

Field Replaceable SMA SP4T PIN Diode Switch Absorptive From 2 GHz to 4 GHz Rated at +20 dBm

FMSW6251 is a Single Pole Four Throw (SP4T) Absorptive PIN Diode Switch that operates from 2 GHz to 4 GHz. The output port is terminated in 50 ohms when switched in the isolation (off) state. Outstanding performance includes 1.5 dB max insertion loss, 75 dB min isolation, and 100 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

| Description | Min | Typ | Max | Units |
|----------------------------|-----|-----|-----|-------|
| Frequency Range | 2 | | 4 | GHz |
| Impedance | | 50 | | Ohms |
| Insertion Loss | | | 1.5 | dB |
| Isolation | 75 | | | dB |
| Switching Time | | | 100 | ns |
| Input Power (CW) | | | 0.1 | Watts |
| Survival Power | | | 1 | Watts |
| Positive Operating Voltage | | 5 | | V |
| Negative Operating Voltage | | -15 | | V |
| 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] |
| Finish | Blue |

Configuration

| | |
|-------------------|------------------|
| Design | Absorptive, SP4T |
| RF Connector | SMA Female |
| 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, Condition B |
| Shock | MIL-STD-202F, Method 213B, Condition B |
| Vibration | MIL-STD-202F, Method 204D, Condition B |
| Altitude | MIL-STD-202F, Method 105C, Condition B |
| Temperature Cycling | MIL-STD-202F, Method 107D, Condition A |



Features:

- SP4T Absorptive Switch
- 2.0 GHz to 4.0 GHz
- High Speed Switching
- Insertion Loss 1.5 dB max
- Isolation 75 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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ESD Sensitivity

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



Compliance Certifications (visit www.FairviewMicrowave.com for current document)

REACH Compliant

12/17/2015

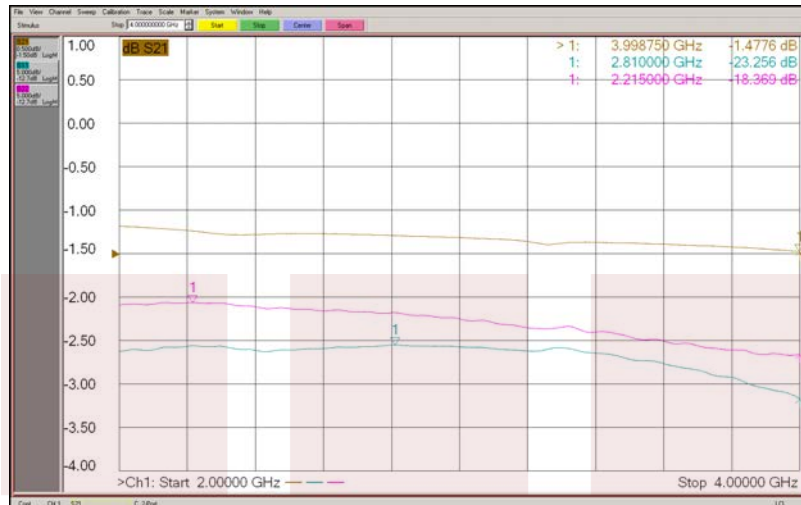
Plotted and Other Data

Notes:

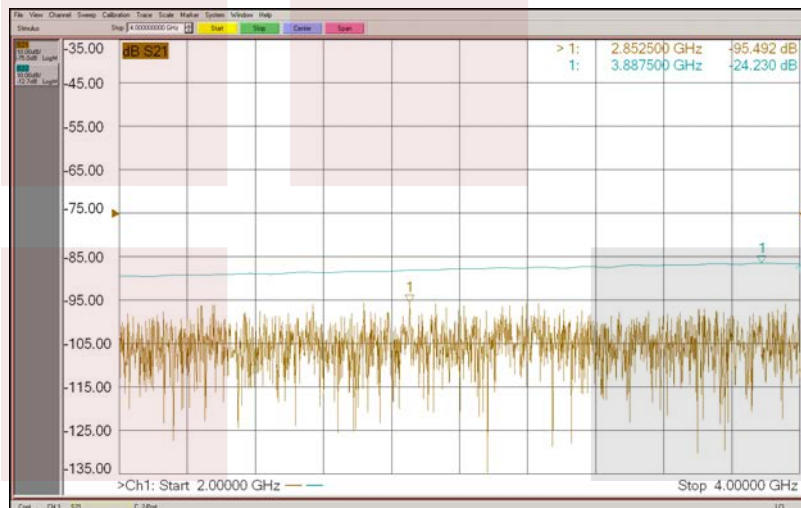
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| | | |

