

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

The FMSW6391 is a (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 80 dB typical. The Failsafe 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 a Solder Pins 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
Actuator Type	Failsafe
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 Current @ 28 Volts		90		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.15	0.35	dB
Insertion Loss Repeatability				
Isolation	65	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	75	65			dB
Power In, Typ (CW)	90	75	60			Watts

Mechanical Specifications

Size

Weight	0.0865 lbs [39.24 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 80 dB typical
- 2M Cycle Min Operating Life
- +28 Volt DC
- 90 Watt average Power
- Failsafe 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 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

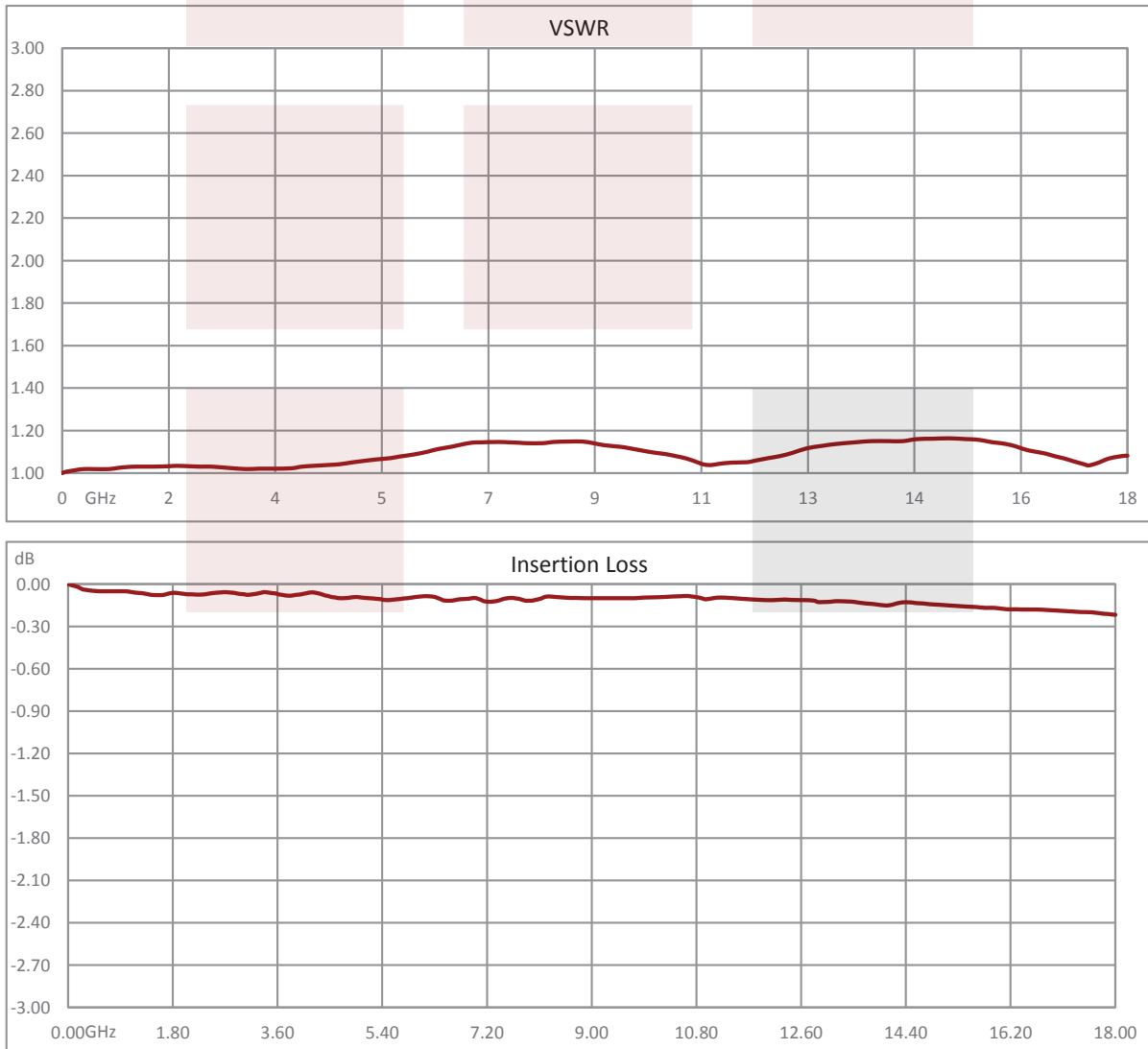
Operating Range	-25 to +70 deg C
Storage Range	-55 to +100 deg C

