

## SPDT Latching DC to 50 GHz Electro-Mechanical Relay Switch, 28V, 2.4mm

The FMSW6330 is a Single Pole Double Throw Electromechanical Relay Switch that operates from DC to 50 GHz and can handle up to 80 Watts of CW input power in a Break Before Make condition. The design features a Latching Actuator and is rated for 2M Life Cycles for high reliability operation. Insertion loss is specified from 0.3 dB max and Isolation from 70 dB min, with +28 Vdc operating voltage. Performance is guaranteed over -25°C to +70°C and the switch assembly is RoHS and REACH compliant. The package interface uses solder terminals and 2.4mm Female connectors.

### Electrical Specifications

|                    |                   |
|--------------------|-------------------|
| Switch Type        | SPDT              |
| Actuator Type      | Latching          |
| Switching Sequence | Break Before Make |
| Polarity           | Negative Common   |

| Description                  | Min | Typ | Max | Units |
|------------------------------|-----|-----|-----|-------|
| Frequency Range              | DC  |     | 50  | GHz   |
| Impedance                    |     | 50  |     | Ohms  |
| Operating Voltage            | 24  | 28  | 30  | Volts |
| Actuating Current @ 28 Volts |     | 80  |     | mA    |
| Insertion Loss               |     |     | 1.1 | dB    |
| Input Power (CW)             |     |     | 80  | Watts |
| Switching Time               |     |     | 10  | ms    |

### Performance by Frequency

| Description         | F1     | F2       | F3        | F4        | F5        | Units |
|---------------------|--------|----------|-----------|-----------|-----------|-------|
| Frequency Range     | DC - 6 | 6 - 12.4 | 12.4 - 18 | 18 - 26.5 | 26.5 - 50 | GHz   |
| VSWR, Max           | 1.3:1  | 1.4:1    | 1.5:1     | 1.7:1     | 1.9:1     |       |
| Insertion Loss, Max | 0.3    | 0.4      | 0.5       | 0.7       | 1.1       | dB    |
| Isolation, Min      | 70     | 60       | 60        | 55        | 50        | dB    |
| Power In, Max (CW)  | 80     | 60       | 50        | 20        | 5         | Watts |

### Mechanical Specifications

|                           |                      |
|---------------------------|----------------------|
| Size                      |                      |
| Length                    | 1.5 in [38.1 mm]     |
| Width/Diameter            | 1.5 in [38.1 mm]     |
| Height                    | 0.5 in [12.7 mm]     |
| Weight                    | 0.0985 lbs [44.68 g] |
| Body Material and Plating | Aluminum, Nickel     |
| Package Type              | Connectorized        |
| Operating Life            | 2,000,000 Cycles     |



### Features:

- Single Pole Double Throw (SPDT) Relay Switch
- DC to 50 GHz Frequency Range
- 2M Cycle Operating Life Min
- Latching Actuator
- Insertion Loss 0.3 dB typ
- Isolation 90 dB typ
- 80 Watts Avg Power Max
- Switching Sequence Break Before Make

### Applications:

- Test & Measurement
- Military Communication
- Commercial Communication
- Wireless Communications
- SATCOM
- Military Electronic Systems
- RF Test Stations

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### Connectors

|                                         |                            |
|-----------------------------------------|----------------------------|
| RF Connector Type                       | 2.4mm Female               |
| RF Connector Contact Material & Plating | Beryllium Copper, Gold     |
| RF Connector Body Material & Plating    | Passivated Stainless Steel |
| Control Connector                       | Solder Pin                 |

