

Transfer Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA

The FMSW6446 is a Transfer electromechanical relay switch that operates across a wide frequency range of DC to 26.5 GHz and can handle up to 90W of Average power in a break before make condition. The 50 Ohm design is rated for 2 million lifecycles and features a Failsafe Actuator. Additional features include TTL control logic, suppression diodes which limit voltage spikes or reverse current, and indicators. Impressive typical performance includes 0.3 dB insertion loss and isolation greater than 80 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 solder terminal pins for DC command control functions. 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	DPDT
Actuator Type	Failsafe
Switching Sequence	Break Before Make
Actuator Options	Indicators, TTL Logic
TTL Control	on: 2.4 to 5.5 Volts off: 0 to 0.8 Volts

Description	Min	Typ	Max	Units
Frequency Range	DC		26.5	GHz
Impedance		50		Ohms
Operating Voltage	11	12	13	Volts
Actuating Current @ 12 Volts			800	mA
VSWR		1.3:1	1.6:1	
Insertion Loss		0.3	0.8	dB
Isolation	60	80		dB
Switching Time			20	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 6	6 - 12	12 - 18	18 - 26.5		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.6:1		
Insertion Loss, Max	0.2	0.3	0.5	0.8		dB
Isolation, Min	80	70	65	60		dB

Mechanical Specifications

Size	
Length	2 in [50.8 mm]
Width/Diameter	2.16 in [54.86 mm]
Height	1.32 in [33.53 mm]
Finish	NICKEL
Package Type	Connectorized
Operating Life	2,000,000 Cycles



Features:

- Transfer Electromechanical Relay Switch
- DC to 26.5 GHz Frequency Range
- Failsafe Actuator
- TTL Logic Control
- Suppression Diodes
- Indicators
- 2M Lifecycle Rating
- Insertion Loss 0.3 dB typ
- Isolation > 80 dB typ
- VSWR as low as 1.2:1 max
- +12 Volt DC Bias
- Solder Terminal Pins for DC Command 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

Connectors

RF Connector Type SMA Female

Environmental Specifications

Temperature

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

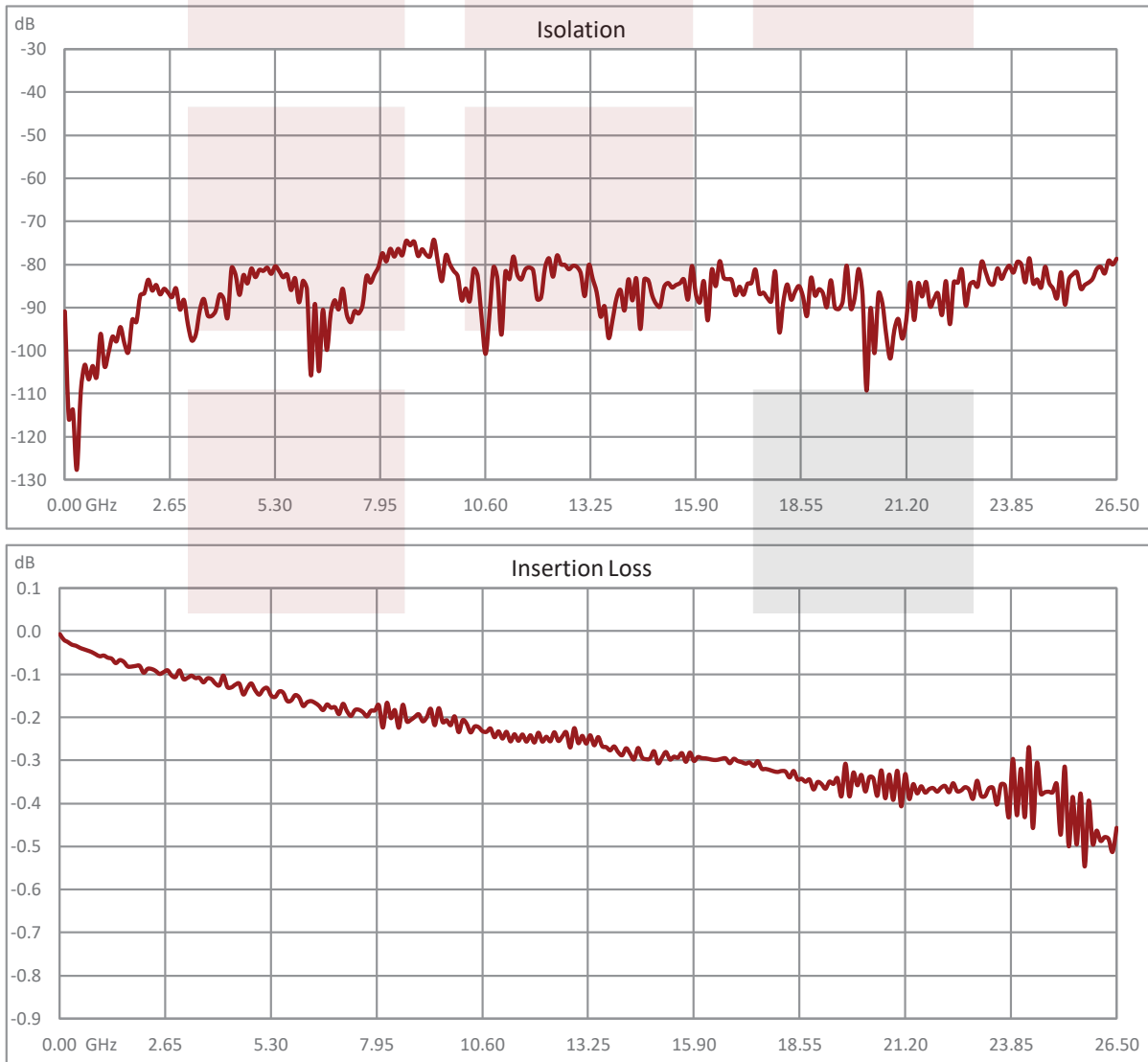
Humidity Moisture resistant or immersion sealing available
Shock MIL-STD-202 Method 213, Condition D, 500G (non oper)
Vibration MIL-STD-202 Method 214, Condition D, 10G RMS (non oper)

