

SPDT Failsafe Electro-Mechanical Relay Switch DC to 18 GHz , 90W, 12V, 2M Lifecycles, SMA

The FMSW6436 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 50 Ohm design features a Failsafe Actuator and is rated for 2 million lifecycles. Impressive typical performance includes 0.25 dB insertion loss and isolation greater than 85 dB. This switch requires +12Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports SMA female connectors and terminal 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
Actuator Type	Failsafe
Switching Sequence	Break before Make

Description	Min	Typ	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts At +20°C			200	mA
VSWR		1.3:1	1.4:1	
Insertion Loss		0.25	0.35	dB
Isolation	65	75		dB
Input Power (CW)			90	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	75	65			dB

Mechanical Specifications

Size

Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	2,000,000 Cycles

Connectors

RF Connector Type	SMA Female
Control Connector	Solder Terminals



Features:

- Single Pole Double Throw Electromechanical Relay Switch
- DC to 18 GHz Frequency Range
- Failsafe Actuator
- 2M Lifecycle Rating
- Insertion Loss 0.25 dB typ
- Isolation > 75 dB typ
- VSWR 1.3:1 typ
- +12 Volt DC Bias
- Terminal Pins for DC Control
- SMA Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 90 Watt Average Power Handling
- 50 Ohm Design
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request
- Rugged Design meets Mil-STD-202 Test Conditions

Applications:

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military & Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IoT

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
sales@fairviewmicrowave.com

Environmental Specifications

Temperature

Operating Range -25 to +65 deg C
Storage Range -55 to +100 deg C

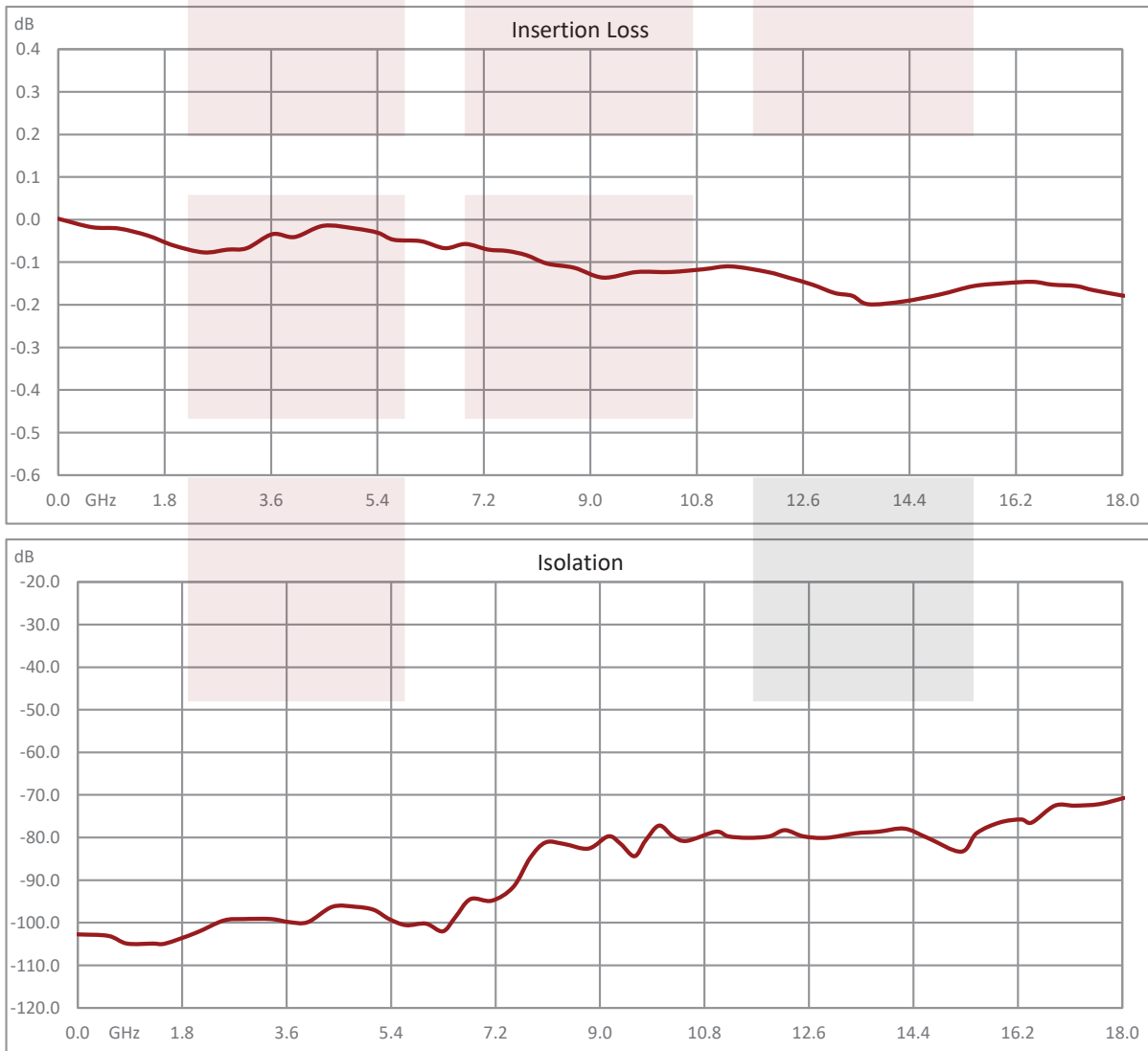
Humidity Moisture Resistance
Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration MIL-STD-202 Method 204, Cond. D 10G RMS Non Operating

