

## N SP4T High Power PIN Diode Switch From 30MHz to 512 MHz Rated at 200 Watts

The FMSW8003 is a Single Pole Four Throw (SP4T) High Power PIN Diode Switch that operates over the frequency range of 30 MHz to 512 MHz. The 50 ohm reflective design supports TTL control logic and is rated for cold switching up to 200 watts average power and 500 watts peak power (1 usec pulse width). The switch also supports up to 20 watts average power for hot switching. Impressive typical performance includes 0.6 dB insertion loss, 65 dB isolation, 1.3:1 VSWR, and 12 microsecond switching speed. Operating voltages are +15 Vdc @ 450 mA nominal, and +5 Vdc @ 175 mA nominal. The rugged Mil Grade package design supports N type female connectors, and solder pins for DC and TTL control logic. The operational temperature range is -20°C to +70°C.

### Electrical Specifications

TTL Control Logic  
 Off/Isolation: 0 to 0.8 V  
 On/Low Loss: 2 to 5 V  
 TTL Control Current +/- 1.3 mA

Description	Min	Typ	Max	Units
Frequency Range	30		512	MHz
Impedance		50		Ohms
VSWR		1.3:1	1.4:1	
Insertion Loss		0.6	0.75	dB
Isolation	50	65		dB
Input Power (Peak) 1 usec pulse width			500	Watts
Positive Operating Voltage		15		Vdc
Positive Operating Voltage 2		5		Vdc
Current @ 15 Vdc		200		mA
Current @ 5 Vdc		175		mA
Operating Temperature	-20		+70	deg C

Description	Min	Typ	Max	Units
Average Power, Cold Switching			200	Watts
Average Power, Hot Switching			20	Watts
Switching Time (50% TTL to 10% or 90% RF)		12	30	usec
(50% TTL to specified isolation)			40	usec

### Mechanical Specifications

Weight 1.55 lbs [703.07 g]  
 Design SP4T  
 RF Connector N Female  
 Control Connector Solder Pin

### Environmental Specifications

**Temperature**  
 Operating Range -20 to +70 deg C  
 Storage Range -55 to +85 deg C



### Features:

- Single Pole Four Throw (SP4T) High Power PIN Diode Switch
- Frequency Range 30 MHz to 512 MHz
- Reflective Design
- TTL Control Logic
- Hot Switching up to 200 Watts Average Power
- Cold Switching up to 200 Watts Average Power and 500 Watts Peak Power
- Insertion Loss 0.6 dB typ
- Isolation 65 dB typ
- VSWR 1.3:1 typ
- Switching Speed 12 microseconds typ
- Operating Voltages +15 Vdc @ 450 MA and +5 Vdc @ 175 mA typ
- 50 Ohm Design
- -20°C to +70°C Operating Temperature
- N-Type Female Connectors
- Solder Pins for DC and TTL Control
- Rugged Mil Grade Aluminum Package Design