### Environmental Specifications

#### Temperature

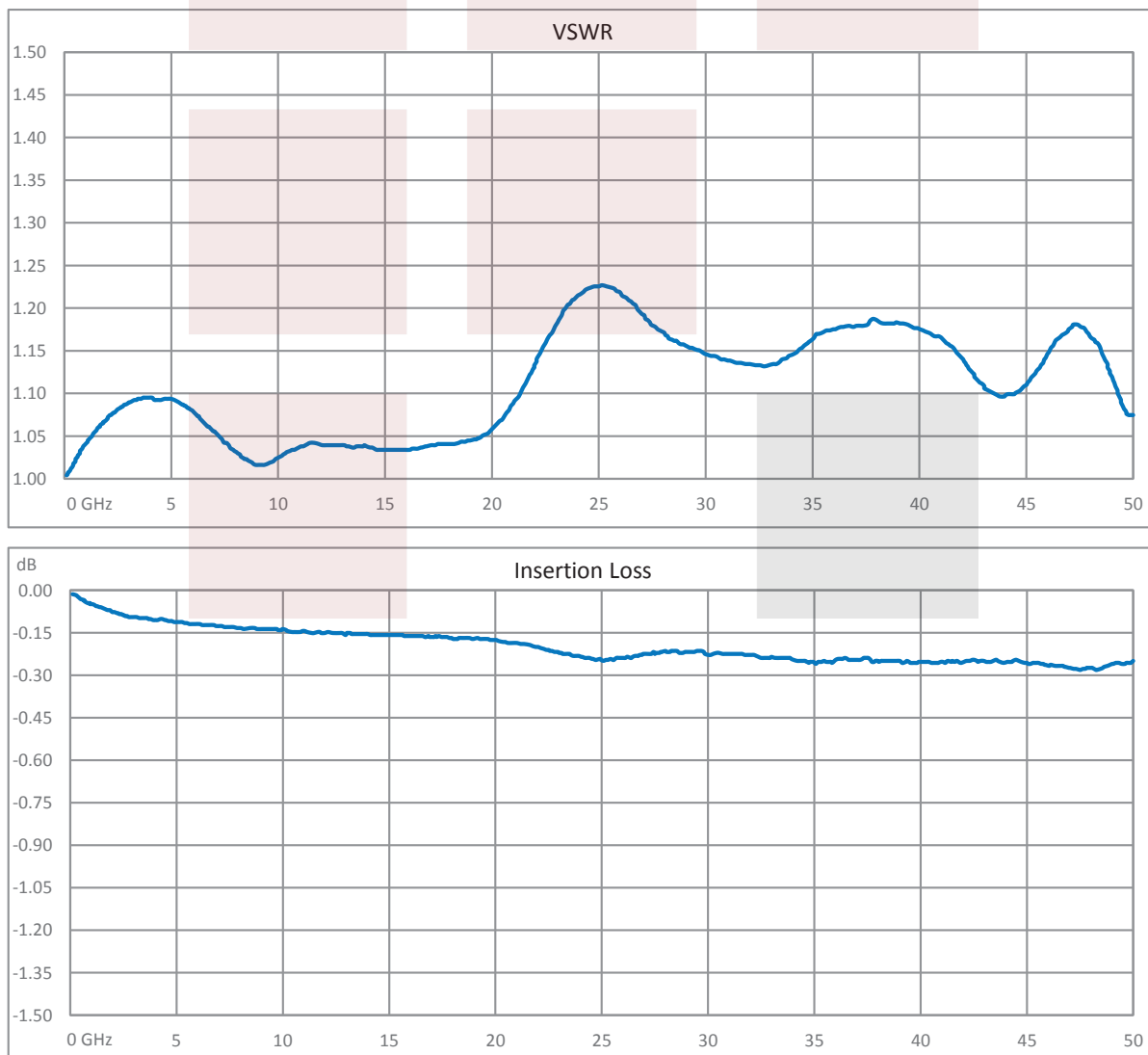
|                 |                  |
|-----------------|------------------|
| Operating Range | -25 to +70 deg C |
| Storage Range   | -40 to +85 deg C |

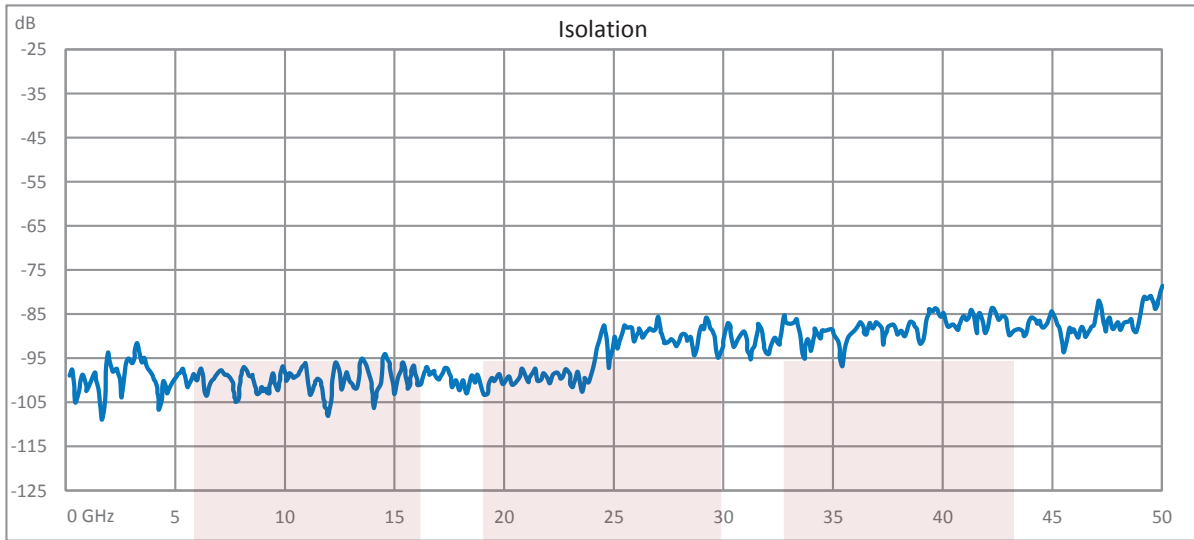
### Compliance Certifications (see [product page](#) for current document)