Typical Performance Data

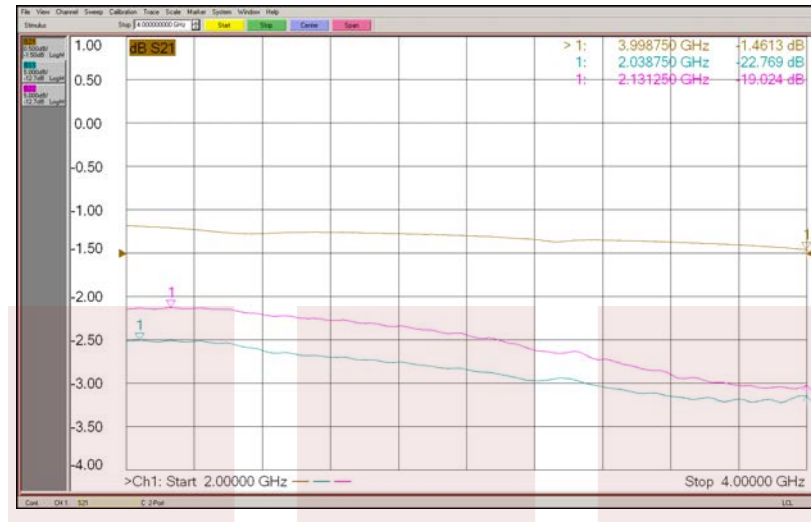
(J1 – J2) Insertion Loss and Return Loss



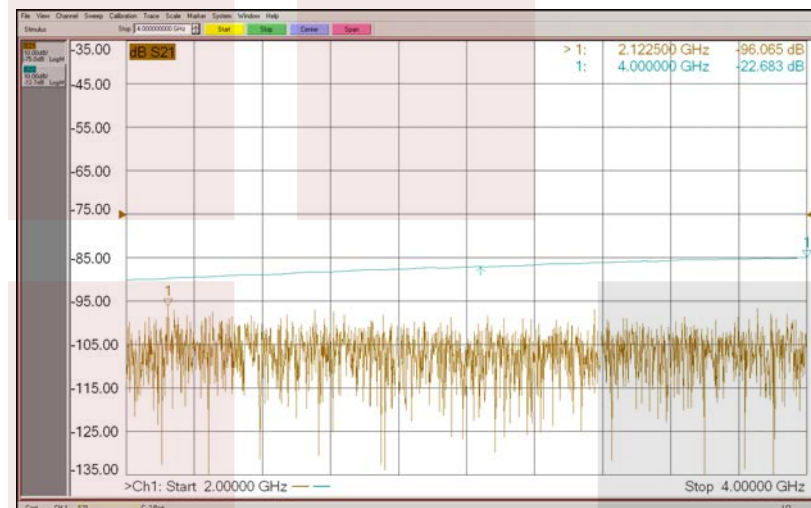
(J1 – J2) Isolation and Termination Return Loss



