

**Field Replaceable 2.92mm SP8T PIN Diode Switch**  
**From 500 MHz to 40 GHz Rated at +20 dBm**

FMSW6229 is a Single Pole Eight Throw (SP8T) Reflective PIN Diode Switch that operates from 0.5 to 40 GHz. Performance includes 9 dB typ insertion loss, 45 dB min Isolation, and 50 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 VDC and -5 VDC are required. The rugged package design is compact, features field replaceable female 2.92mm connectors, and is designed to meet MIL-STD 202F environmental test conditions which include humidity, shock, vibration, altitude, and temperature cycle.



**Electrical Specifications**

Description	Min	Typ	Max	Units
Frequency Range	0.5		40	GHz
Impedance		50		Ohms
Insertion Loss		9		dB
Isolation	45			dB
Switching Time			50	ns
Input Power (CW)			0.1	Watts
Survival Power			1	Watts
Positive Operating Voltage		5		Vdc
Negative Operating Voltage		-5		Vdc
Current @ 5 Vdc		100		mA
Current @ -5 Vdc		50		mA
Operating Temperature	-40		+85	deg C

**Mechanical Specifications**

Length	4 in [101.6 mm]
Width	1.5 in [38.1 mm]
Height	0.4 in [10.16 mm]
Weight	0.247 lbs [112.04 g]
Finish	Blue Paint

**Configuration**

Design	Reflective, SP8T
RF Connector	2.92mm 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, Condition B
Shock	MIL-STD-202F, Method 213B, Condition B
Vibration	MIL-STD-202F, Method 204D, Condition B

**Features:**

- SP8T Reflective Switch
- 0.5 GHz to 40.0 GHz
- Insertion Loss 9 dB typ
- Isolation 45 dB min
- Power Input 20 dBm CW max
- Switching Speed 50 nsec max

**Applications:**

- Test & Measurement
- Military Communication
- Commercial Communication

Fairview Microwave  
 1130 Junction Dr. #100  
 Allen, TX 75013  
 Tel: 1-800-715-4396 / (972) 649-6678  
 Fax: (972) 649-6689  
[www.fairviewmicrowave.com](http://www.fairviewmicrowave.com)  
[sales@fairviewmicrowave.com](mailto:sales@fairviewmicrowave.com)

Altitude  
Temperature Cycling  
ESD Sensitivity

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)

**Plotted and Other Data**

Notes:

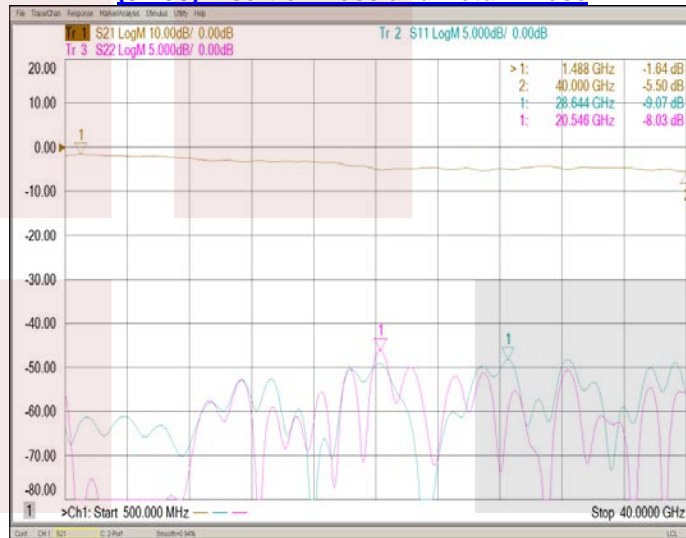


Typical Performance Data

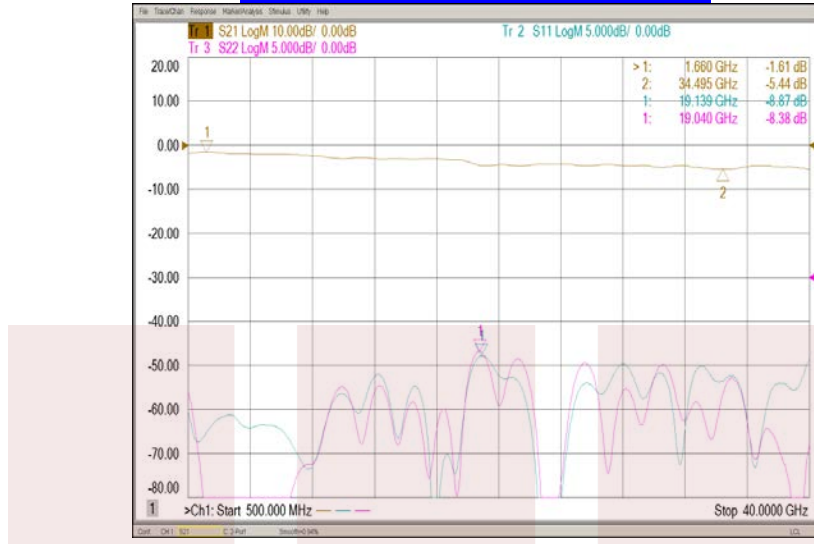
**(J1-J2) Insertion Loss and Return Loss**



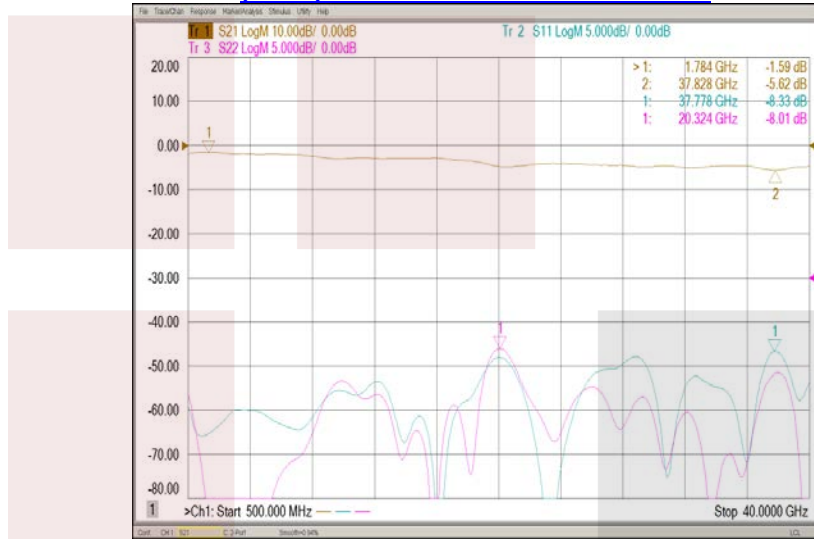
**(J1-J3) Insertion Loss and Return Loss**



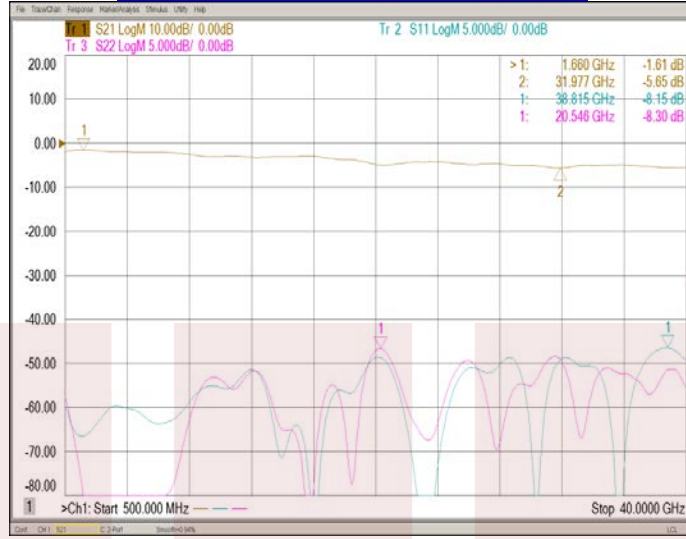
**(J1-J4) Insertion Loss and Return Loss**



