



# Field Replaceable SMA SP4T PIN Diode Switch Absorptive From 10 MHz to 1,000 MHz Rated at +20 dBm

The FMSW6249 is a Single Pole Four Throw (SP4T) Absorptive PIN Diode Switch that operates from 0.01 GHz to 1 GHz. The output port is terminated in 50 ohms when switched in the isolation (off) state. Performance includes 1.5 dB max insertion loss, 60 dB min isolation, and 200 nsec max switching speed. The design incorporates TTL compatible driver circuitry for accurate logic control. Operational temperature range is -40°C to +85°C and dual voltage controls of +5 DC and -15 DC are required. The rugged package is designed to meet a series of MIL-STD-202F environmental conditions including humidity, shock, vibration, and temperature cycle. Package interfaces include solder terminals and female SMA connectors.

# **Electrical Specifications**

TTL Control Logic Off/Isolation: 1
On/Low Loss: 0

| Description                | Min | Тур   | Max      | Units |  |  |
|----------------------------|-----|-------|----------|-------|--|--|
| Frequency Range            | 10  |       | 1,000 MF |       |  |  |
| Impedance                  |     | 50    |          | Ohms  |  |  |
| VSWR                       |     | 1.5:1 |          |       |  |  |
| Insertion Loss             |     |       | 1.5      | 5 dB  |  |  |
| Isolation                  | 60  |       | d        |       |  |  |
| Switching Time             |     |       | 200      | ) ns  |  |  |
| Input Power (CW)           |     |       | 0.1      | Watts |  |  |
| Survival Power             |     |       | 1        | Watts |  |  |
| Positive Operating Voltage | 5   |       | Vdc      |       |  |  |
| Negative Operating Volta   | age | -15   |          | Vdc   |  |  |
| Current @ 5 Vdc            |     | 200   |          | mA    |  |  |
| Current @ -15 Vdc          |     | 100   |          | mA    |  |  |
| Operating Temperature      | -40 |       | +85      | deg C |  |  |
|                            |     |       |          |       |  |  |

### **Mechanical Specifications**

Length 1.25 in [31.75 mm] Width 1.25 in [31.75 mm] Height 0.4 in [10.16 mm] 0.071 lbs [32.21 g] Weight Design Absorptive, SP4T RF Connector SMA Female RF Connector Option Field Replaceable **Control Connector** Solder Pin

#### **Environmental Specifications**

**Temperature** 

Operating Range -40 to +85 deg C Storage Range -55 to +125 deg C

Humidity MIL-STD-202F, Method 103B, Condi-

tion B

Shock MIL-STD-202F, Method 213B, Condi-

tion B



#### Features:

- SP4T Absorptive Switch
- 0.01 GHz to 1 GHz
- Insertion Loss 1.5 dB max
- Isolation 60 dB min
- Power Input 20 dBm CW max
- Field Replaceable Connectors

# **Applications:**

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

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Vibration
Altitude
Temperature Cycling
ESD Sensitivity

MIL-STD-202F, Method 204D, Condition B MIL-STD-202F, Method 105C, Condition B MIL-STD-202F, Method 107D, Condition A

ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in ESD Workstation.



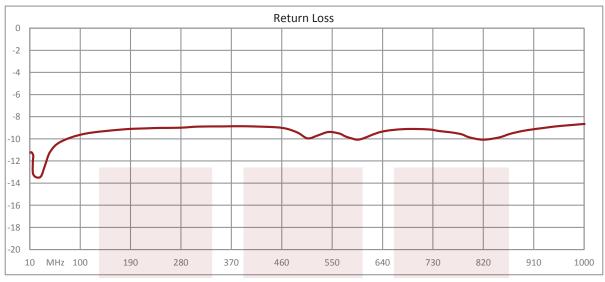
**Compliance Certifications** (see product page for current document)

| Notes: | a |  |  |
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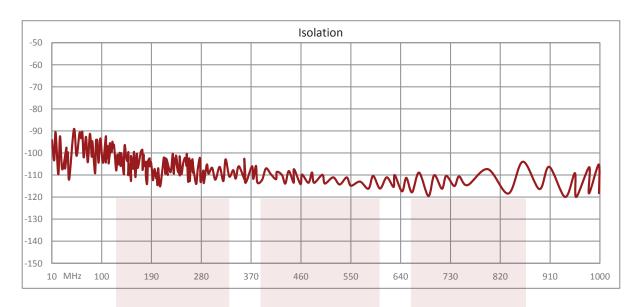


## **Typical Performance Data**









Field Replaceable SMA SP4T PIN Diode Switch Absorptive From 10 MHz to 1,000 MHz Rated at +20 dBm 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.

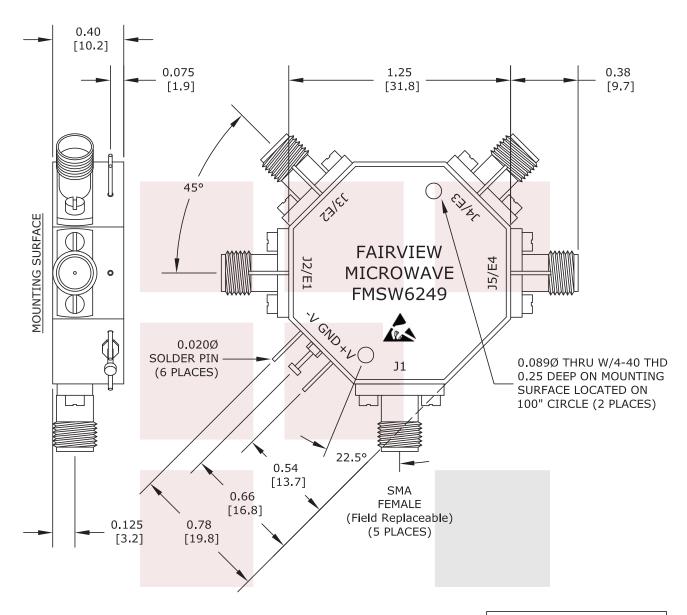
For additional information on this product, please click the following link: Field Replaceable SMA SP4T PIN Diode Switch Absorptive From 10 MHz to 1,000 MHz Rated at +20 dBm FMSW6249

URL: https://www.fairviewmicrowave.com/sma-sp4t-pin-diode-switch-absorptive-1000-mhz-20-dbm-fmsw6249-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.







UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN: inches [mm] TOLERANCES ARE:

X.XX ± 0.020 [± 0.508] X.XXX ± 0.010 [± 0.254] 0 = LOW LOSS1 = ISOLATION

| TTL LOGIC TABLE |    |    |    |          |  |  |
|-----------------|----|----|----|----------|--|--|
| E1              | E2 | E3 | E4 | Low Loss |  |  |
| 0               | 1  | 1  | 1  | J1-J2    |  |  |
| 1               | 0  | 1  | 1  | J1-J3    |  |  |
| 1               | 1  | 0  | 1  | J1-J4    |  |  |
| 1               | 1  | 1  | 0  | J1-J5    |  |  |

| * THESE DIMENSIONS | AND | <b>TOLERANCES</b> | SUPERSEDE | NOTE | #1 ON | TITLE | BLOCK. |
|--------------------|-----|-------------------|-----------|------|-------|-------|--------|
|                    |     |                   |           |      |       |       |        |

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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].

|          |          | 2     |      |                 |        |      |  |
|----------|----------|-------|------|-----------------|--------|------|--|
| DWG NO   | FMSW6249 |       |      | CAGE CODE 3FKR5 |        |      |  |
| CAD FILE | 041516   | SHEET | SCAL | E N/A           | SIZE A | 2233 |  |