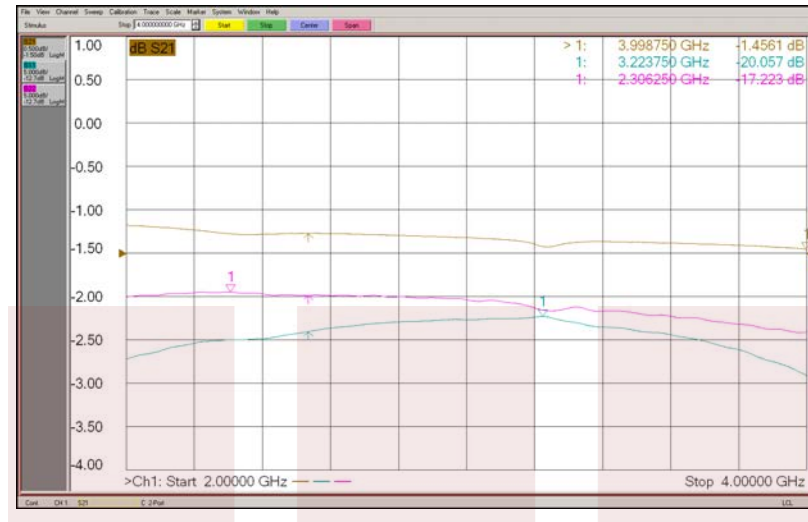
(J1 – J3) Insertion Loss and Return Loss



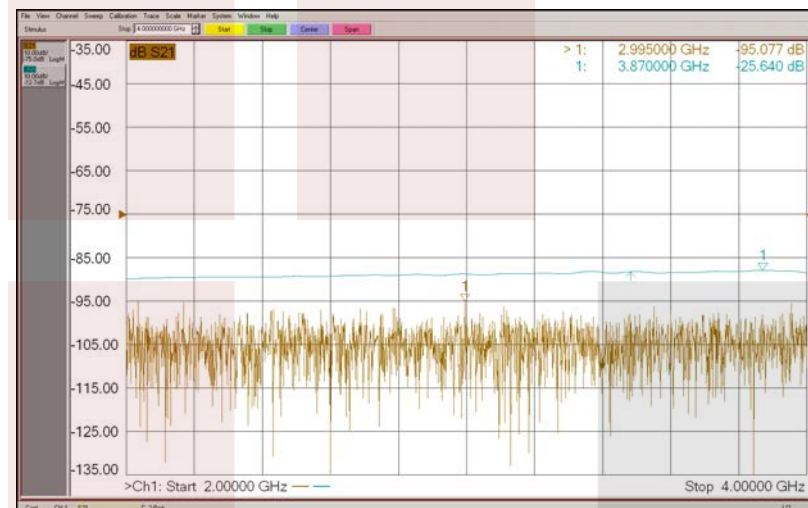
(J1 – J3) Isolation and Termination Return Loss



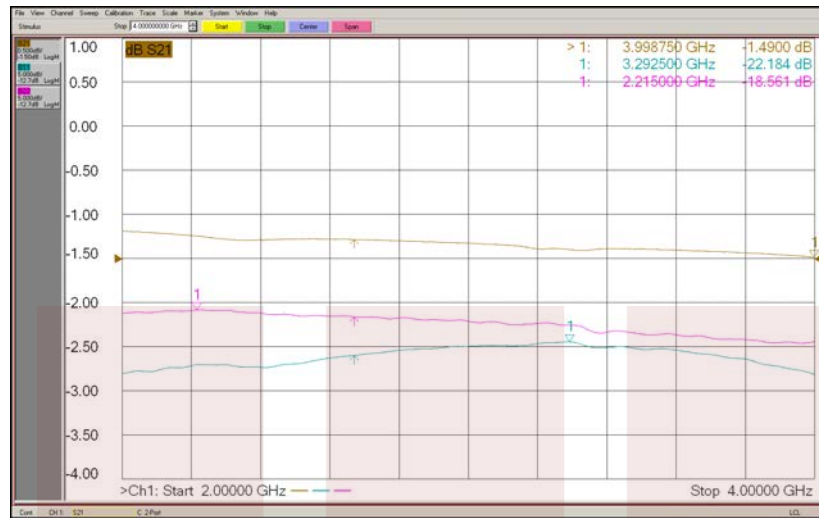
(J1 – J4) Insertion Loss and Return Loss



