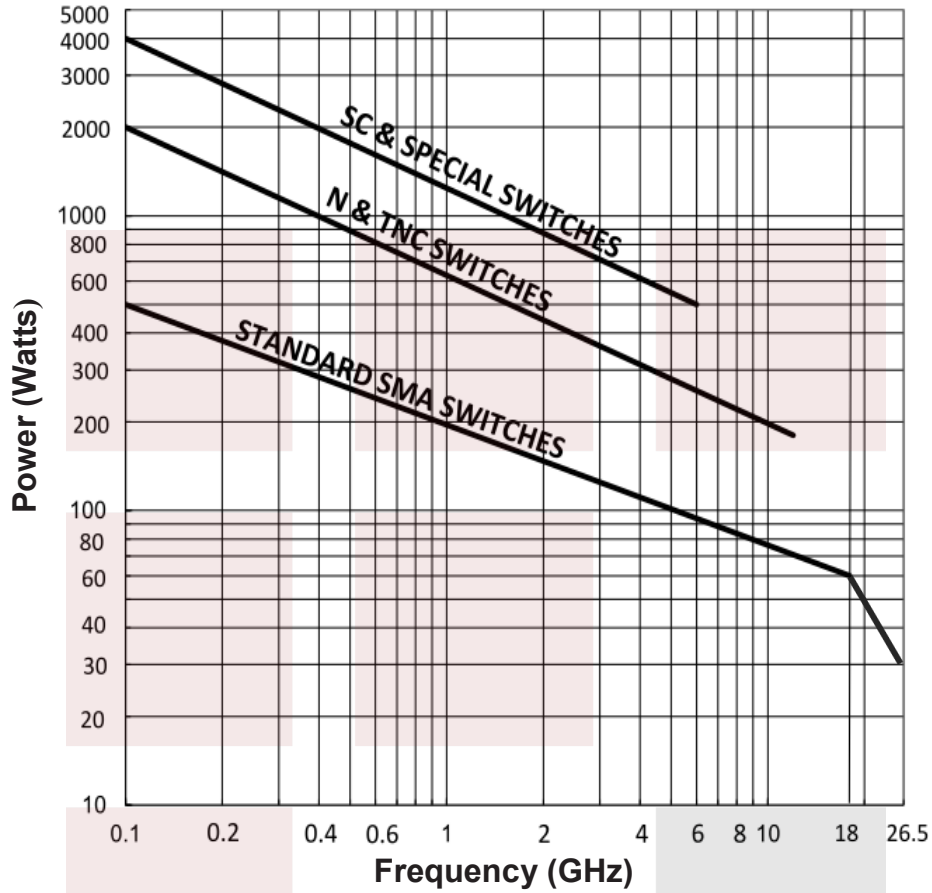
Notes:

Typical Performance Data





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

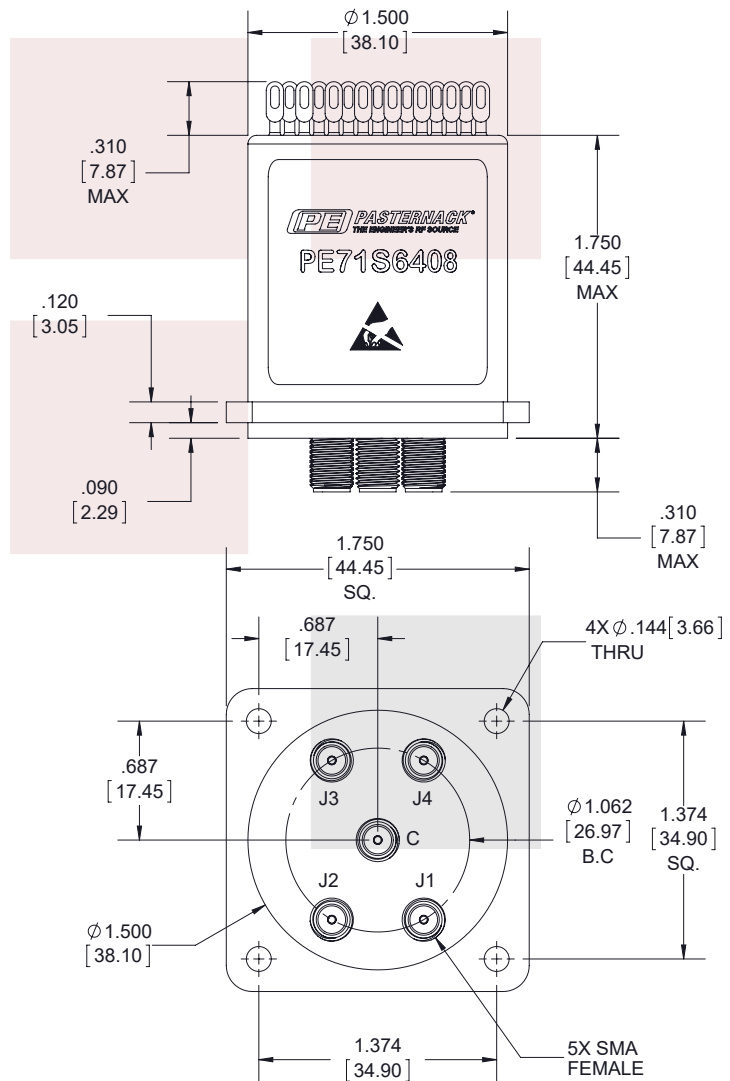
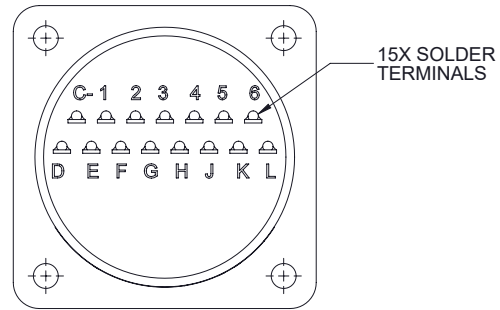
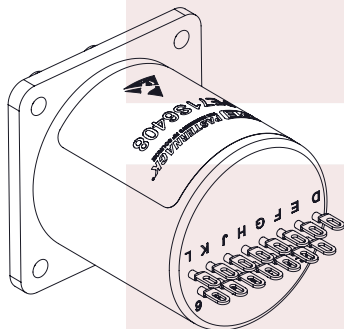
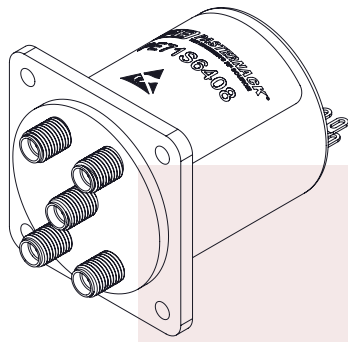
SP4T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SP4T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA FMSW6408](#)

URL: <https://www.fairviewmicrowave.com/sp4t-normally-open-18-ghz-electro-mechanical-relay-switch-60w-28v-sma-fmsw6408-p.aspx>

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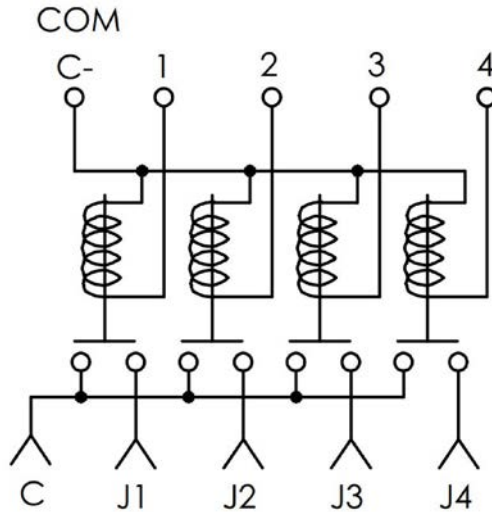




STANDARD TOLERANCES
.X ±0.2
.XX ±0.01
.XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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TITLE SP4T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA		DWG NO FMSW6408		CAGE CODE 3FKR5				
CAD FILE	090817	SHEET	1 OF 2	SCALE	N/A	SIZE	A	7361



SCHEMATIC SHOWN IN NORMALLY OPEN POSITION

TERMINALS D-SUB PIN ASSIGNMENT	RF PATH			
	J1	J2	J3	J4
1 (SET+)	ON	OFF	OFF	OFF
2 (SET+)	OFF	ON	OFF	OFF
3 (SET+)	OFF	OFF	ON	OFF
4 (SET+)	OFF	OFF	OFF	ON

STANDARD TOLERANCES

.X ±0.2
.XX ±0.01
.XXX ±0.005

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TITLE SP4T NO DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA		DWG NO FMSW6408		CAGE CODE 3FKR5	
CAD FILE	090817	SHEET	2 OF 2	SCALE	N/A
		SIZE	A		7361