

SPDT Latching Self Cut-Off Electro-Mechanical Relay Switch DC to 12 GHz , TTL, Up To 600W, 5M Lifecycles, Suppression Diodes, 28V, N

The FMSW6425 is a Single Pole Double Throw (SPDT) electromechanical relay switch that operates across a wide frequency range of DC to 12 GHz and can handle up to 600 Watts of CW input power in a break before make condition. The 50 Ohm design is rated for 5 million lifecycles and features a latching self Cut-Off actuator that magnetically latches in place after the control voltage is removed. For power sensitive applications, this is the best actuator option. Additional features include suppression diodes which limit voltage spikes or reverse current. Impressive typical performance includes 0.3 dB insertion loss and 90 dB isolation. This switch requires +28Vdc bias voltage and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports N 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 (TA = +25°C, DC Voltage = +28 Vdc)

Switch Type	SPDT
Actuator Type	Latching
Switching Sequence	Break before Make
Actuator Options	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		12	GHz
Impedance		50		Ohms
Operating Voltage	+26	+28	+30	Volts
Actuating Current @ +28 Volts At +20°C			160	mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.3	0.5	dB
Isolation	70	90		dB
Input Power (CW)			600	Watts
Switching Time			20	ms

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 1	1 - 4	4 - 8	8 - 12		GHz
VSWR, Max	1.2:1	1.3:1	1.4:1	1.4:1		
Insertion Loss, Max	0.3	0.4	0.4	0.5		dB
Isolation, Min	90	80	80	70		dB



Features:

- Single Pole Double Throw Electromechanical Relay Switch
- DC to 12 GHz Frequency Range
- Latching Self Cut-Off Actuator
- 5M Lifecycle Rating
- Insertion Loss 0.3 dB typ
- Isolation > 90 dB typ
- VSWR 1.2:1 typ
- Terminal Solder Pins for DC Bias
- Suppression Diodes
- +28 Volt DC Control
- N Female Connectors
- -25°C to +65°C Operating Temperature
- Up to 600 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

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Mechanical Specifications

Size

Weight 0.5 lbs [226.8 g]
 Body Material and Plating Aluminum
 Package Type Connectorized
 Operating Life 5,000,000 Cycles

Connectors

RF Connector Type N Female
 Control Connector Solder Terminals

Environmental Specifications

Temperature

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

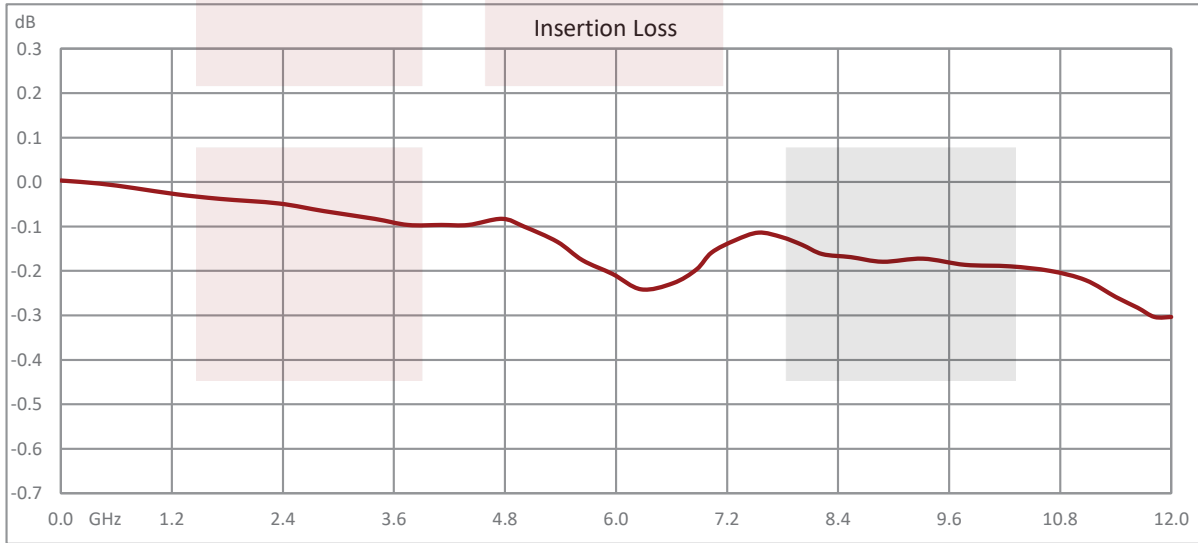
Humidity Moisture Resistance
 Shock MIL-STD-202 Method 213, Cond. D 500G Non Operating
 Vibration MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