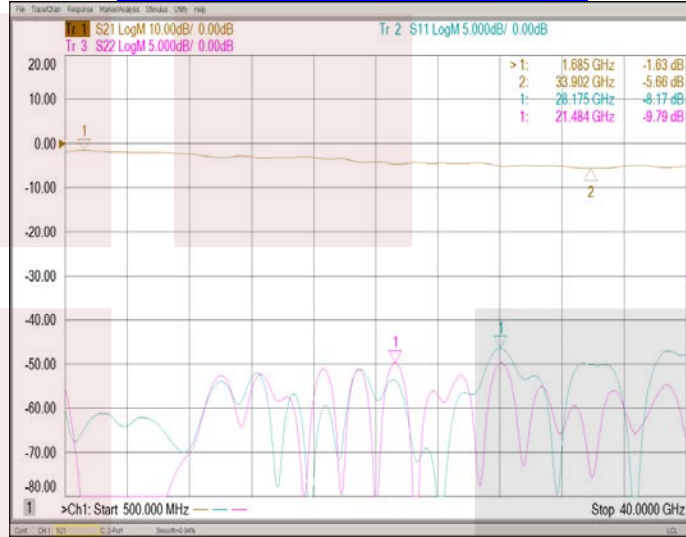
**(J1-J5) Insertion Loss and Return Loss**



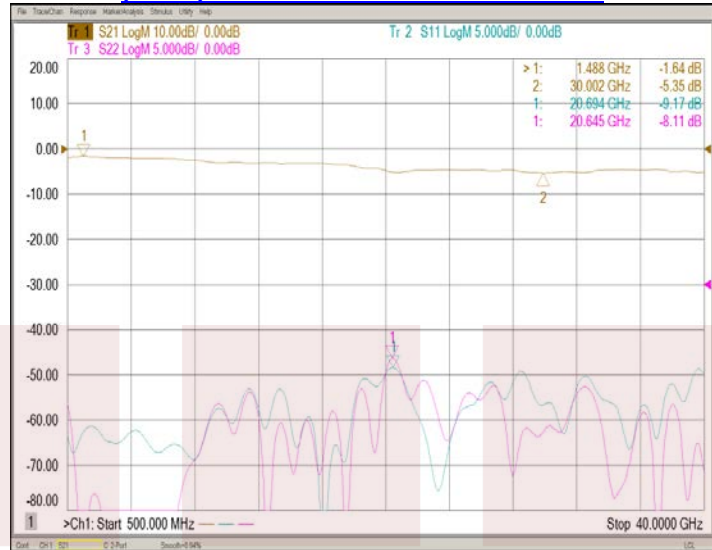
**(J1-J6) Insertion Loss and Return Loss**



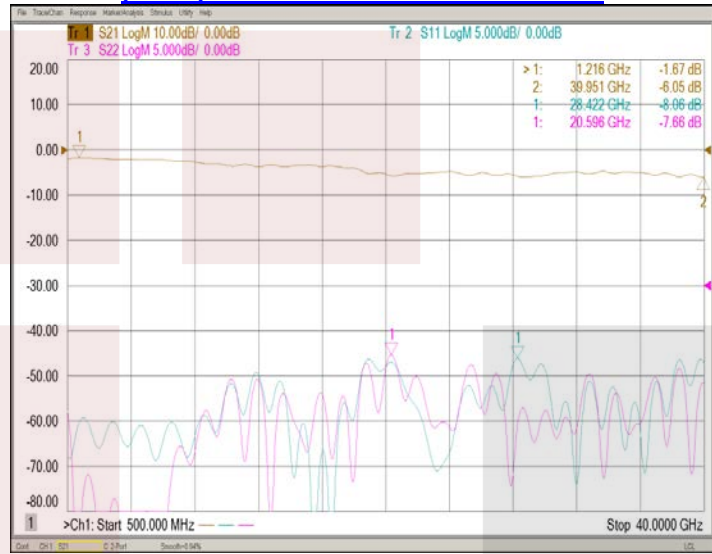
**(J1-J7) Insertion Loss and Return Loss**