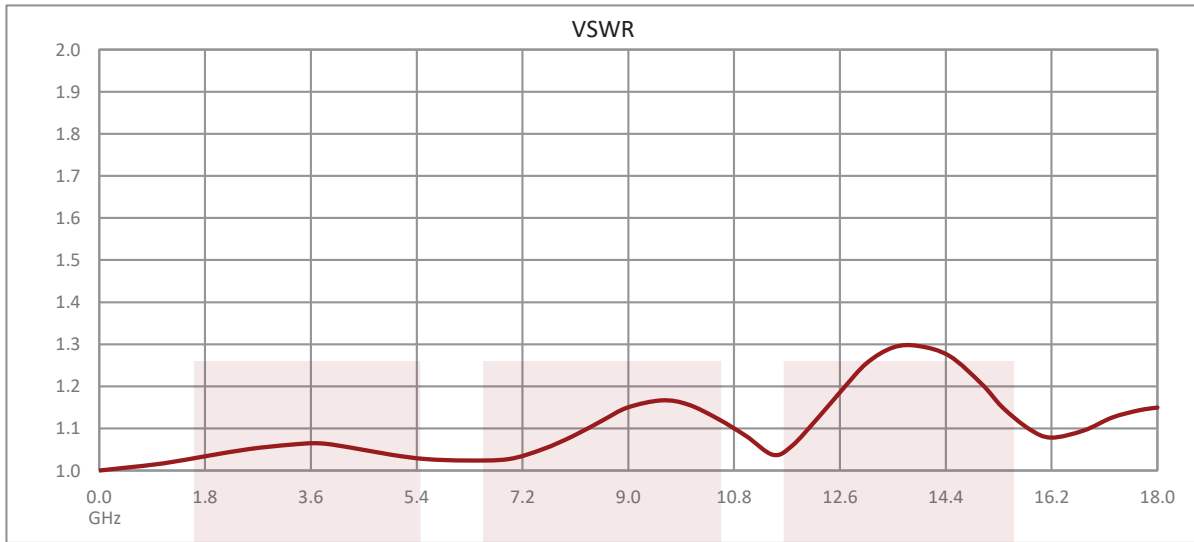
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data





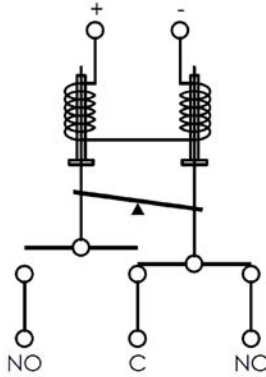
SPDT Failsafe Electro-Mechanical Relay Switch DC to 18 GHz , 90W, 12V, 2M Lifecycles, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Failsafe Electro-Mechanical Relay Switch DC to 18 GHz , 90W, 12V, 2M Lifecycles, SMA FMSW6436](https://www.fairviewmicrowave.com/spdt-failsafe-18-ghz-electro-mechanical-relay-switch-90w-12v-sma-fm-sw6436)

