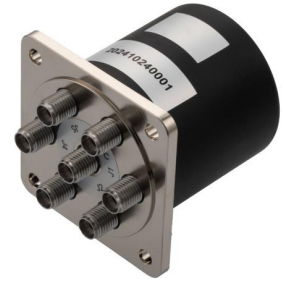


## SP6T NO DC to 43 GHz Electro-Mechanical Relay Switch, 10W, 2M Lifecycles, 28V, 2.92mm

### FMSW6627



#### Features

- Single Pole Six Throw
- DC to 43 GHz Frequency Range
- Isolation greater than 40 dB minimum
- 2M Cycle Min Operating Life
- +28 Volt DC
- 10 Watt average Power
- Normally Open Actuator
- -25 to +65°C Operating Temperature
- Insertion Loss as low as 1.6 dB Max
- VSWR as low as 2.1:1 max
- 2.92mm Female RF connectors
- Solder Terminals for DC Control
- Hot Switching Capability - Consult Factory
- S-Parameter Data available upon request

#### Applications

- Aerospace & Defense
- Test & Measurement
- Microwave Radio Systems
- Military Commercial Communication Systems
- Research & Development
- SATCOM
- Wireless Communications
- Enterprise
- IOT

#### Description

The FMSW6627 is a Single Pole Six Throw (SP6T) electromechanical relay switch that operates across a wide frequency range of DC to 43 GHz and can handle up to 10 Watts of CW input power in a break before make condition. The 50 Ohm design is rated for 2M life cycles for high reliability operation and features a Normally Open actuator, which defaults to an open state when power is removed, allowing signal flow to be interrupted until actuated. Impressive performance includes insertion loss less than 1.6 dB maximum and isolation greater than 40 dB minimum. The Normally Open actuator requires +28 Vdc bias voltage, and operates over a temperature range of -25°C to +65°C. The rugged and compact package assembly supports 2.92mm 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.

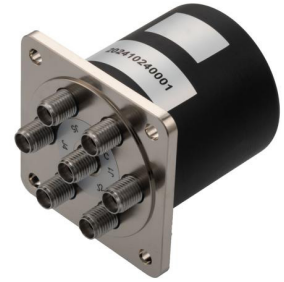
#### Electrical Specifications (TA = +25°C, DC Voltage = 28 Vdc)

|                    |                   |
|--------------------|-------------------|
| Switch Type        | SP6T              |
| Actuator Type      | Normally Open     |
| Switching Sequence | Make Before Break |

| Description                                                                             | Min | Typ | Max   | Units |
|-----------------------------------------------------------------------------------------|-----|-----|-------|-------|
| Frequency Range                                                                         | DC  |     | 43    | GHz   |
| Impedance                                                                               |     | 50  |       | Ohms  |
| Operating Voltage                                                                       |     | 28  |       | Volts |
| Actuating Current @ 28 Volts                                                            |     |     | 140   | mA    |
| 140mA max @ 28V and 20°C                                                                |     |     |       |       |
| VSWR                                                                                    |     |     | 2.1:1 |       |
| Insertion Loss                                                                          |     |     | 1.6   |       |
| Isolation                                                                               | 40  |     |       | dB    |
| Input Power (CW)                                                                        |     | 10  |       | Watts |
| (Average Power for Cold Switching (Reference RF Power Rating Table for Cold Switching)) |     |     |       |       |
| Switching Time                                                                          |     | 20  |       | ms    |

SP6T NO DC to 43 GHz Electro-Mechanical Relay  
Switch, 10W, 2M Lifecycles, 28V, 2.92mm

**FMSW6627**



**Performance by Frequency**

| Description         | F1     | F2     | F3      | F4      | F5      | Units |
|---------------------|--------|--------|---------|---------|---------|-------|
| Frequency Range     | DC - 6 | 6 - 12 | 12 - 18 | 18 - 28 | 28 - 34 | GHz   |
| VSWR, Max           | 1.25:1 | 1.4:1  | 1.5:1   | 1.8:1   | 1.8:1   |       |
| Insertion Loss, Max | 0.2    | 0.4    | 0.5     | 0.9     | 1       | dB    |
| Isolation, Min      | 70     | 60     | 60      | 60      | 60      | dB    |

**Performance by Frequency**

| Description         | F6      | F7      | F8 | F9 | F10 | Units |
|---------------------|---------|---------|----|----|-----|-------|
| Frequency Range     | 34 - 40 | 40 - 43 |    |    |     | GHz   |
| VSWR, Max           | 1.8:1   | 2.1:1   |    |    |     |       |
| Insertion Loss, Max | 1.3     | 1.6     |    |    |     | dB    |
| Isolation, Min      | 50      | 40      |    |    |     | dB    |