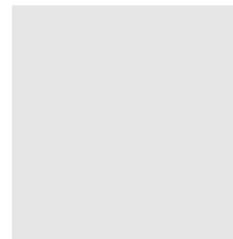
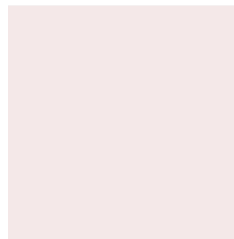
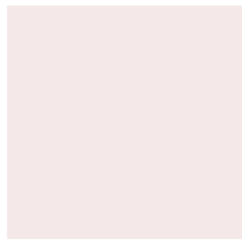
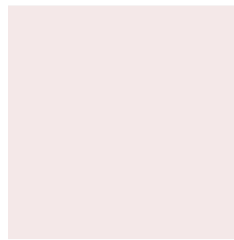
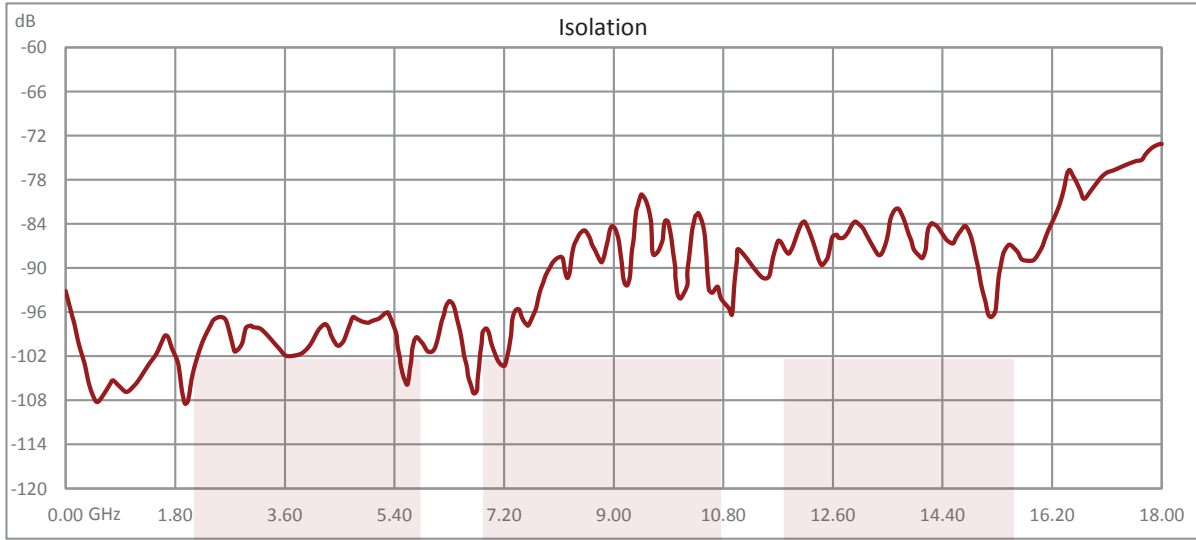
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

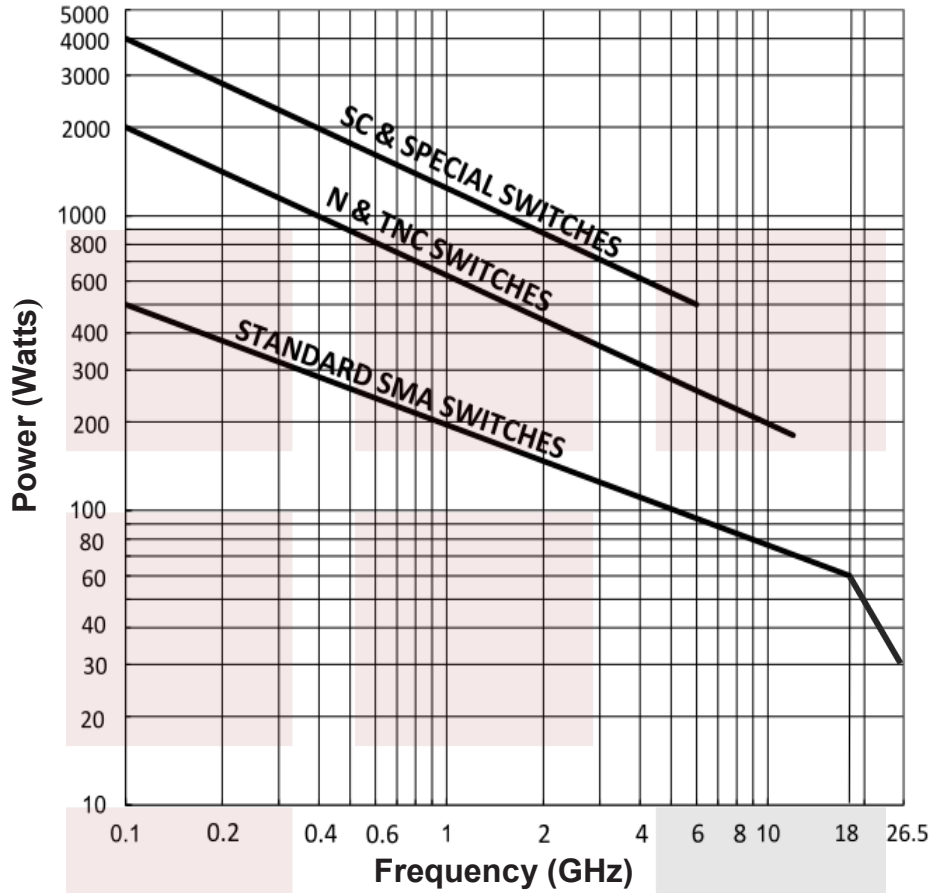
Notes:

Typical Performance Data





Power Handling vs. Frequency & Connector Type



Environmental and Test Conditions:

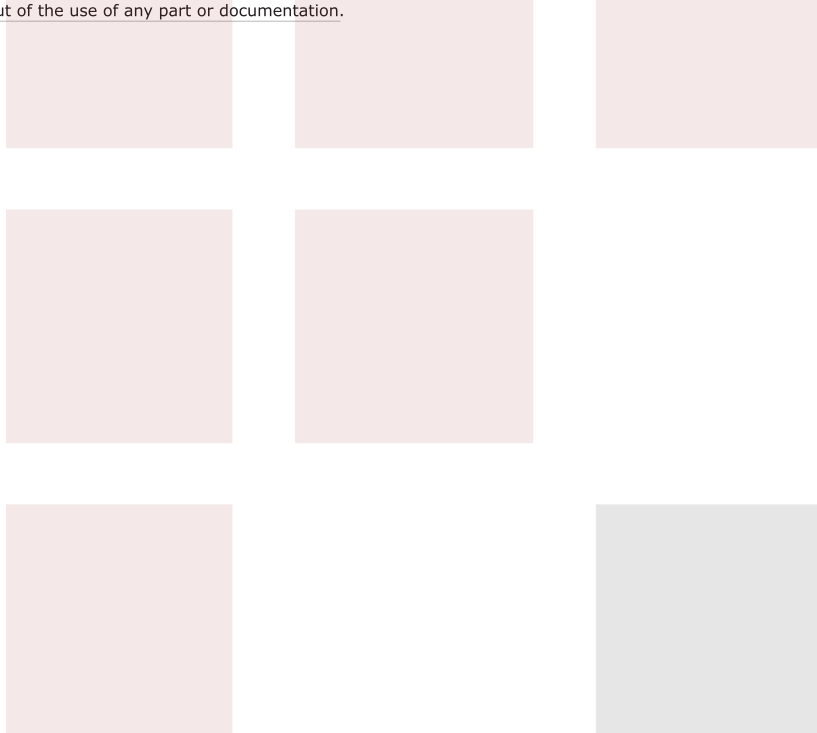
- Ambient temperature of 25°C or less
- Altitude: Sea Level
- Load VSWR: 1.20:1 max.
- Cold Switching