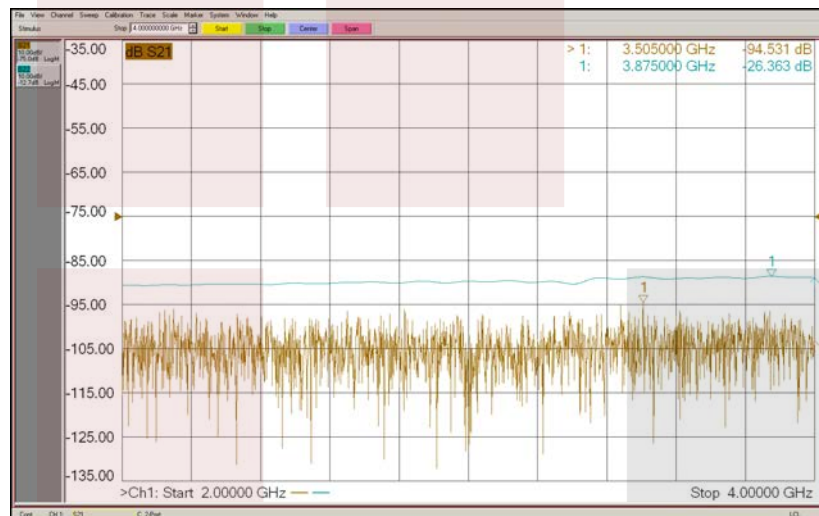
(J1 – J4) Isolation and Termination Return Loss