### Plotted and Other Data

Notes:

#### Typical Performance Data



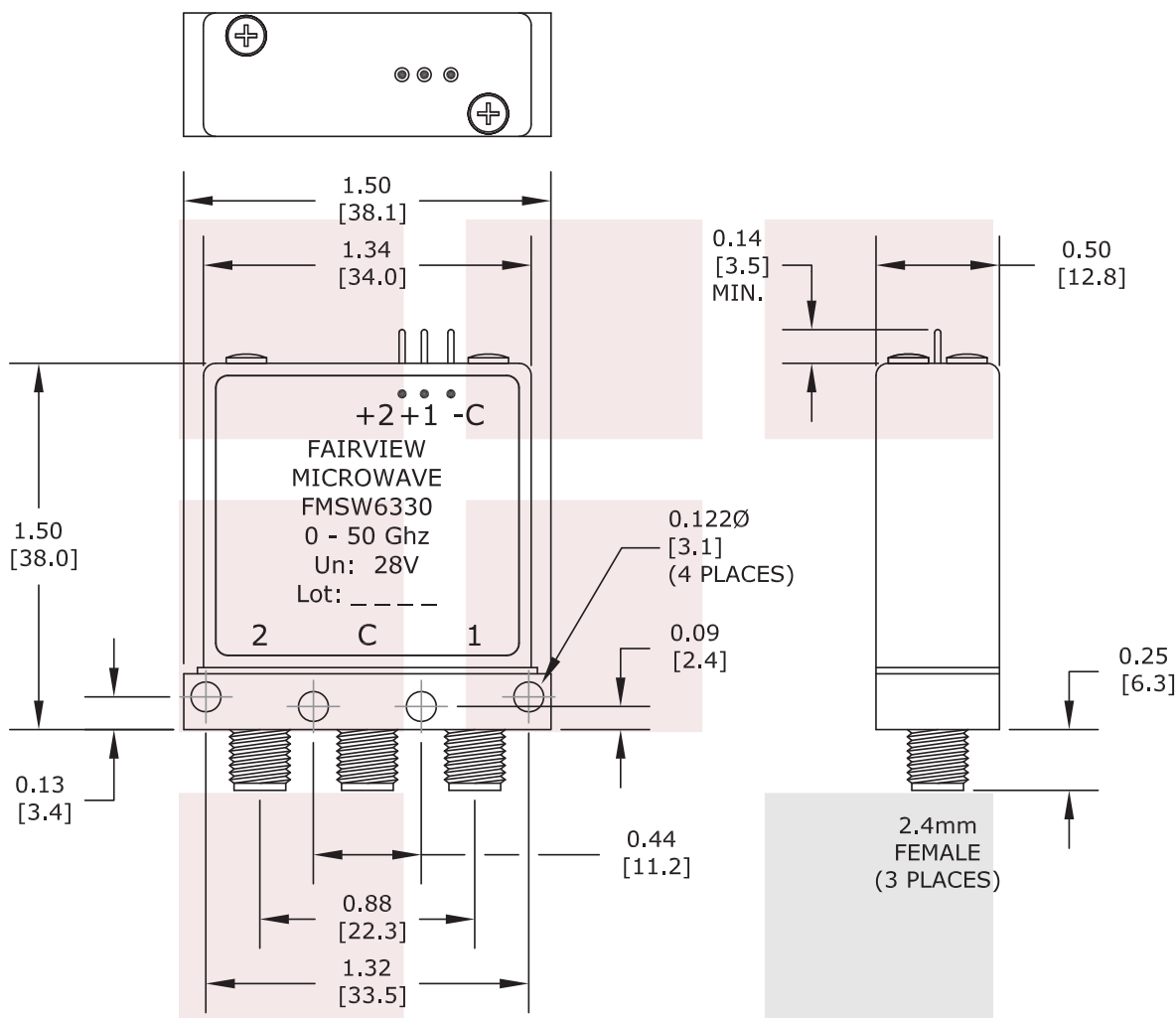


SPDT Latching DC to 50 GHz Electro-Mechanical Relay Switch, 28V, 2.4mm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SPDT Latching DC to 50 GHz Electro-Mechanical Relay Switch, 28V, 2.4mm FMSW6330](https://www.fairviewmicrowave.com/spdt-latching-electromechanical-relay-switch-fmsw6330-p.aspx)

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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.



STANDARD TOLERANCES  
DECIMAL  
±0.02

\*STANDARD TOLERANCES APPLY  
ONLY TO DIMENSIONS IN INCHES

## FAIRVIEW MICROWAVE INC.

ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

TITLE  
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Switch, 28V, 2.4mm

