

Field Replaceable SMA SP4T PIN Diode Switch From 500 MHz to 18 GHz Rated at +20 dBm

FMSW6223 is a Single Pole Four Throw (SP4T) Reflective PIN Diode Switch that operates from 0.5 to 18 GHz. Performance includes 3.2 dB typ insertion loss, 55 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 VDC and -15 VDC are required. The rugged package design is compact, features field replaceable female SMA 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		18	GHz
Impedance		50		Ohms
VSWR			2:1	
Insertion Loss		3.2		dB
Isolation	55			dB
Switching Time			100	ns
Input Power (CW)			0.1	Watts
Survival Power			1	Watts
Positive Operating Voltage		5		Vdc
Negative Operating Voltage		-15		Vdc
Current @ 5 Vdc		160		mA
Current @ -15 Vdc		50		mA
Operating Temperature	-40		+85	deg C

Mechanical Specifications

Length	1.5 in [38.1 mm]
Width	1.5 in [38.1 mm]
Height	0.6 in [15.24 mm]
Weight	0.137 lbs [62.14 g]
Finish	Blue Paint

Configuration

Design	Reflective, 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, Condition B
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Shock	MIL-STD-202F, Method 213B, Condition B
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Features:

- SP4T Reflective Switch
- 0.5 GHz to 18.0 GHz
- Insertion Loss 3.2 dB typ
- Isolation 55 dB min
- Power Input 20 dBm CW max
- Switching Speed 100 nsec max

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 (visit www.FairviewMicrowave.com for current document)

REACH Compliant

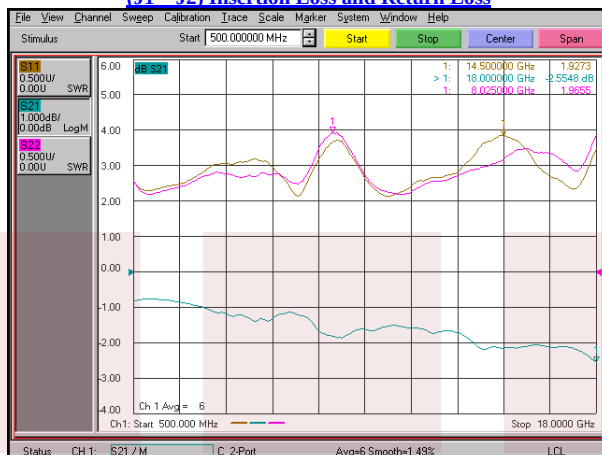
12/17/2015

Plotted and Other Data

Notes:

Typical Performance Data

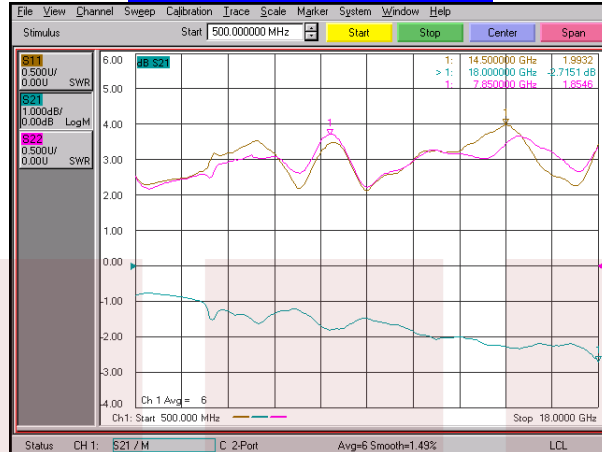
(J1 – J2) Insertion Loss and Return Loss