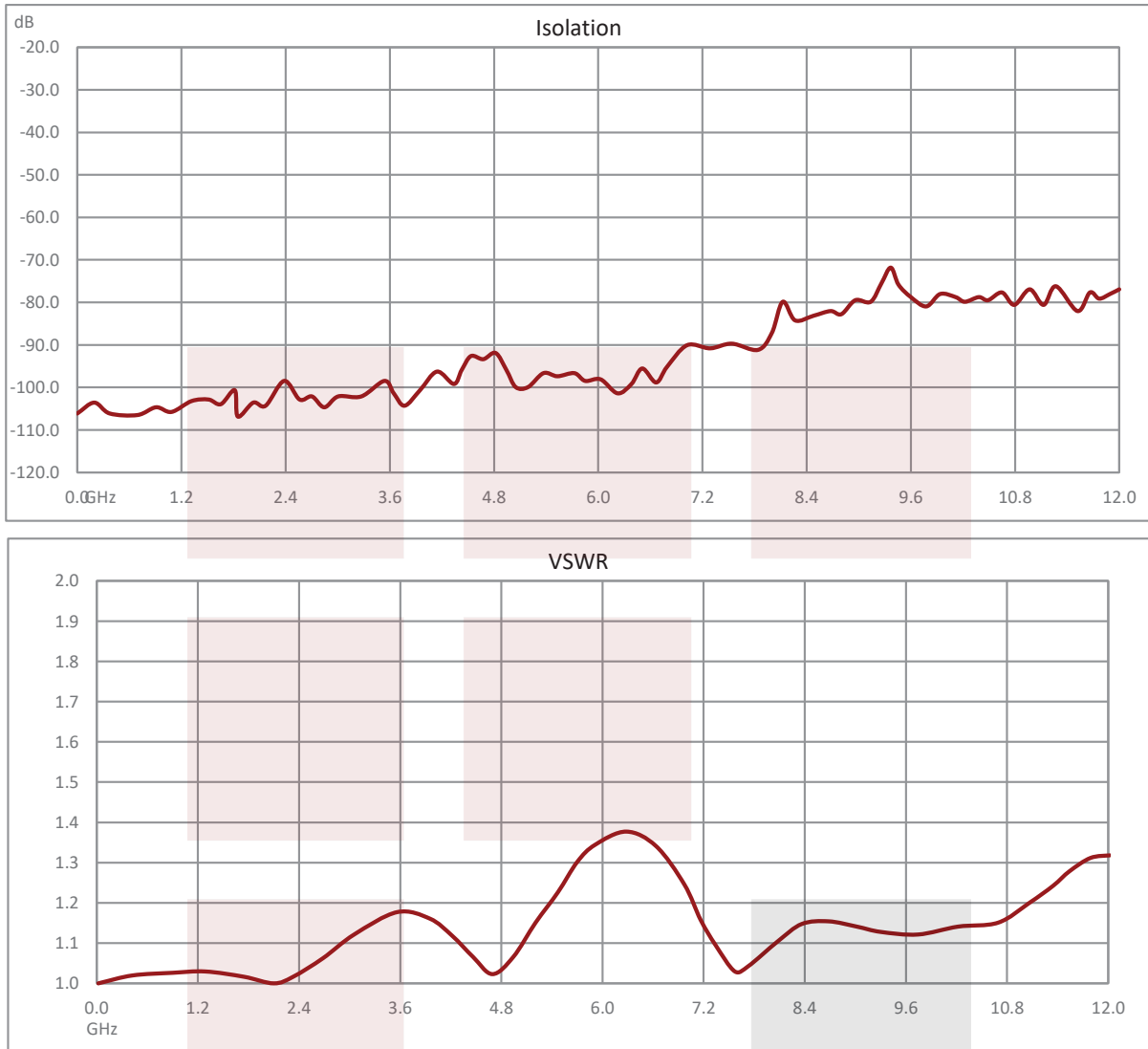
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data





SPDT Latching Self Cut-Off Electro-Mechanical Relay Switch DC to 12 GHz , TTL, Up To 600W, 5M Lifecycles, Suppression Diodes, 28V, N 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.

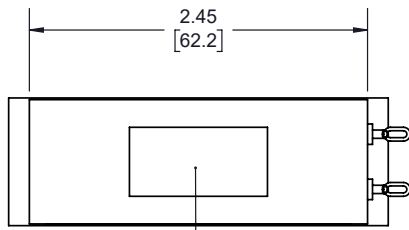
For additional information on this product, please click the following link: [SPDT Latching Self Cut-Off Electro-Mechanical Relay Switch DC to 12 GHz , TTL, Up To 600W, 5M Lifecycles, Suppression Diodes, 28V, N FMSW6425](#)

URL: <https://www.fairviewmicrowave.com/spdt-failsafe-12-ghz-electro-mechanical-relay-switch-600w-28v-n-fmsw6425-p.aspx>