**(J1-J8) Insertion Loss and Return Loss**



**(J1-J9) Insertion Loss and Return Loss**

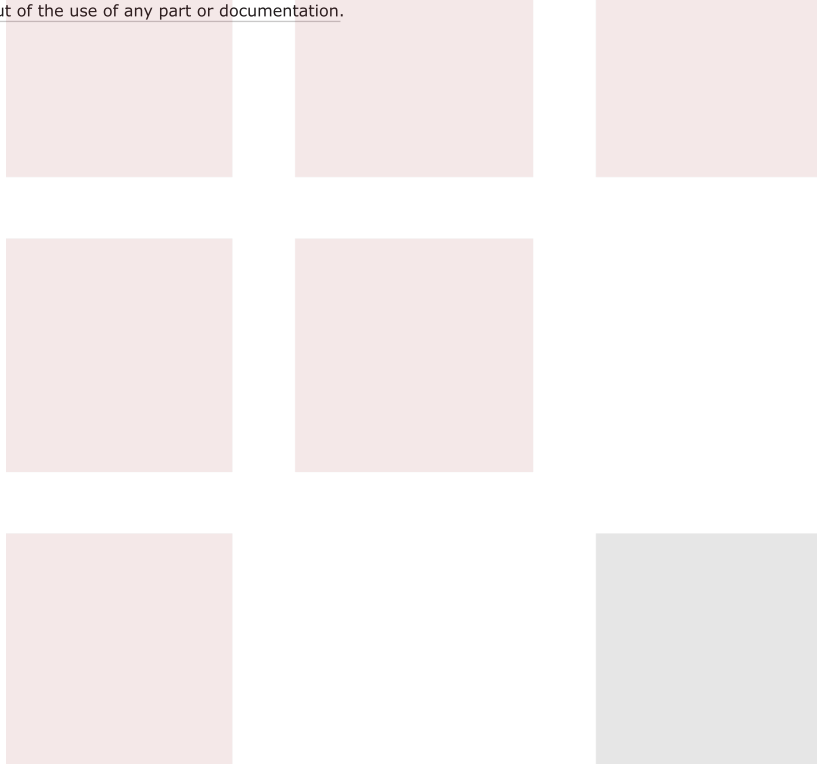


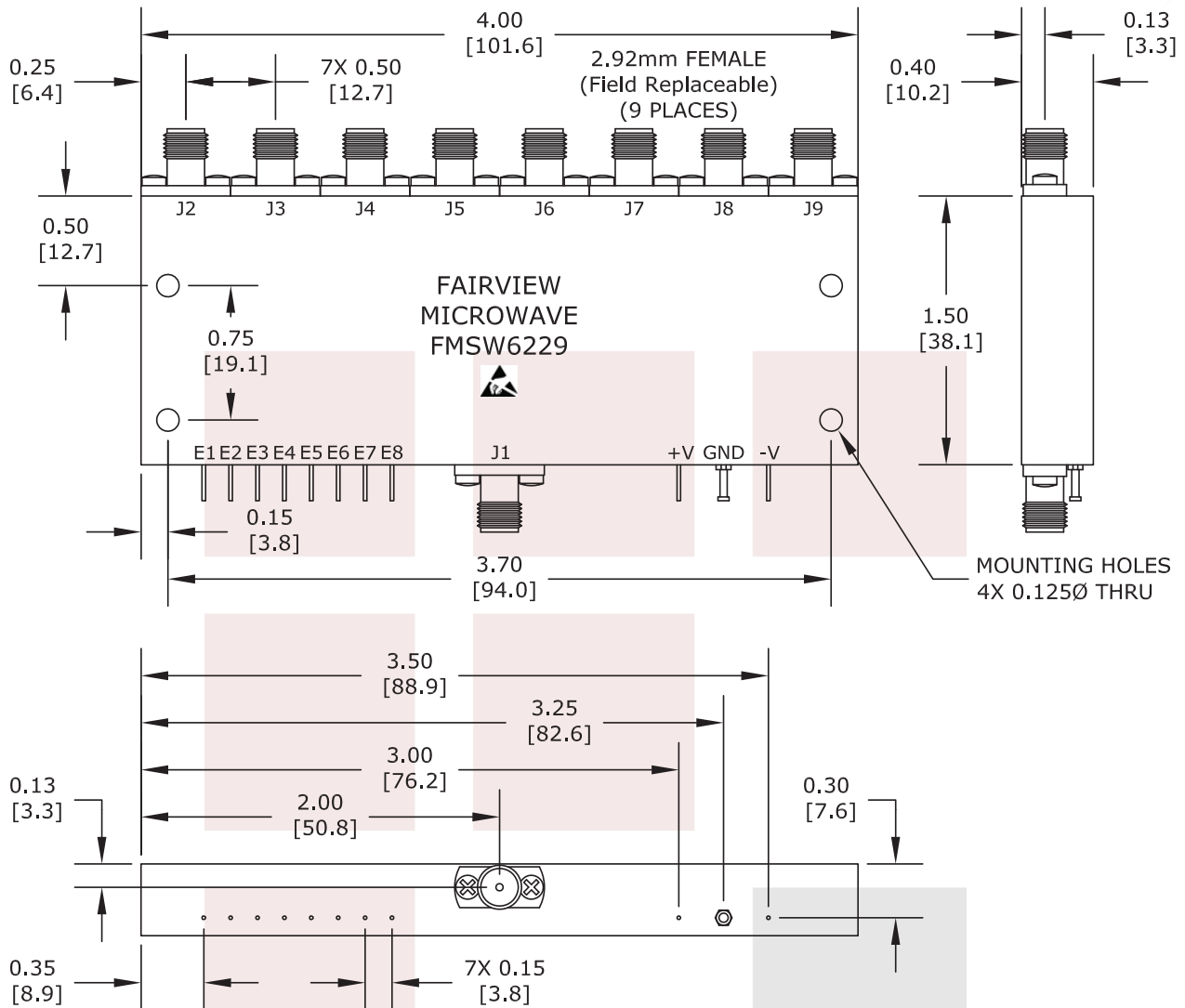
Field Replaceable 2.92mm SP8T PIN Diode Switch From 500 MHz to 40 GHz Rated at +20 dBm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Field Replaceable 2.92mm SP8T PIN Diode Switch From 500 MHz to 40 GHz Rated at +20 dBm FMSW6229](#)

URL: <https://www.fairviewmicrowave.com/2.92mm-sp8t-pin-diode-switch-40-ghz-20-dbm-fmsw6229-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.





ALL DIMENSIONS ARE IN INCHES.  
TOLERANCES:  
X.XX ±0.020  
X.XXX ±0.010

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

E1	E2	E3	E4	E5	E6	E7	E8	Low Loss
1	0	0	0	0	0	0	0	J1-J2
0	1	0	0	0	0	0	0	J1-J3
0	0	1	0	0	0	0	0	J1-J4
0	0	0	1	0	0	0	0	J1-J5
0	0	0	0	1	0	0	0	J1-J6
0	0	0	0	0	1	0	0	J1-J7
0	0	0	0	0	0	1	0	J1-J8
0	0	0	0	0	0	0	1	J1-J9

NOTE: 0=Isolation  
1=Low Loss

<b>FAIRVIEW MICROWAVE INC.</b> ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM		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].			
TITLE Field Replaceable 2.92mm SP8T PIN Diode Switch From 500 MHz to 40 GHz Rated at +20 dBm		DWG NO FMSW6229		CAGE CODE 3FKR5	
CAD FILE	040416	SHEET	SCALE	N/A	SIZE A 2233