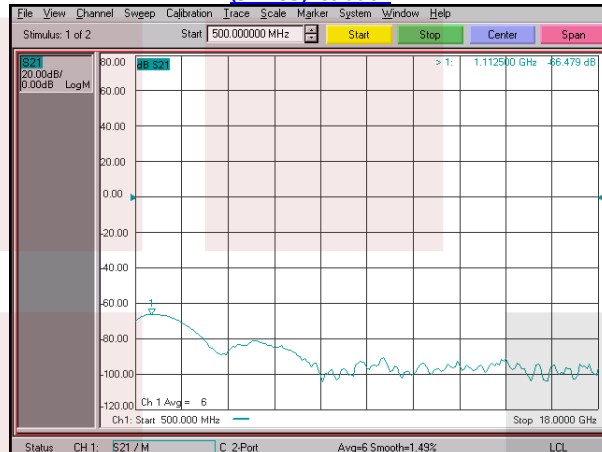
(J1 – J2) Isolation



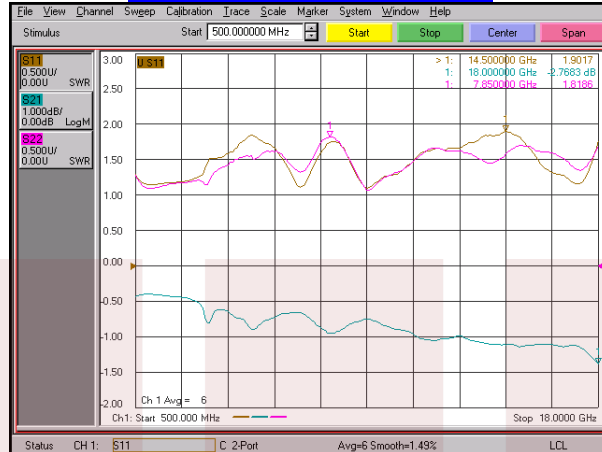
(J1 – J3) Insertion Loss and Return Loss



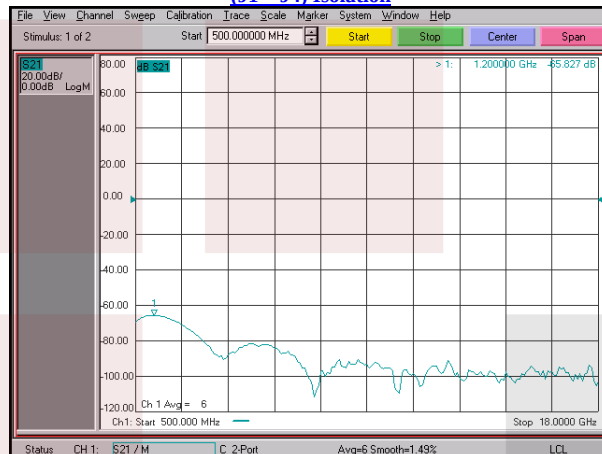
(J1 – J3) Isolation



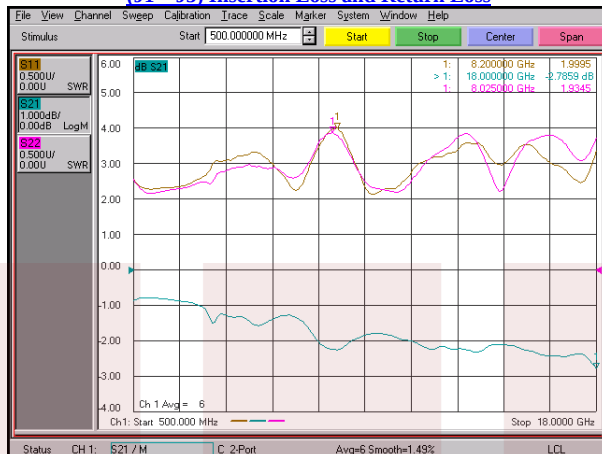
(J1 – J4) Insertion Loss and Return Loss