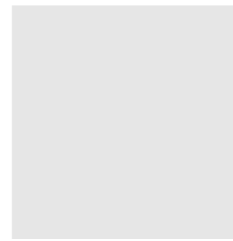
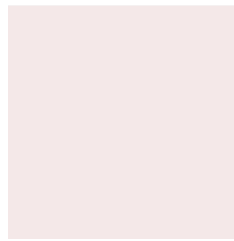
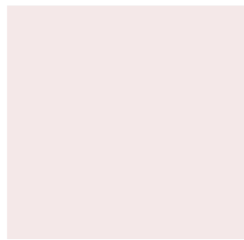
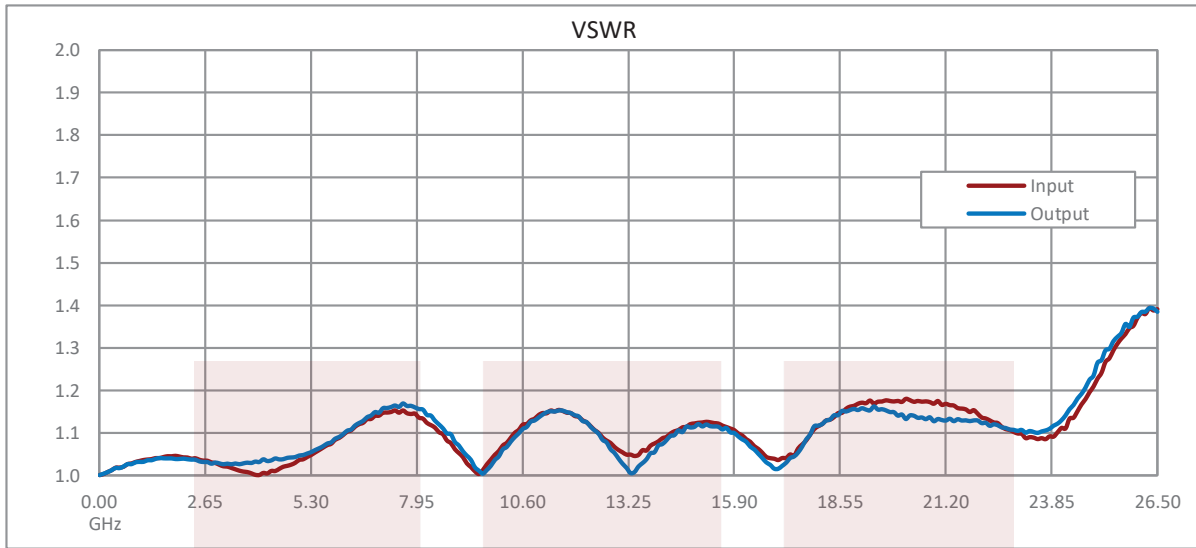
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