(J1 – J5) Insertion Loss and Return Loss



(J1 – J5) Isolation and Termination Return Loss

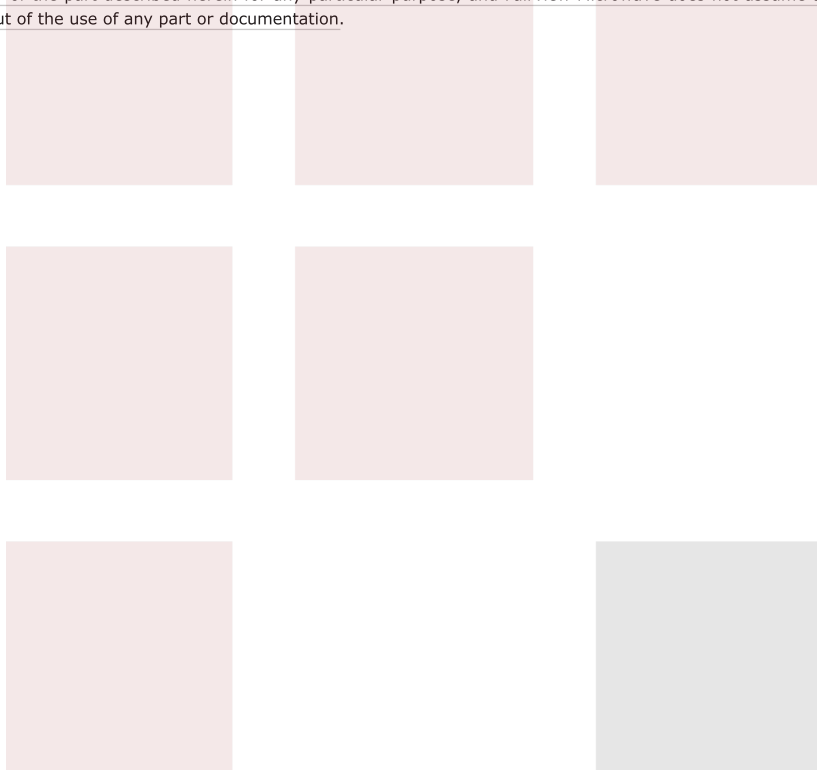


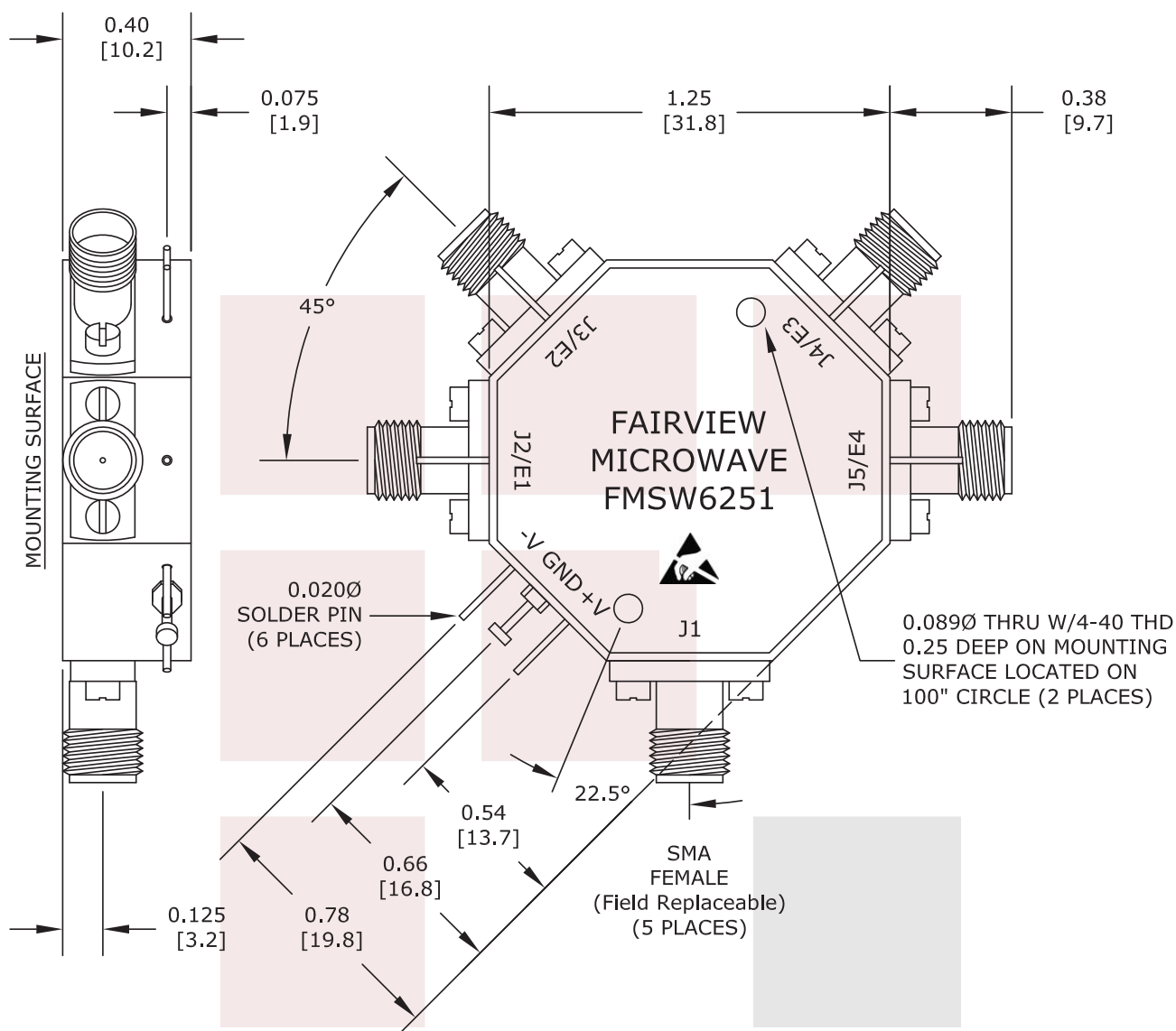
Field Replaceable SMA SP4T PIN Diode Switch Absorptive From 2 GHz to 4 GHz Rated at +20 dBm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Field Replaceable SMA SP4T PIN Diode Switch Absorptive From 2 GHz to 4 GHz Rated at +20 dBm FMSW6251](#)

URL: <http://www.fairviewmicrowave.com/sma-sp4t-pin-diode-switch-2-4-ghz-20-dbm-fmsw6251-p.aspx>

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UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN: inches [mm]

TOLERANCES ARE:
X.XX ± 0.020 [± 0.508]
X.XXX ± 0.010 [± 0.254]

* THESE DIMENSIONS AND TOLERANCES SUPERSEDE NOTE #1 ON TITLE BLOCK.

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 |

NOTE:
0 = LOW LOSS
1 = ISOLATION

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TITLE
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Absorptive From 2 GHz to 4 GHz Rated at +20 dBm

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 | CAGE CODE |
|-----------------------|-----------------------|
| FMSW6251 | 3FKR5 |
| CAD FILE 040516 SHEET | SCALE N/A SIZE A 2233 |