### 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].

DWG NO

FMSW6330

CAGE CODE

3FKR5

CAD FILE

030117

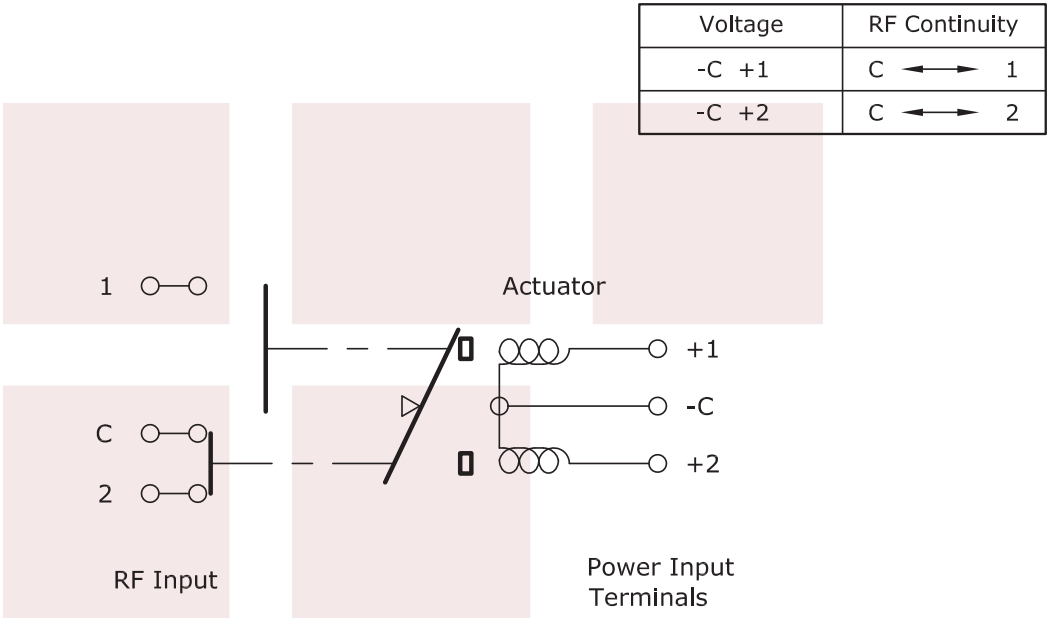
SHEET

SCALE

N/A

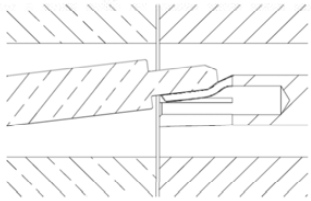
SIZE

A 2233



SCHEMATIC DIAGRAM

**WARNING**  
Sensitive connector : To avoid irreversible damage during any connexions, ensure that the center contact is aligned with the female socket



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|          |        |          |  |           |     |       |        |
|----------|--------|----------|--|-----------|-----|-------|--------|
| DWG NO   |        | FMSW6330 |  | CAGE CODE |     | 3FKR5 |        |
| CAD FILE | 030117 | SHEET    |  | SCALE     | N/A | SIZE  | A 2233 |