Fairview Microwave
RF COMPONENTS ON DEMAND. Done!

# SDS-0102-SPDT-SMA DATA SHEET

## SPDT High Isolation PIN Diode Switch 1 GHz to 2 GHz, 90 dB, 32 dBm, 1 dB Loss and SMA

SDS-0102-SPDT-SMA is a general purpose 1.0 GHz to 2.0 GHz single pole, double throw high isolation, absorptive switch. This switch offers 90 dB typical port-to-port isolation, and a typical insertion loss of 1.0 dB at room temperature. It has a 75 ns typical switching speed, and independently TTL controlled.

### Electrical Specifications

| Description | Min | Typ | Max | Units |
|---|---|---|---|---|
| Frequency Range | 1 | | 2 | GHz |
| Insertion Loss | | 1 | 1.2 | dB |
| Isolation | | 90 | 85 | dB |
| VSWR | | 1.3:1 | 1.5:1 | |
| Switching Speed | | 75 | 100 | ns |
| DC Bias at 5 VDC | | 70 | 80 | mA |
| DC Bias at -15 VDC | | 40 | 50 | mA |
| Control Input | | TTL | | |
| Power Handling | | +32 | +30 | dBm |

### TTL Logic Table

| E1 | E2 | Signal Path |
|---|---|---|
| 0 | 1 | J1 - J2 |
| 1 | 0 | J1 - J3 |

0 = Low Loss State
1 = Isolated State

### Absolute Maximum Rating

| Parameter | Rating | Units |
|---|---|---|
| Positive Voltage | +7 | Volts |
| Negative Voltage | -14 | Volts |
| RF input Power | +30 | dBm |
| Operating Temperature | -54 to +85 | °C |
| Storage Temperature | -55 to +100 | °C |

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

### Mechanical Specifications

**Size**

| | |
|---|---|
| Length | 1.2 in [30.48 mm] |
| Width/Dia. | 0.9 in [22.86 mm] |
| Height | 0.35 in [8.89 mm] |

### Environmental Specifications By Design

**Temperature**

| | |
|---|---|
| Operating Range | -54 to +85 deg C |
| Humidity | Mil-STD-810 507.4 |
| Shock | Mil-STD-810 method 504, 516.5 |

### Features:

- SPDT PIN Diode Absorptive Switch
- 1 GHz to 2 GHz Frequency Range
- Insertion Loss: 1.0 db typical
- High Isolation: 90 dB typical
- VSWR: 1.3:1
- Fast Switching Speed: 75 nsec.
- Integrated TTL Driver
- Power Handling: +32 dBm
- Operating Temperature Range: -54 °C to 85°C

### Applications:

- Electronic Warfare
- Radar
- Test & Measurements
- Military & Space
- Military Communication Systems
- PIN diode switch

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| | |
|---|---|
| Vibration | Mil-STD-810 514.6 |
| Temperature Cycling | Mil-STD-810 501.5, 502.5 |

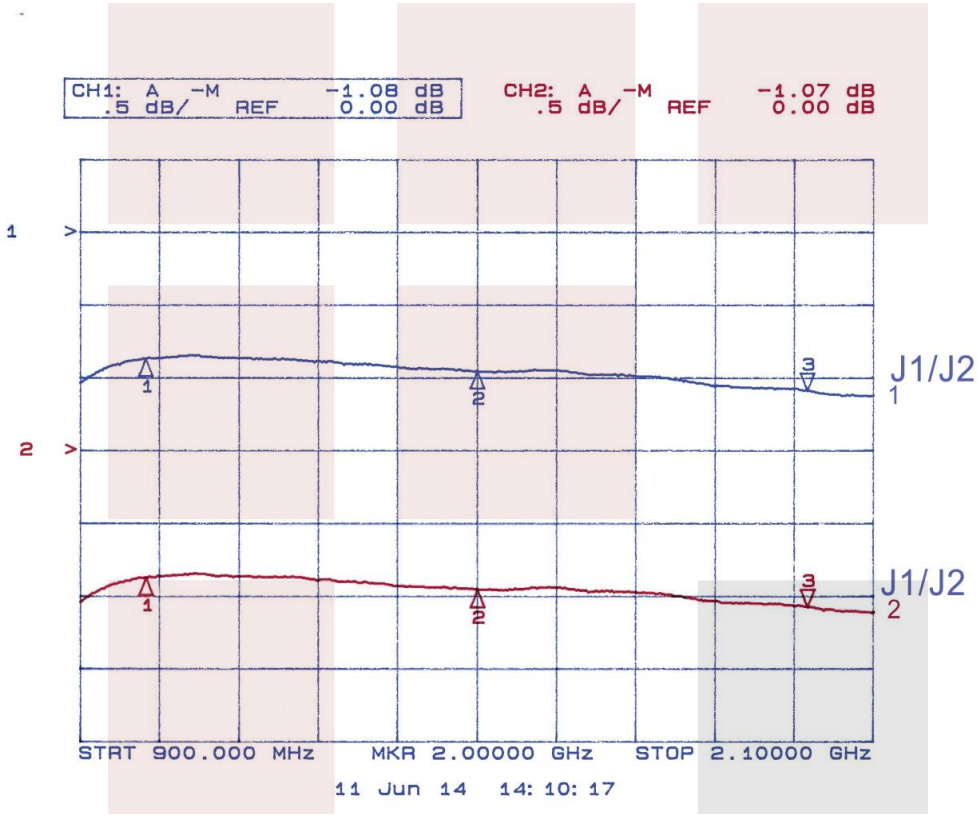
**Compliance Certifications** (see product page for current document)