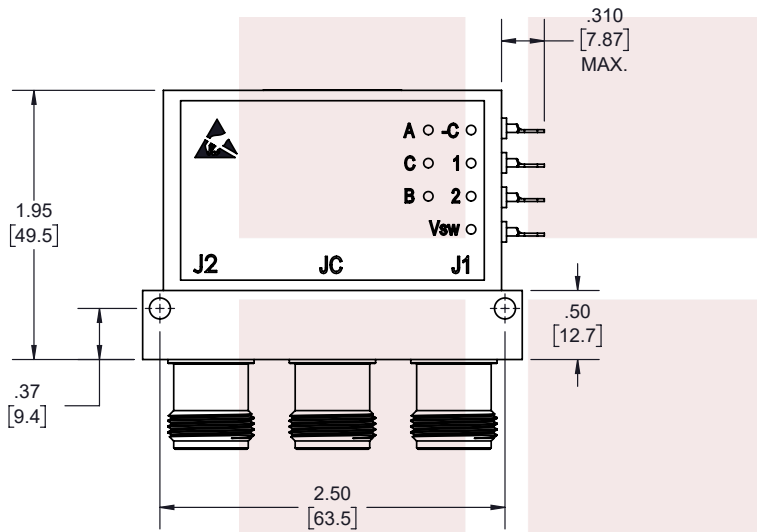
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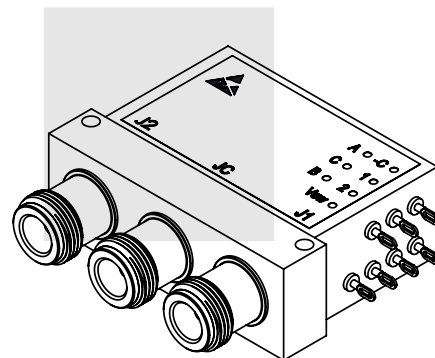
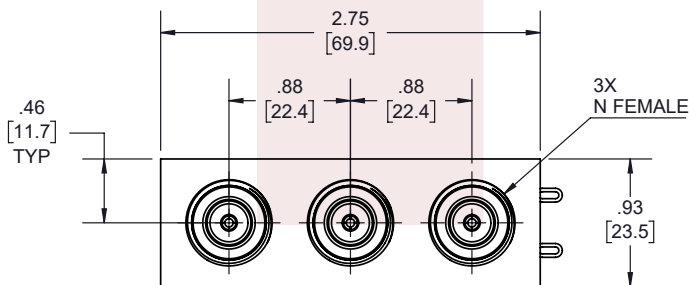
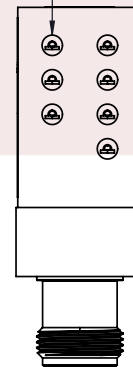
REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
B	PCR FMSW6425	2/22/2022	T.GALLA



LABEL PER ILS-100-02
(SEE NOTE 1)



7X SOLDER TERMINALS,
SOLDER WIRE USING SN96
MAXIMUM TEMP 210°C FOR
NO MORE THAN 5 SEC.



NOTES:

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

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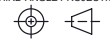
TITLE
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DIMENSIONS IN [] ARE MILLIMETERS

TOLERANCES: CABLE LENGTH (L) TOLERANCES:

.X = ±.2 [5.08] FRACTIONS L ≤ 12 [305] = +1 [25] / -0
.XX = ±.02 [.51] ± 1/32 12 [305] < L ≤ 60 [1524] = +2 [51] / -0
.XXX = ±.005 [.13] 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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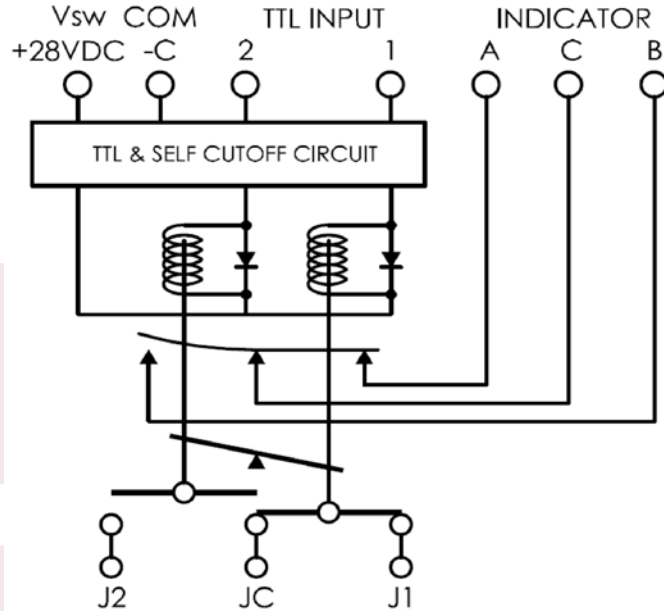
SHEET 1 OF 2

SCALE N/A

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.DANG	ITEM NO. FMSW6425	REV B
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T-Rev.D



SCHEMATIC

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

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SHEET 2 OF 2

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SCALE N/A

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