

## Transfer Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 12V, SMA

The FMSW6388 is a Transfer (DPDT) 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 0.2 dB typical and isolation greater than 70 dB typical. The Failsafe actuator has a +12 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 DB-9 Connector 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	Transfer
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 Set Current @ 12 Volts		200		mA
VSWR		1.2:1	1.4:1	
Insertion Loss		0.2	0.5	dB
Isolation	60	70		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	0.2	0.3	0.5			dB
Isolation, Min	70	60	60			dB
Power In, Typ (CW)	90	75	60			Watts

### Mechanical Specifications

#### Size

Weight	0.23 lbs [104.33 g]
Body Material and Plating	Aluminum
Package Type	Connectorized
Operating Life	2,000,000 Cycles



### Features:

- Transfer (DPDT)
- DC to 18 GHz Frequency Range
- Isolation greater than 70 dB typical
- 2M Cycle Min Operating Life
- +12 Volt DC
- 90 Watt average Power
- Failsafe Actuator
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.2 dB Max
- VSWR as low as 1.2:1 max
- SMA Female RF connectors
- DB-9 Connector 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	9-Pin D-Subminiature

**Environmental Specifications**

**Temperature**

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

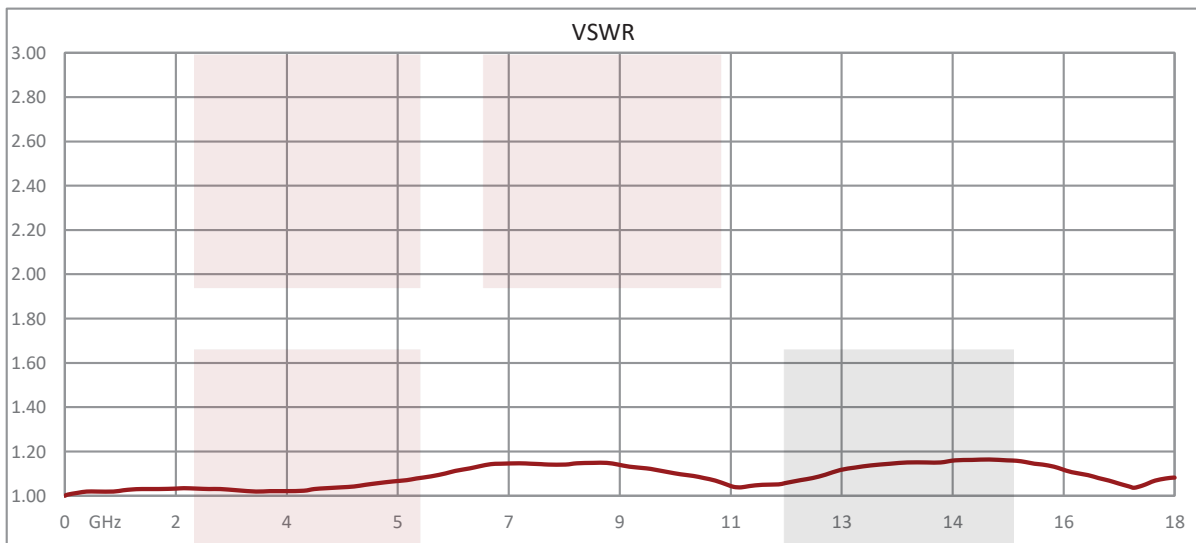
Shock	MIL-STD-202 Method 213, Cond. D 500G Non Operating
Vibration	MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