**Plotted and Other Data**

Notes:

- Values at +25 °C, sea level
- ESD Sensitive Material, Transport material in Approved ESD bags. Handle only in approved ESD Workstation.

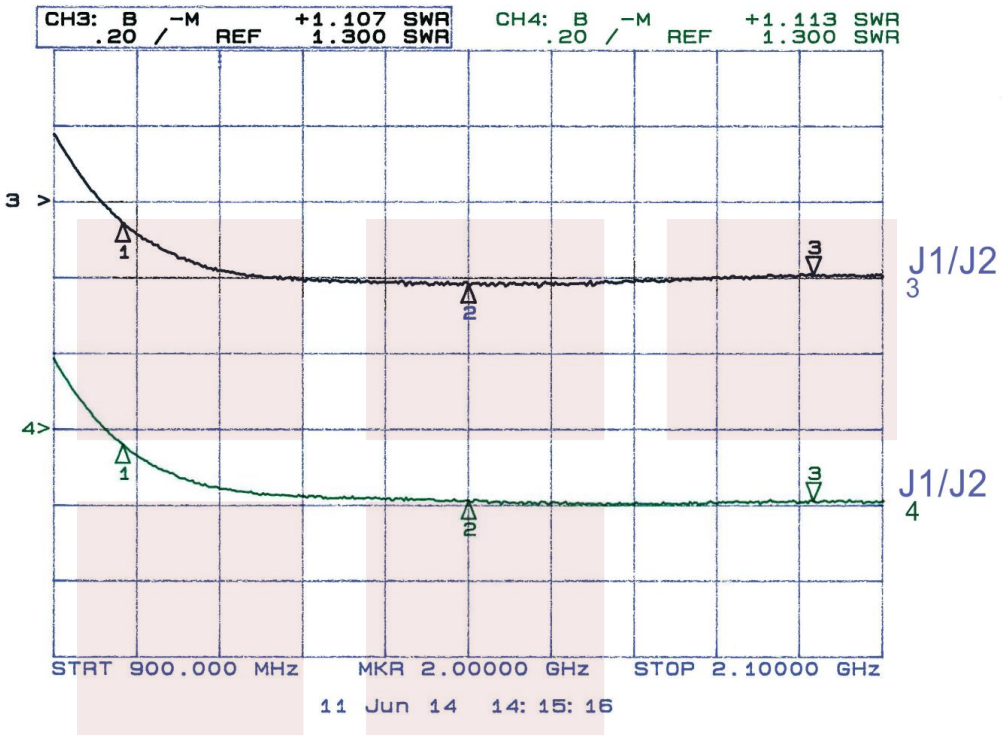
**Typical Performance Data**




Insertion Loss



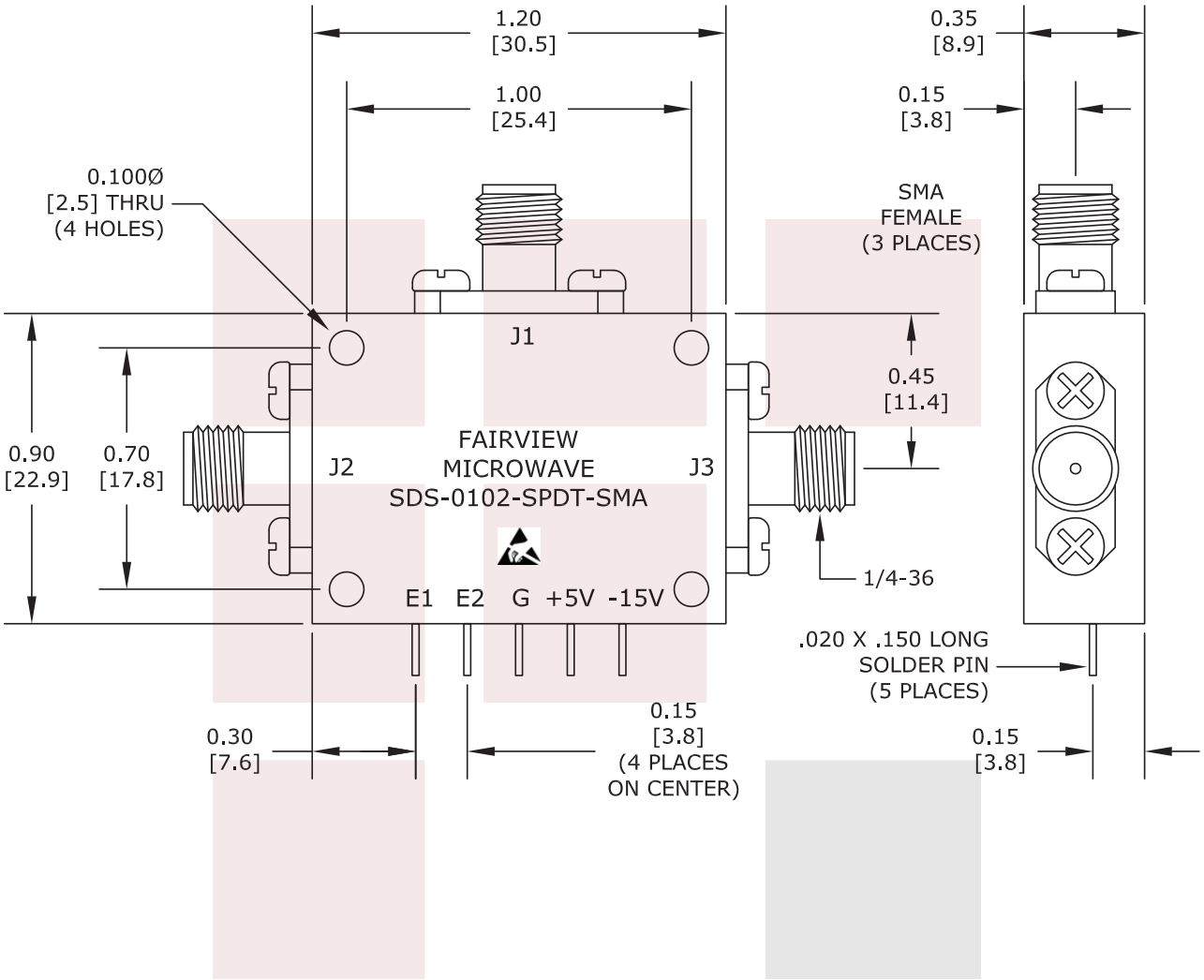



VSWR

SPDT High Isolation PIN Diode Switch 1 GHz to 2 GHz, 90 dB, 32 dBm, 1 dB Loss and SMA 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 High Isolation PIN Diode Switch 1 GHz to 2 GHz, 90 dB, 32 dBm, 1 dB Loss and SMA SDS-0102-SPDT-SMA

URL: https://www.fairviewmicrowave.com/high-isolation-pin-diode-switch-2-ghz-90db-1db-sds-0102-spdt-sma-p.aspx




TTL 0 = Low Loss State
TTL 1 = Isolated State

| E1 | E2 | Signal Path |
|---|---|---|
| 0 | 1 | J1 - J2 |
| 1 | 0 | J1 - J3 |

| | |
|---|---|
| FAIRVIEW MICROWAVE INC.<br>ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM | NOTES:<br>1. UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE NOMINAL.<br>2. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME.<br>3. DIMENSIONS ARE IN INCHES [mm]. |
| TITLE<br>SPDT High Isolation PIN Diode Switch 1 GHz to 2 GHz, 90 dB, 32 dBm, 1 dB Loss and SMA | DWG NO SDS-0102-SPDT-SMA<br>CAGE CODE 3FKR5<br>CAD FILE 051217 SHEET SCALE N/A SIZE A 2233 |