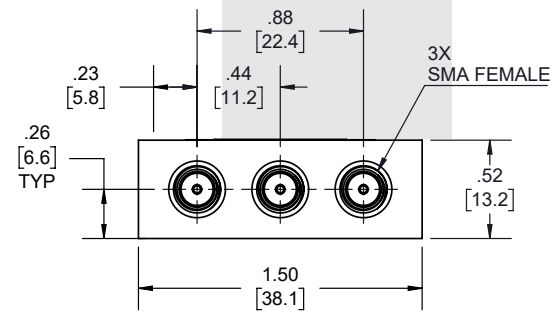
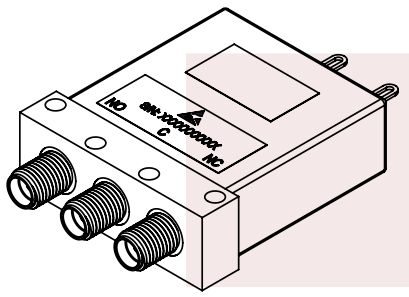
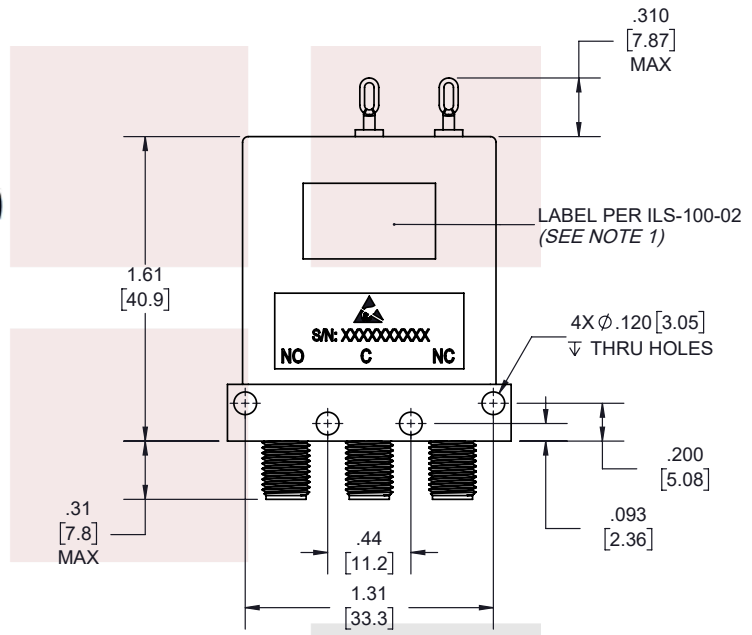
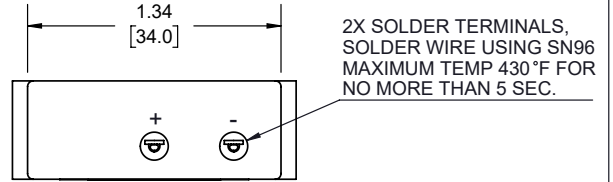
URL: <https://www.fairviewmicrowave.com/spdt-failsafe-18-ghz-electro-mechanical-relay-switch-90w-12v-sma-fm-sw6436-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	11/12/2020	T.GALLA



SCHEMATIC (FAILSAFE POSITION)



NOTES:

1. LABEL PER ILS-100-02. FOR INTERNAL REFERENCE ONLY. LABEL LOCATION FOR REFERENCE ONLY.

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TITLE
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UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [] ARE MILLIMETERS		THIRD-ANGLE PROJECTION	
TOLERANCES:		CABLE LENGTH (L) TOLERANCES:	
.X = ± .2 [5.08]	FRACTIONS ± 1/32	L ≤ 12 [305] = +1 [25] / -0	<p>THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.</p>
.XX = ± .02 [.51]	ANGLES ± 1°	12 [305] < L ≤ 60 [1524] = +2 [51] / -0	
.XXX = ± .005 [.13]		60 [1524] < L ≤ 120 [3048] = +4 [102] / -0	
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0	
ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.			SHEET 1 OF 1
SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	SCALE N/A
		ITEM NO. FMSW6436	REV A

T-Rev.D