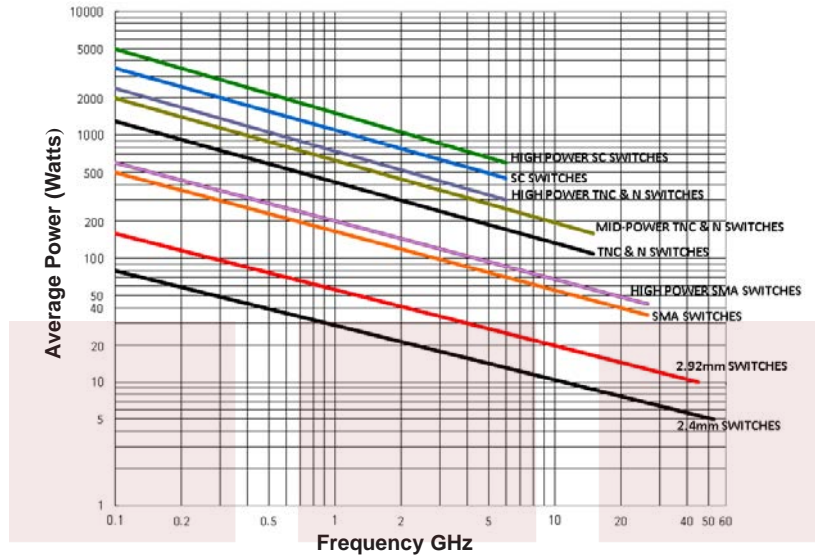
Notes:

Typical Performance Data

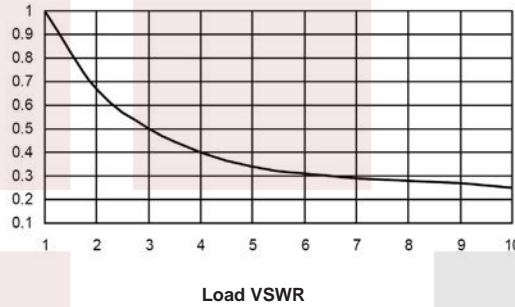




Power Handling vs. Frequency



Power Handling De-rating vs. Load VSWR



Power Handling Chart and Derating Curves based on the following Test and Environmental Conditions:
 Ambient temperature: 20 - 25°C
 Altitude: Sea Level to 1,000 feet
 Relative Humidity: 50 - 55%
 Load VSWR: ≤ 1.20:1
 Operation: Cold Switching

Transfer Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, 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.

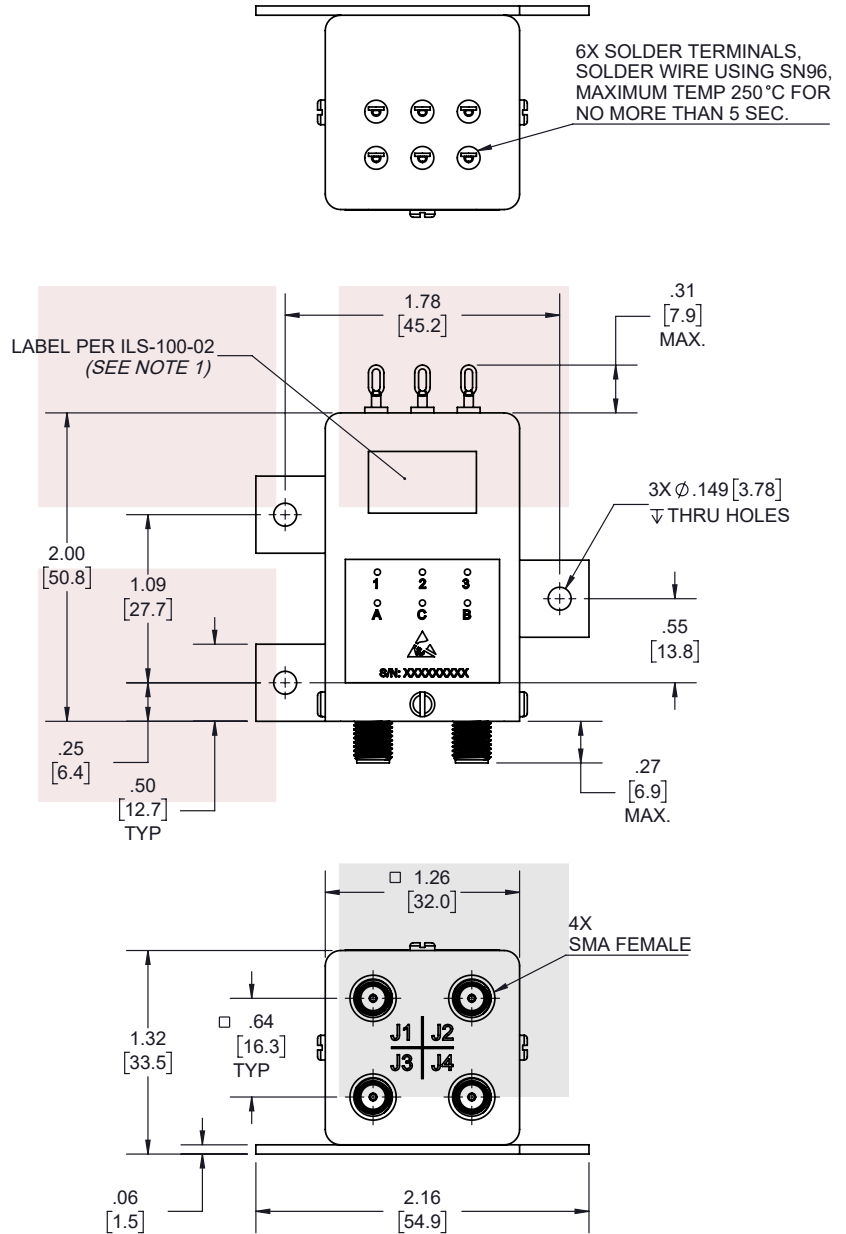
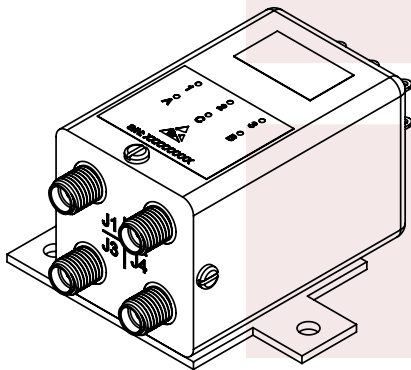
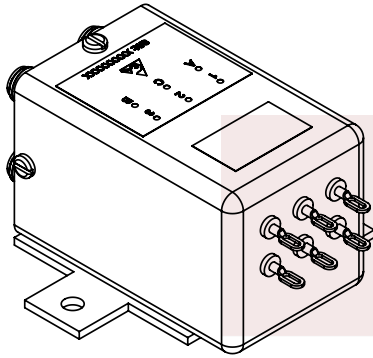
For additional information on this product, please click the following link: [Transfer Electromechanical Relay Failsafe Switch, DC to 26.5 GHz, up to 90W, 2M Lifecycles, 12V, Indicators, TTL, Suppression Diodes, SMA FMSW6446](#)

