

## Transfer Failsafe DC to 12 GHz Electro-Mechanical Relay Switch, TTL, up to 430W, 28V, N

The FMSW6386 is a Transfer (DPDT) electromechanical relay switch that operates across a wide frequency range of DC to 12 GHz and can handle up to 430 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. Insertion loss is specified from 0.7 dB maximum and Isolation from 60 dB minimum. The Failsafe TTL controlled 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 N Female connectors and a 9 Pin D-Sub 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
Actuator Options	TTL Logic
TTL Control	on: 2.4 to 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		90		mA
VSWR		1.2:1	1.7:1	
Insertion Loss		0.2	0.7	dB
Insertion Loss Repeatability				
Isolation	60	80		dB
Input Power (CW)			200	Watts
Switching Time			20	ms

### Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC - 2	2 - 4	4 - 8	8 - 12		GHz
VSWR, Max	1.2:1	1.4:1	1.5:1	1.7:1		
Insertion Loss, Max	0.2	0.4	0.5	0.7		dB
Isolation, Min	80	80	70	60		dB
Power In, Typ (CW)	430	300	230	200		Watts

### Mechanical Specifications

Size	
Weight	0.582 lbs [263.99 g]
Package Type	Connectorized
Operating Life	2,000,000 Cycles



### Features:

- Transfer (DPDT)
- DC to 12 GHz Frequency Range
- Isolation greater than 80 dB typical
- 2M Cycle Min Operating Life
- +28 Volt DC
- 430 Watt average Power
- Failsafe Actuator
- TTL Control
- -25 to +70°C Operating Temperature
- Insertion Loss as low as 0.2 dB Max
- VSWR as low as 1.2:1 max
- N Female RF connectors
- 9 Pin D-Sub 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  
Control Connector

N Female  
9 Pin D-Sub

### Environmental Specifications

#### Temperature

Operating Range  
Storage Range

-25 to +70 deg C  
-55 to +100 deg C

Shock  
Vibration

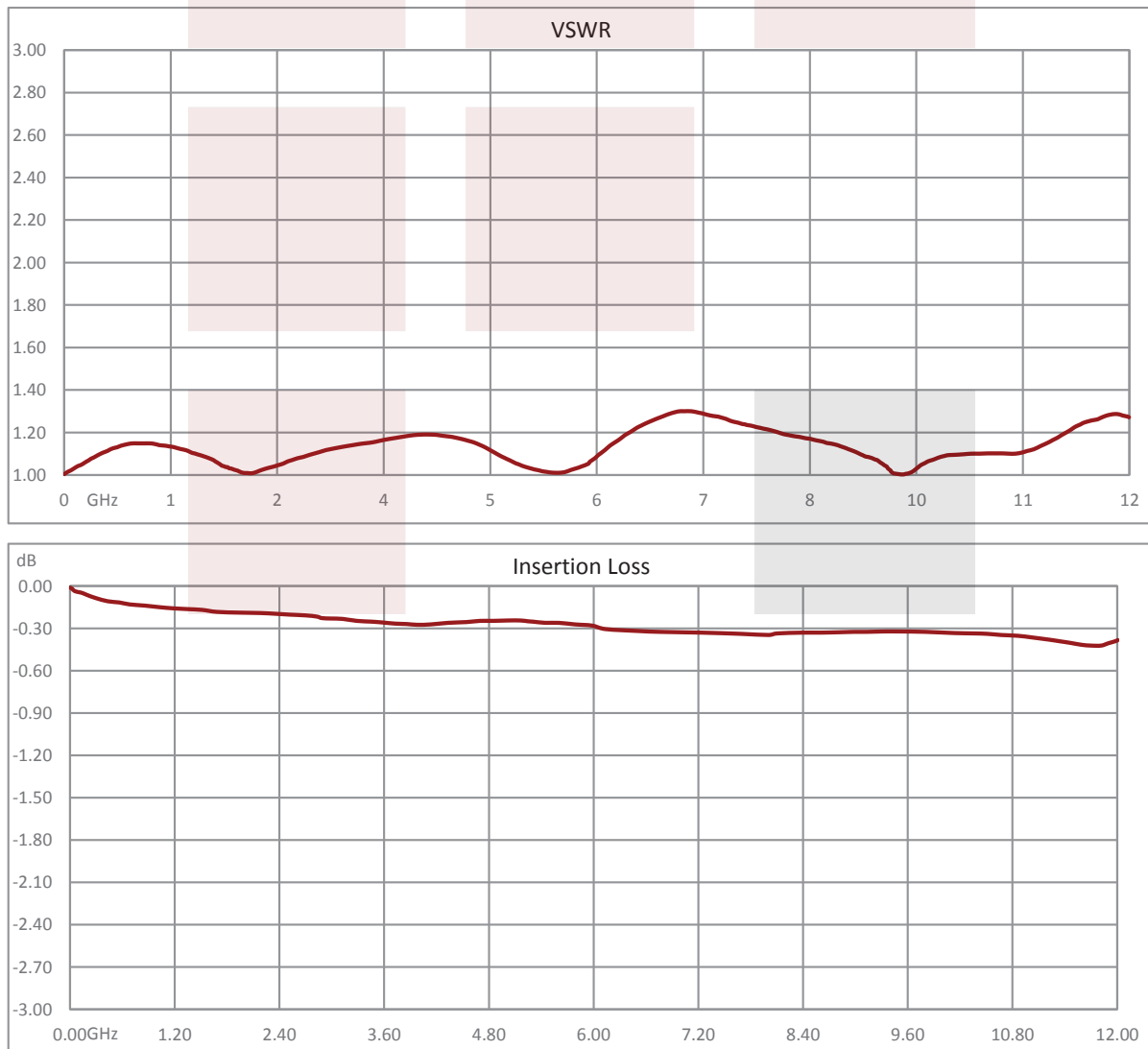
MIL-STD-202 Method 213, Cond. D 500G Non Operating  
MIL-STD-202 Method 214, Cond. D 10G RMS Non Operating