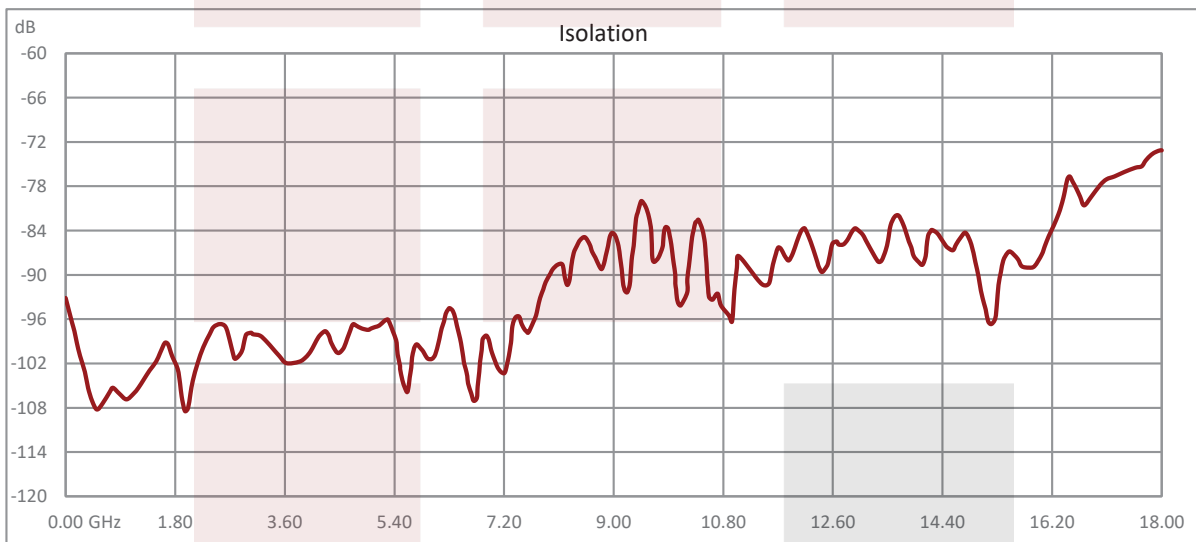
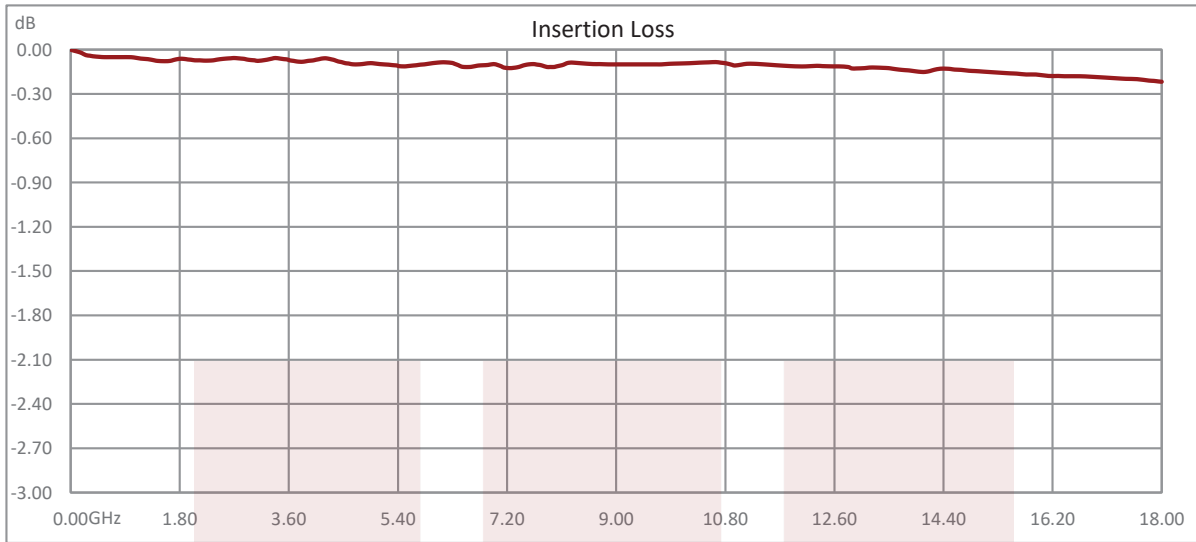
**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