URL: <https://www.fairviewmicrowave.com/dpdt-failsafe-30-ghz-electro-mechanical-relay-switch-indicators-ttl-12v-2.92mm-fmsw6446-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	1/26/2021	T.GALLA



NOTES:

- 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

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ± 2 [5.08]	FRACTIONS	L ≤ 12 [305] = +1 [25] / -0
.XX = ± 0.2 [5.1]	± 1/32	12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ± 0.005 [1.3]	ANGLES ± 1°	60 [1524] < L ≤ 120 [3048] = +4 [102] / -0
		120 [3048] < L ≤ 300 [7620] = +6 [152] / -0
		300 [7620] < L = +5%L / -0

THIRD-ANGLE PROJECTION



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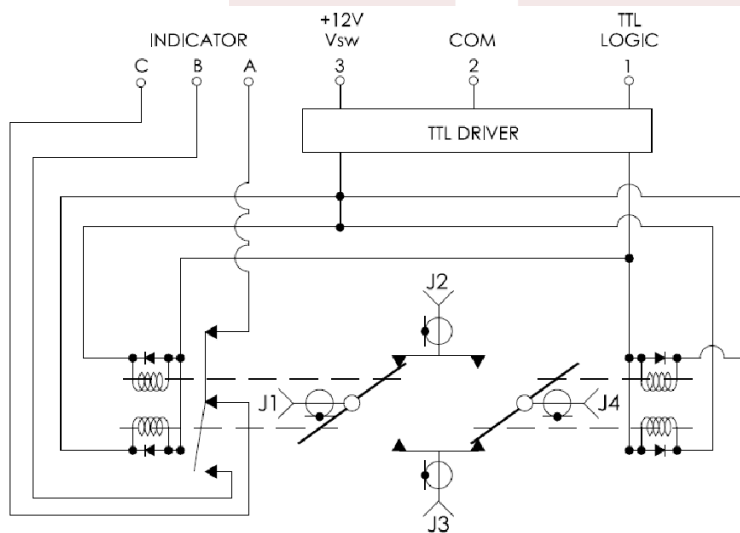
SHEET 1 OF 2

SCALE N/A

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

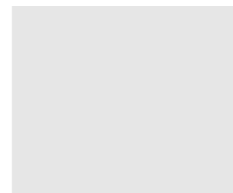
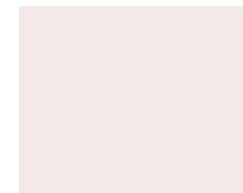
SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV
A	3FKR5	K.DANG	FMSW6446	A

T-Rev.D



TTL LOGIC PIN 1	RF PATH	INDICATOR PATH
OFF	J1-J2, J3-J4	A-C
ON	J1-J3, J2-J4	B-C

SCHEMATIC



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SHEET 2 OF 2

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SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMSW6446	REV A
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T-Rev.D