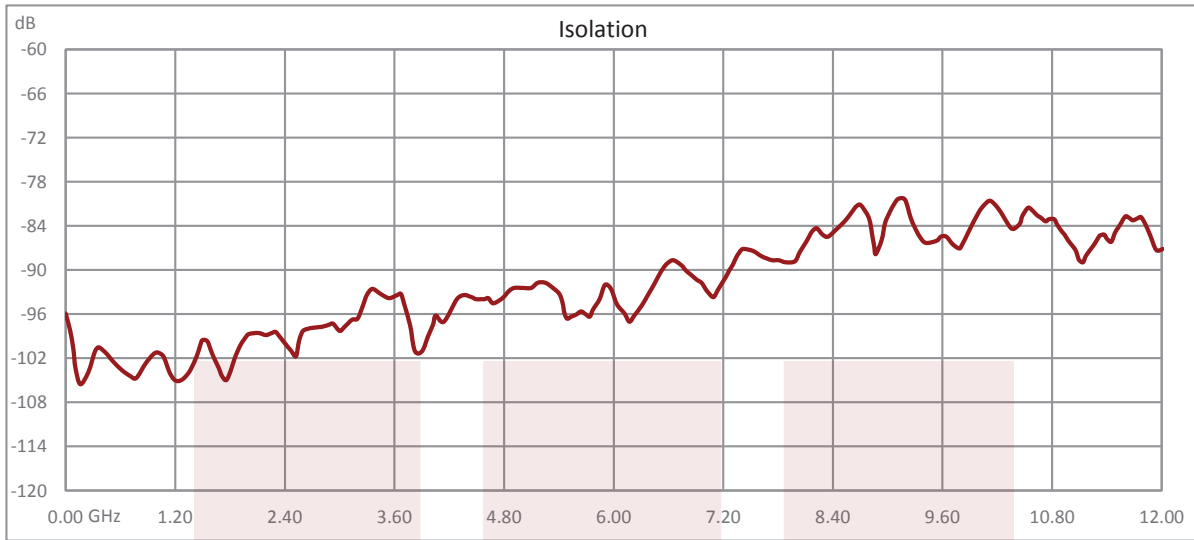
### Compliance Certifications (see [product page](#) for current document)