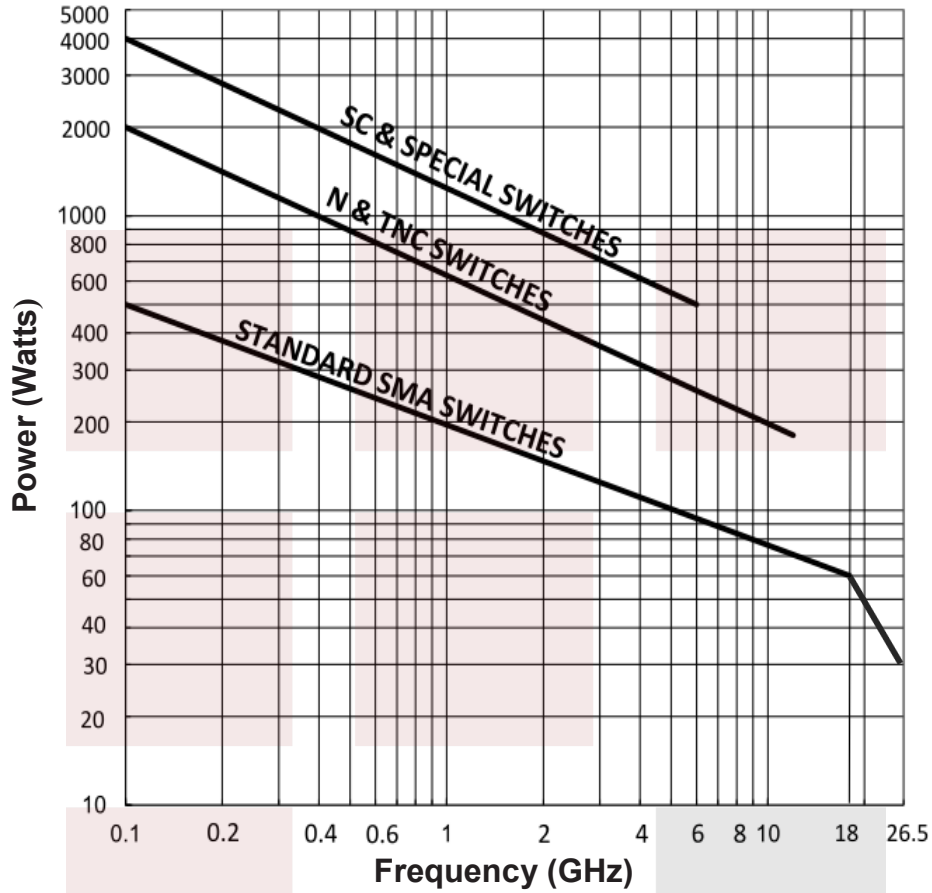
Notes:

**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

Transfer Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 12V, 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.

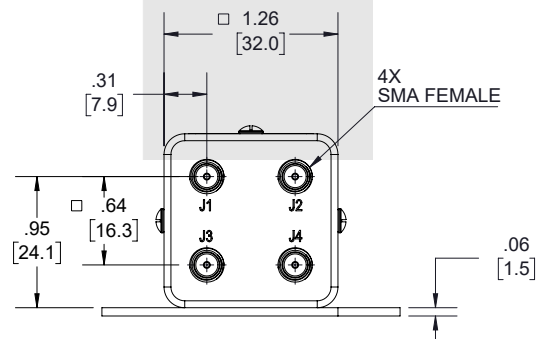
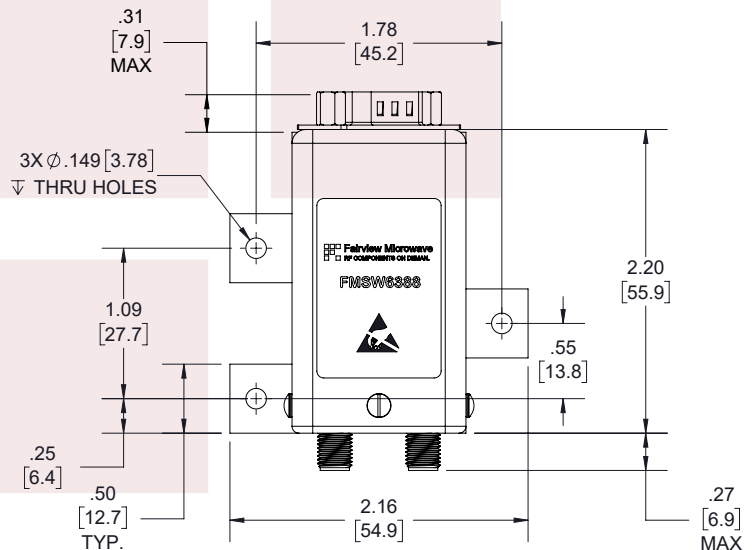
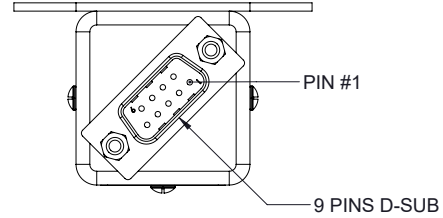
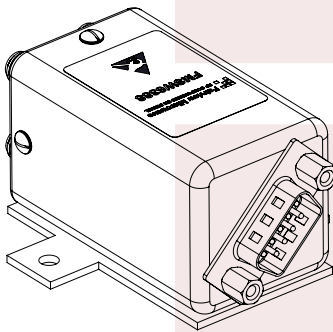
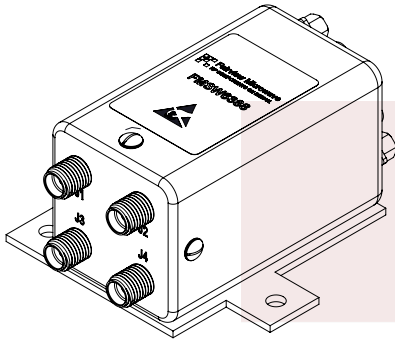
For additional information on this product, please click the following link: [Transfer Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 12V, SMA FMSW6388](#)