### Applications:

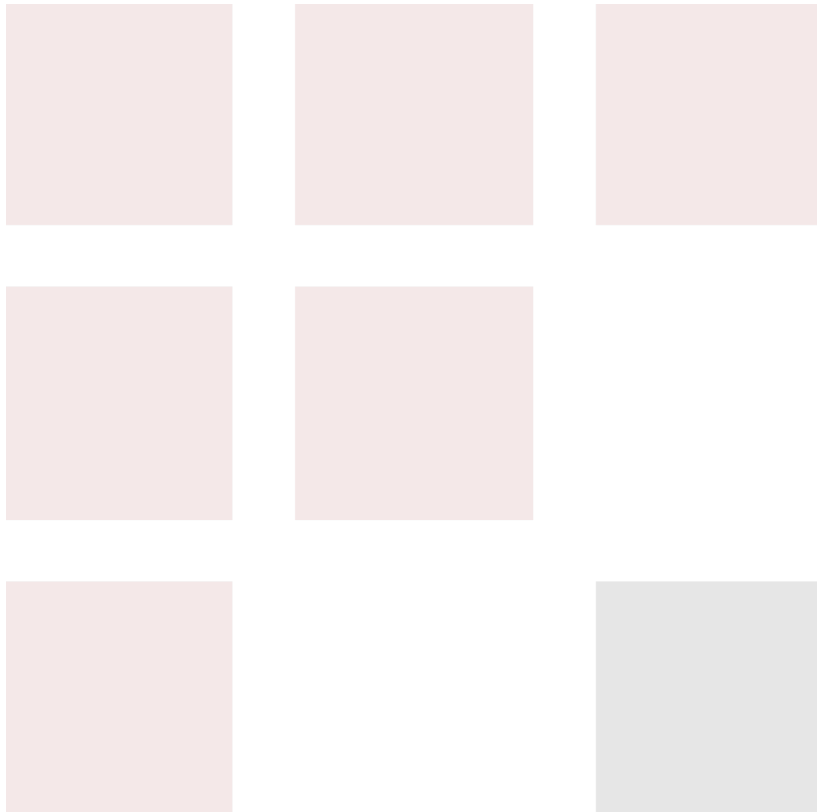
- Military & Commercial Communication Systems
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- Radar Systems
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- Research & Development
- RF Wideband Front Ends

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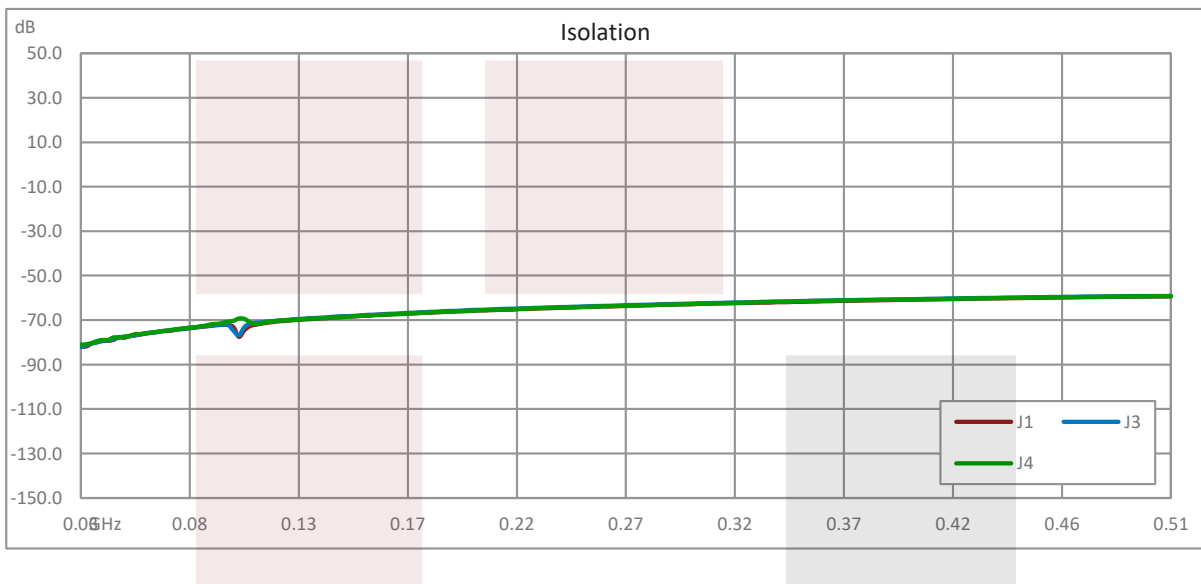
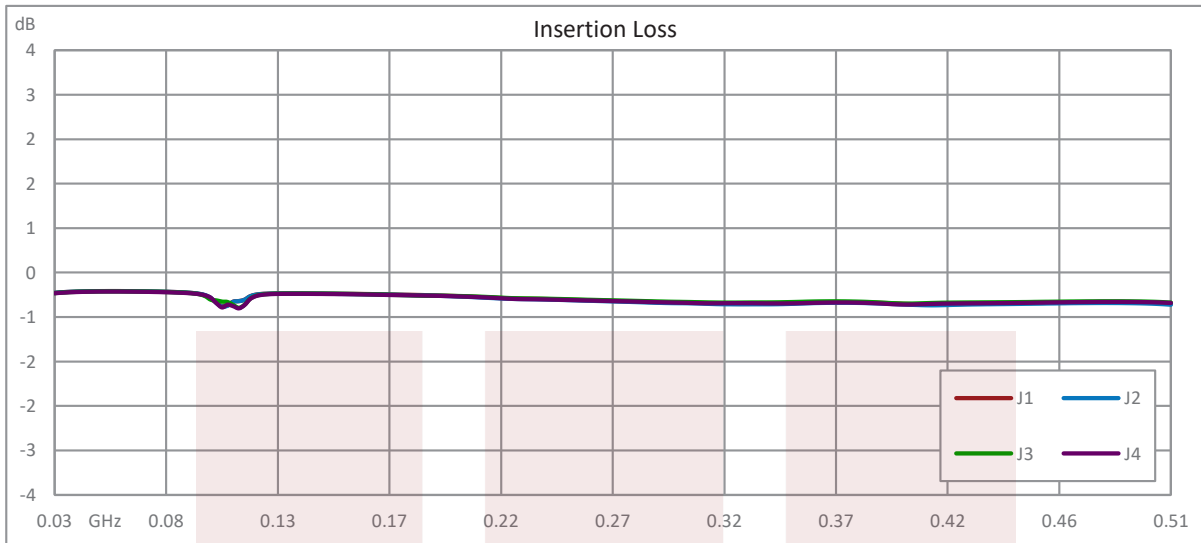
**Compliance Certifications** (see [product page](#) for current document)