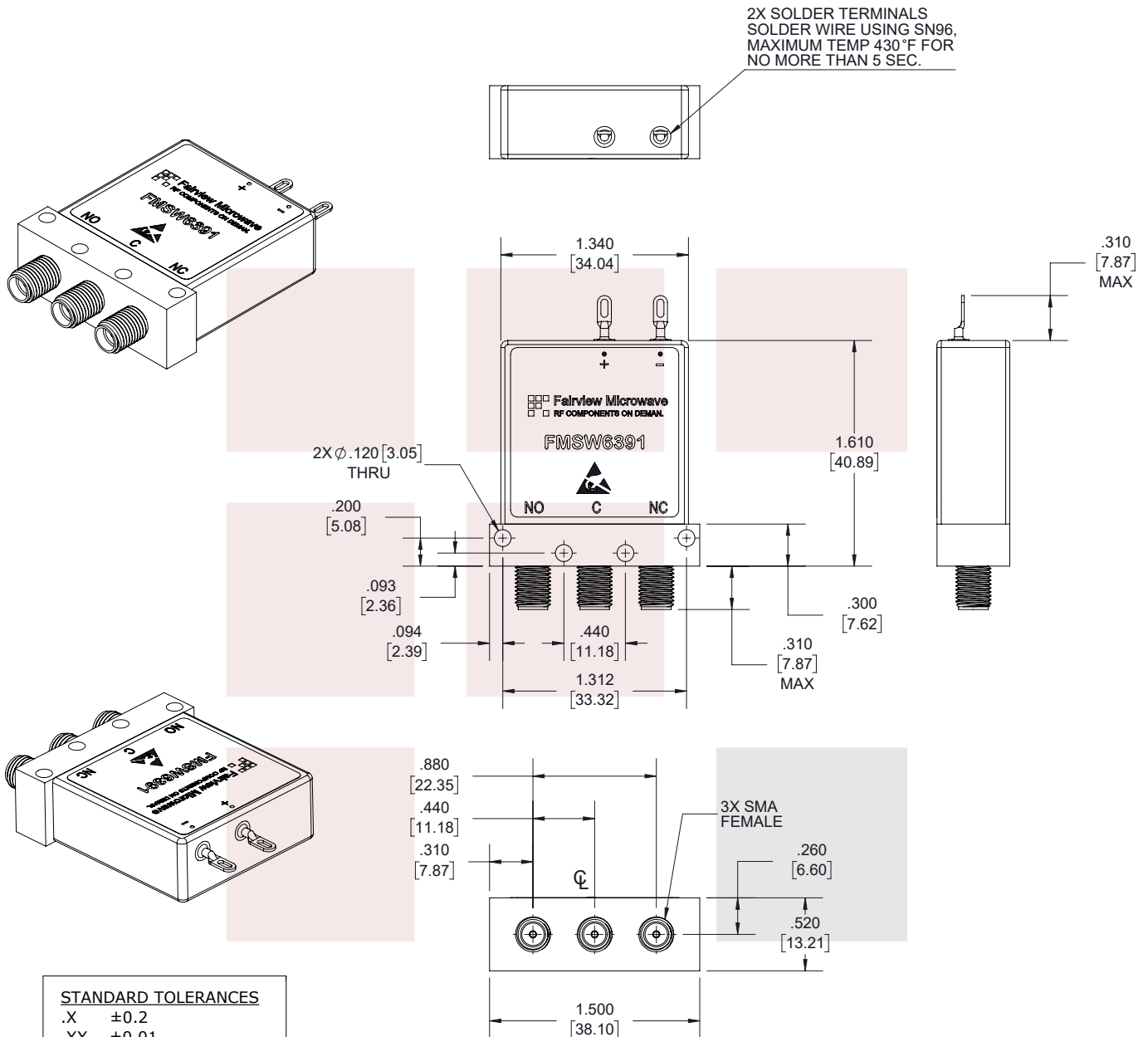
SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA FMSW6391](#)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-18-ghz-electro-mechanical-relay-switch-60w-28v-sma-fm-sw6391-p.aspx>

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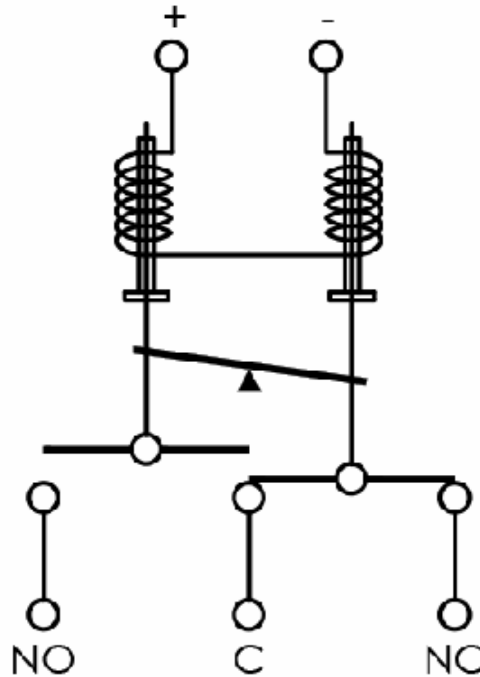




STANDARD TOLERANCES	
.X	±0.2
.XX	±0.01
.XXX	±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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TITLE SPDT Fail-safe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA		DWG NO FMSW6391		CAGE CODE 3FKR5				
CAD FILE	101317	SHEET	1 OF 2	SCALE	N/A	SIZE	A	7361



SCHEMATIC SHOWN IN FAILSAFE POSITON

STANDARD TOLERANCES

- .X ±0.2
- .XX ±0.01
- .XXX ±0.005

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

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TITLE SPDT Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 28V, SMA		DWG NO FMSW6391		CAGE CODE 3FKR5	
CAD FILE	101317	SHEET	2 OF 2	SCALE	N/A
		SIZE	A		7361