URL: <https://www.fairviewmicrowave.com/transfer-failsafe-18-ghz-electro-mechanical-relay-switch-60w-12v-sma-fm-sw6388-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
B	PCR FMSW6388	6/10/2021	T.GALLA



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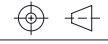
TITLE  
Transfer Failsafe DC to 18 GHz Electro-Mechanical Relay Switch, up to 90W, 12V, SMA

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 = ±.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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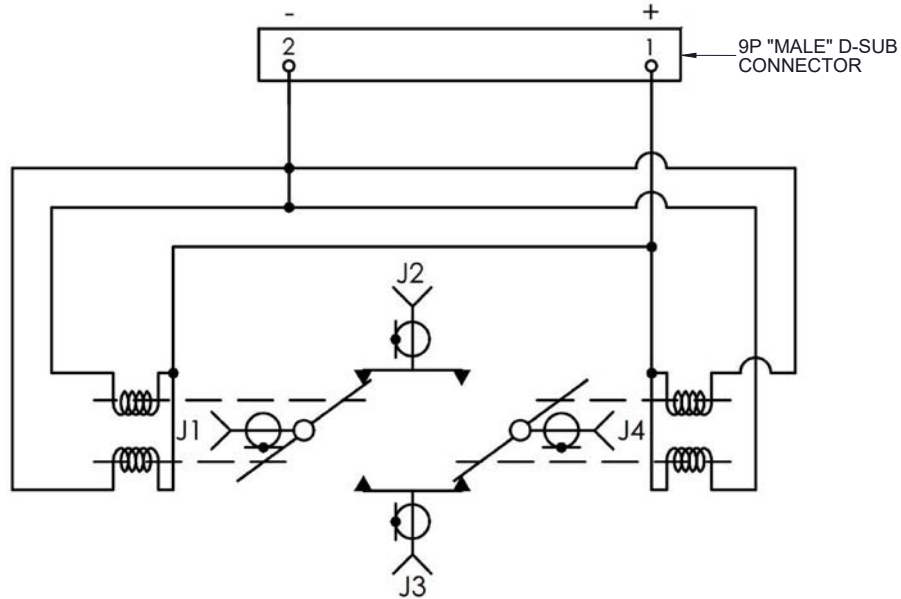
SHEET 1 OF 2

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SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.Dang	ITEM NO. FMSW6388	REV B
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T-Rev.D



**SCHEMATIC SHOWN IN FAILSAFE POSITION**

VOLTAGE	RF PATH
DE-ENERGIZED	J1-J2, J3-J4
ENERGIZED	J1-J3, J2-J4

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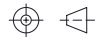
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SCALE N/A

SIZE A	CAGE CODE 3FKR5	DRAWN BY K.Dang	ITEM NO. FMSW6388	REV B
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