

Field Replaceable SMA SP8T PIN Diode Switch From 500 MHz to 18 GHz Rated at +20 dBm

FMSW6224 is a Single Pole Eight Throw (SP8T) Reflective PIN Diode Switch that operates from 0.5 to 18 GHz. Performance includes 4 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		4		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		400		mA
Current @ -15 Vdc		100		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	0.2455 lbs [111.36 g]
Finish	Blue Paint

Configuration

Design	Reflective, SP8T
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
Shock	MIL-STD-202F, Method 213B, Condition B



Features:

- SP8T Reflective Switch
- 0.5 GHz to 18.0 GHz
- Insertion Loss 4.0 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

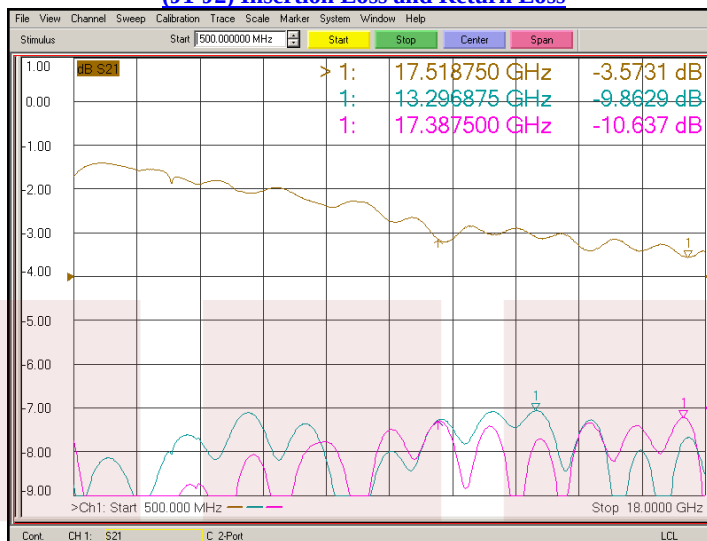
(see [product page](#) for current document)

Plotted and Other Data

Notes:

Typical Performance Data

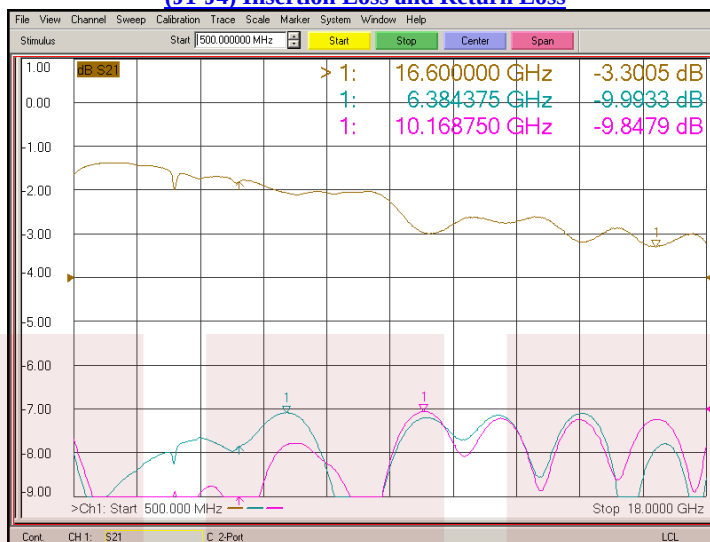
(J1-J2) Insertion Loss and Return Loss



(J1-J3) Insertion Loss and Return Loss



(J1-J4) Insertion Loss and Return Loss



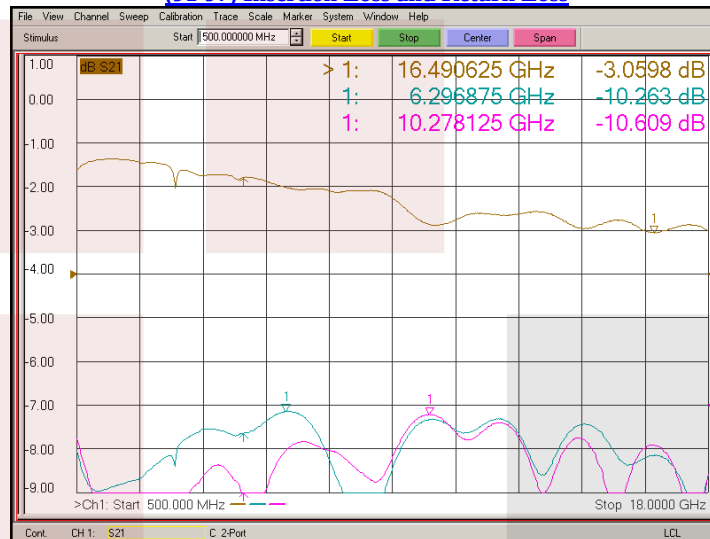
(J1-J5) Insertion Loss and Return Loss



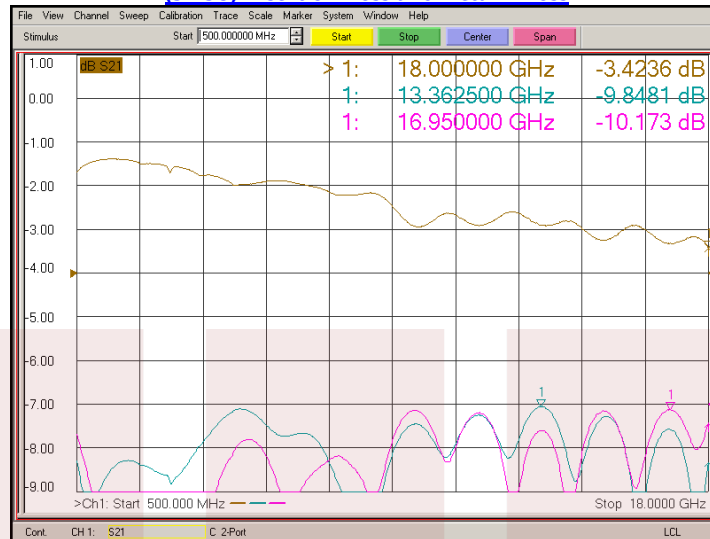
(J1-J6) Insertion Loss and Return Loss



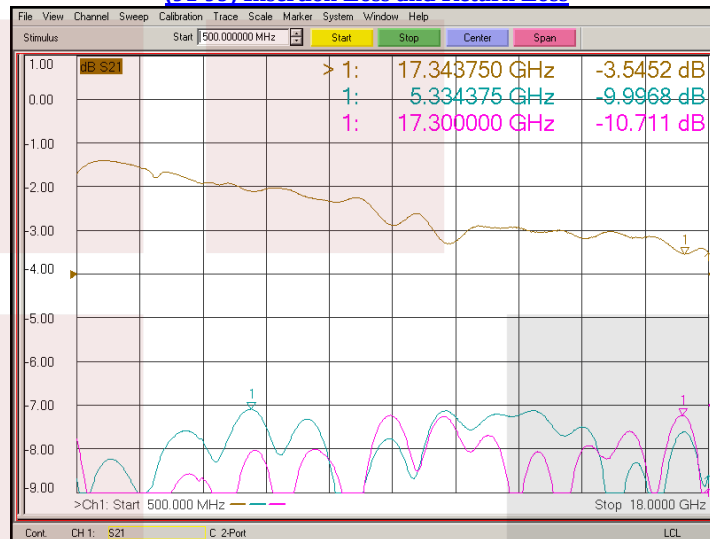
(J1-J7) Insertion Loss and Return Loss



(J1-J8) Insertion Loss and Return Loss



(J1-J9) Insertion Loss and Return Loss



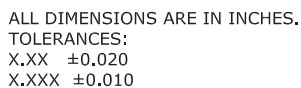
Field Replaceable SMA SP8T PIN Diode Switch From 500 MHz to 18 GHz Rated at +20 dBm from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Field Replaceable SMA SP8T PIN Diode Switch From 500 MHz to 18 GHz Rated at +20 dBm FMSW6224](#)

URL: <https://www.fairviewmicrowave.com/sma-sp8t-pin-diode-switch-18-ghz-20-dbm-fmsw6224-p.aspx>

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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].

DWG NO		FMSW6224		CAGE CODE		3FKR5	
CAD FILE 041916		SHEET		SCALE N/A		SIZE A 2233	