**Mechanical Specifications**

**Size**

|                |                     |
|----------------|---------------------|
| Length         | 1.95 in [49.53 mm]  |
| Width/Diameter | 2.75 in [69.85 mm]  |
| Height         | 0.92 in [23.37 mm]  |
| Weight         | 0.176 lbs [79.83 g] |
| Finish         | Electroless Nickel  |
| Package Type   | Connectorized       |
| Operating Life | 2,000,000 Cycles    |

**Connectors**

|                   |                  |
|-------------------|------------------|
| RF Connector Type | 2.92mm Female    |
| Control Connector | Solder Terminals |

**Environmental Specifications**

**Temperature**

|                 |                                                              |
|-----------------|--------------------------------------------------------------|
| Operating Range | -25 to +65 deg C                                             |
| Shock           | MIL-STD-202 Method 213, Condition D (500G Non Operating)     |
| Vibration       | MIL-STD-202 Method 214, Condition D (100G RMS Non Operating) |

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

**Plotted and Other Data**

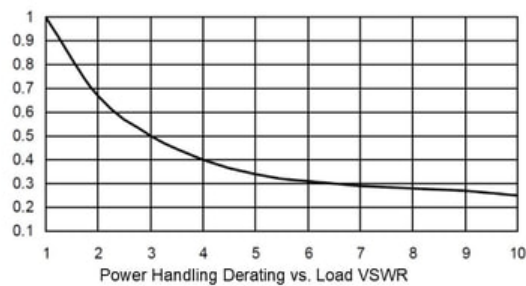
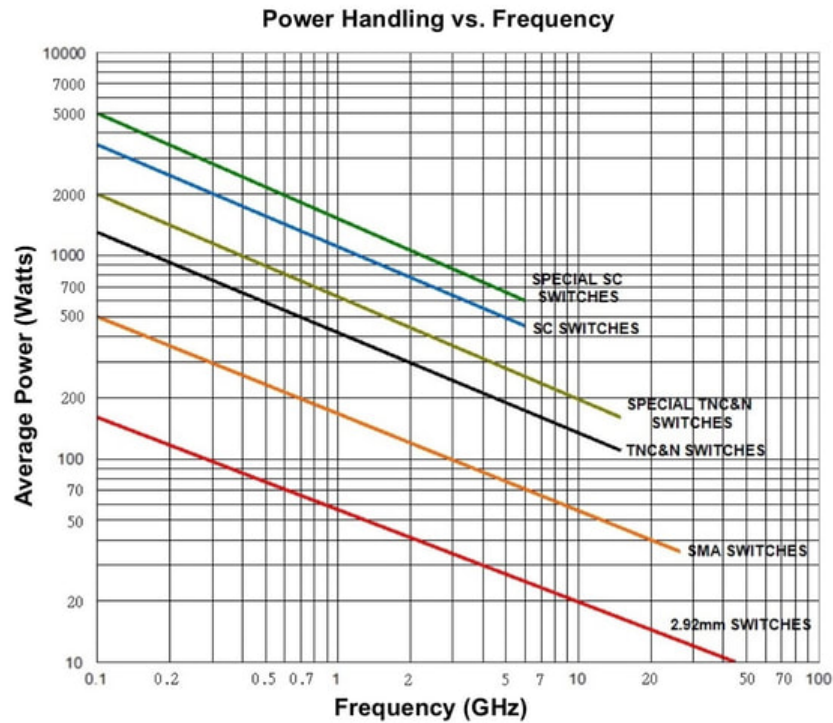
Notes:

SP6T NO DC to 43 GHz Electro-Mechanical Relay  
Switch, 10W, 2M Lifecycles, 28V, 2.92mm

**FMSW6627**



Typical Performance Data



Power handling chart and derating curves based on the following conditions:

- Ambient temperature: 40°C or less
- Altitude: Sea level
- Load VSWR: 1.20:1 Maximum
- Relative Humidity: 40-50%
- Cold switching: RF signal off

Note: specifications subject to change without notice

## SP6T NO DC to 43 GHz Electro-Mechanical Relay Switch, 10W, 2M Lifecycles, 28V, 2.92mm

### FMSW6627



SP6T NO DC to 43 GHz Electro-Mechanical Relay Switch, 10W, 2M Lifecycles, 28V, 2.92mm 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: [SP6T NO DC to 43 GHz Electro-Mechanical Relay Switch, 10W, 2M Lifecycles, 28V, 2.92mm FMSW6627](https://www.fairviewmicrowave.com/sp6t-normally-open-43-ghz-electro-mechanical-relay-switch-28v-2.92mm-fmsw6627-p.aspx)

URL: <https://www.fairviewmicrowave.com/sp6t-normally-open-43-ghz-electro-mechanical-relay-switch-28v-2.92mm-fmsw6627-p.aspx>

The information contained within 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 liability arising out of the use of any part or document.