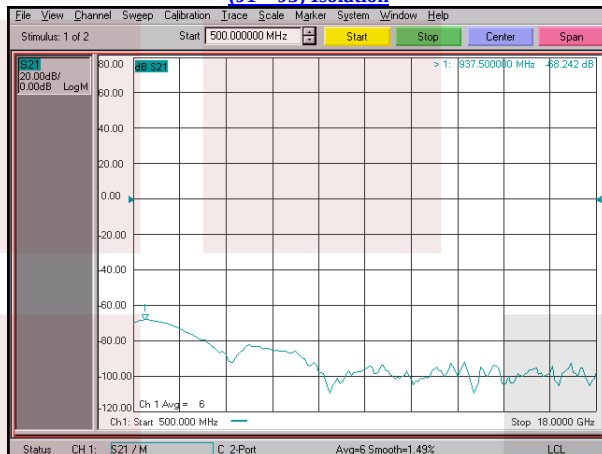
(J1 – J4) Isolation



(J1 – J5) Insertion Loss and Return Loss



(J1 – J5) Isolation



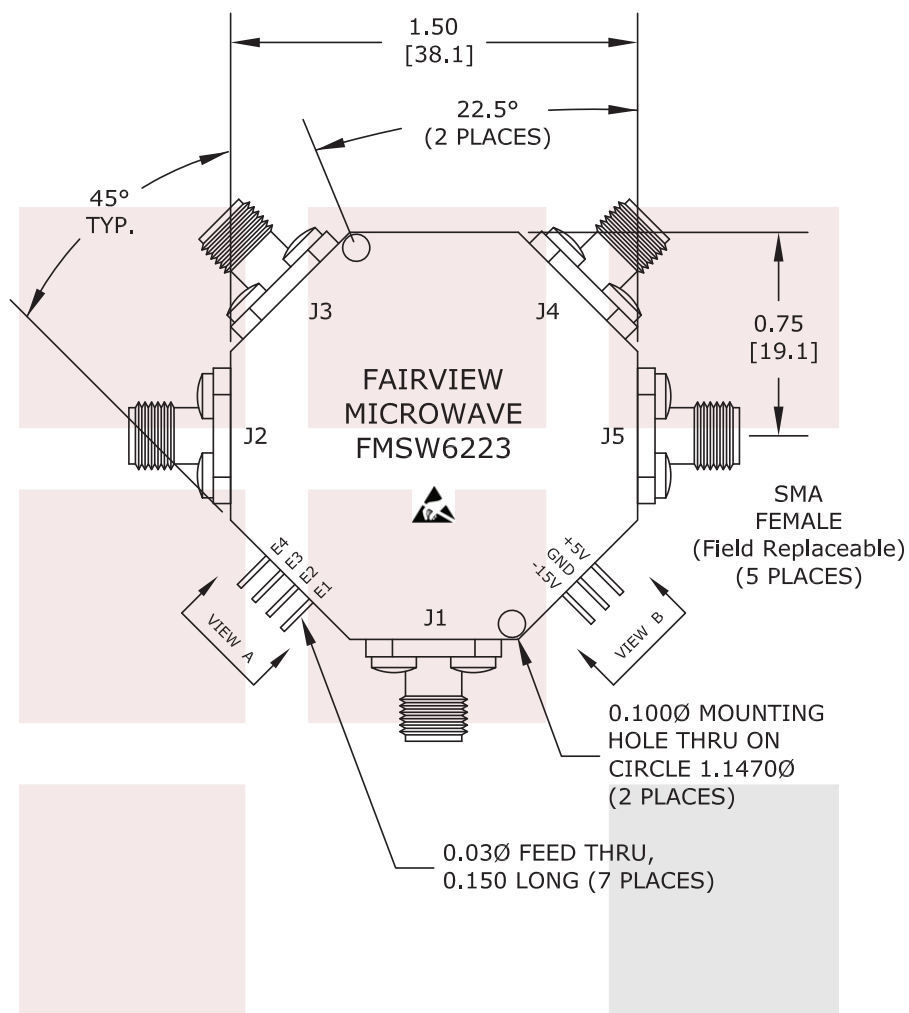
Field Replaceable SMA SP4T PIN Diode Switch From 500 MHz to 18 GHz Rated at +20 dBm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Field Replaceable SMA SP4T PIN Diode Switch From 500 MHz to 18 GHz Rated at +20 dBm FMSW6223](#)

URL: <https://www.fairviewmicrowave.com/sma-sp4t-pin-diode-switch-18-ghz-20-dbm-fmsw6223-p.aspx>

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NOTE:
0=Isolation
1=Low Loss

TTL LOGIC TABLE				
E1	E2	E3	E4	FUNCTION
1	0	0	0	J1-J2 LOW LOSS
0	1	0	0	J1-J3 LOW LOSS
0	0	1	0	J1-J4 LOW LOSS
0	0	0	1	J1-J5 LOW LOSS

ALL DIMENSIONS ARE IN INCHES.
TOLERANCES:
X.XX ±0.010
X.XXX ±0.005

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

FAIRVIEW MICROWAVE INC.