### Plotted and Other Data

Notes:

#### Typical Performance Data



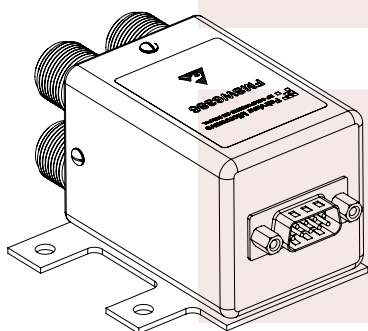


Transfer Failsafe DC to 12 GHz Electro-Mechanical Relay Switch, TTL, up to 430W, 28V, N from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Transfer Failsafe DC to 12 GHz Electro-Mechanical Relay Switch, TTL, up to 430W, 28V, N FMSW6386](https://www.fairviewmicrowave.com/transfer-failsafe-12-ghz-electro-mechanical-relay-switch-ttl-200w-28v-n-fm-sw6386-p.aspx)

URL: <https://www.fairviewmicrowave.com/transfer-failsafe-12-ghz-electro-mechanical-relay-switch-ttl-200w-28v-n-fm-sw6386-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.



.X	±0.2
.XX	±0.01
.XXX	±0.005

**Top View:**

- PIN #1
- 9 PINS D-SUB CONNECTOR

**Front View:**

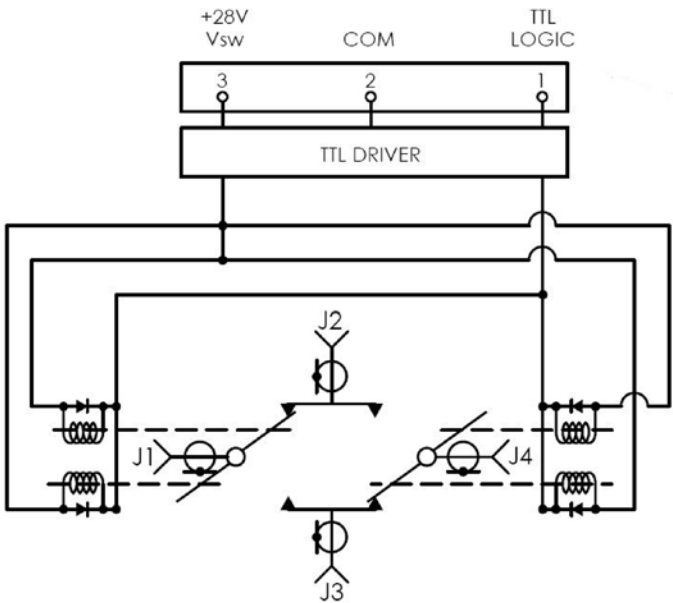
- 2.600 [66.04]
- 1.750 [44.45]
- .272 [6.91] MAX
- 2.500 [63.50] MAX
- 1.000 [25.40]
- .500 [12.70] TYP.
- 1.500 [38.10]
- .250 [6.35]
- 3X Ø.193 [4.90] THRU MRG HOLES
- 3.120 [79.25]
- Fairview Microwave
- RF COMPONENTS ON DEMAND
- FMSWC386

**Bottom View:**

- 1.750 [44.45] SQ.
- 4X N FEMALE
- .880 [22.35] SQ.
- 1.315 [33.40]
- J1, J2, J3, J4
- 3.120 [79.25]
- .060 [1.52]

NOTES:  
1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.  
2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.  
3. DIMENSIONS ARE IN INCHES [mm].

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SCHEMATIC SHOWN IN FAILSAFE POSITION

VOLTAGE	LOGIC INPUT	RF PATH
DE-ENERGIZED	OFF	J1-J2, J3-J4
ENERGIZED	ON	J1-J3, J2-J4

STANDARD TOLERANCES

.X ±0.2  
.XX ±0.01  
.XXX ±0.005

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES

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DWG NO

FMSW6386

CAGE CODE

3FKR5

CAD FILE

090817

SHEET

2 OF 2

SCALE

N/A

SIZE

A

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