ALLEN, TX 75013 WWW.FAIRVIEWMICROWAVE.COM

TITLE

Field Replaceable SMA SP4T PIN Diode Switch From
500 MHz to 18 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

FMSW6223

CAGE CODE

3FKR5

CAD FILE

041916

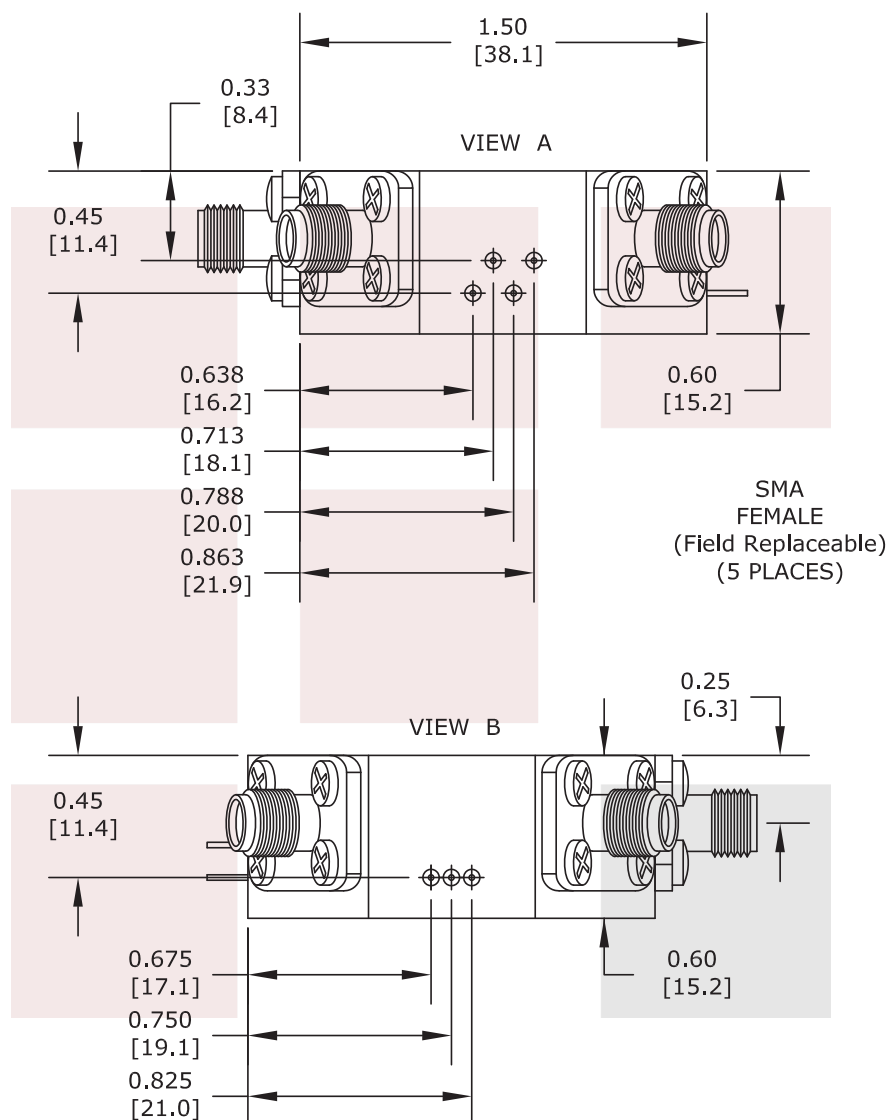
SHEET

SCALE

N/A

SIZE

A 2233



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N/A

SIZE

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2233