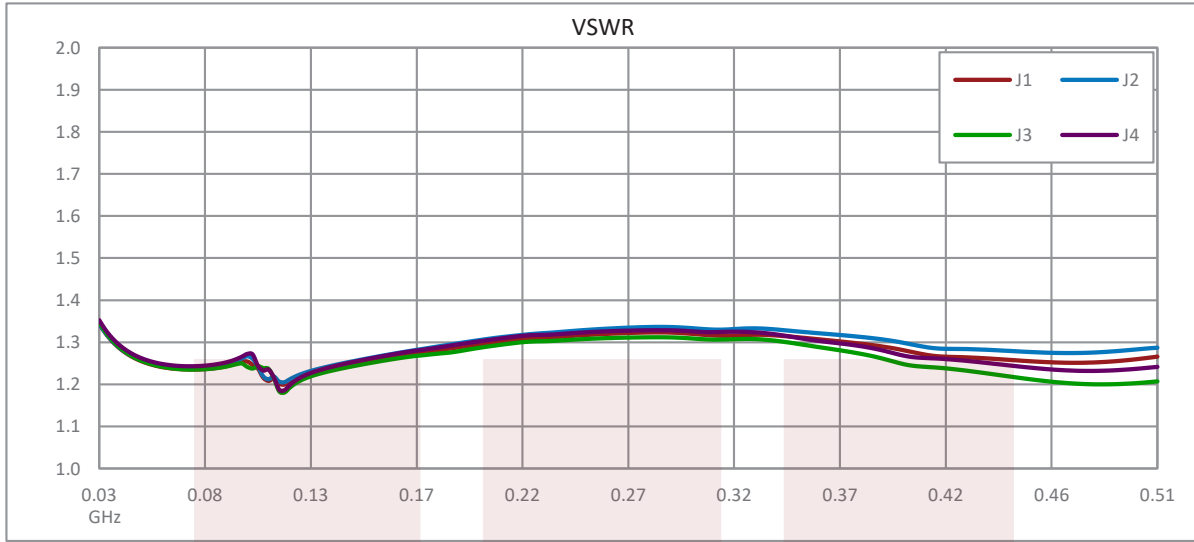
**Plotted and Other Data**

Notes:



**Typical Performance Data**





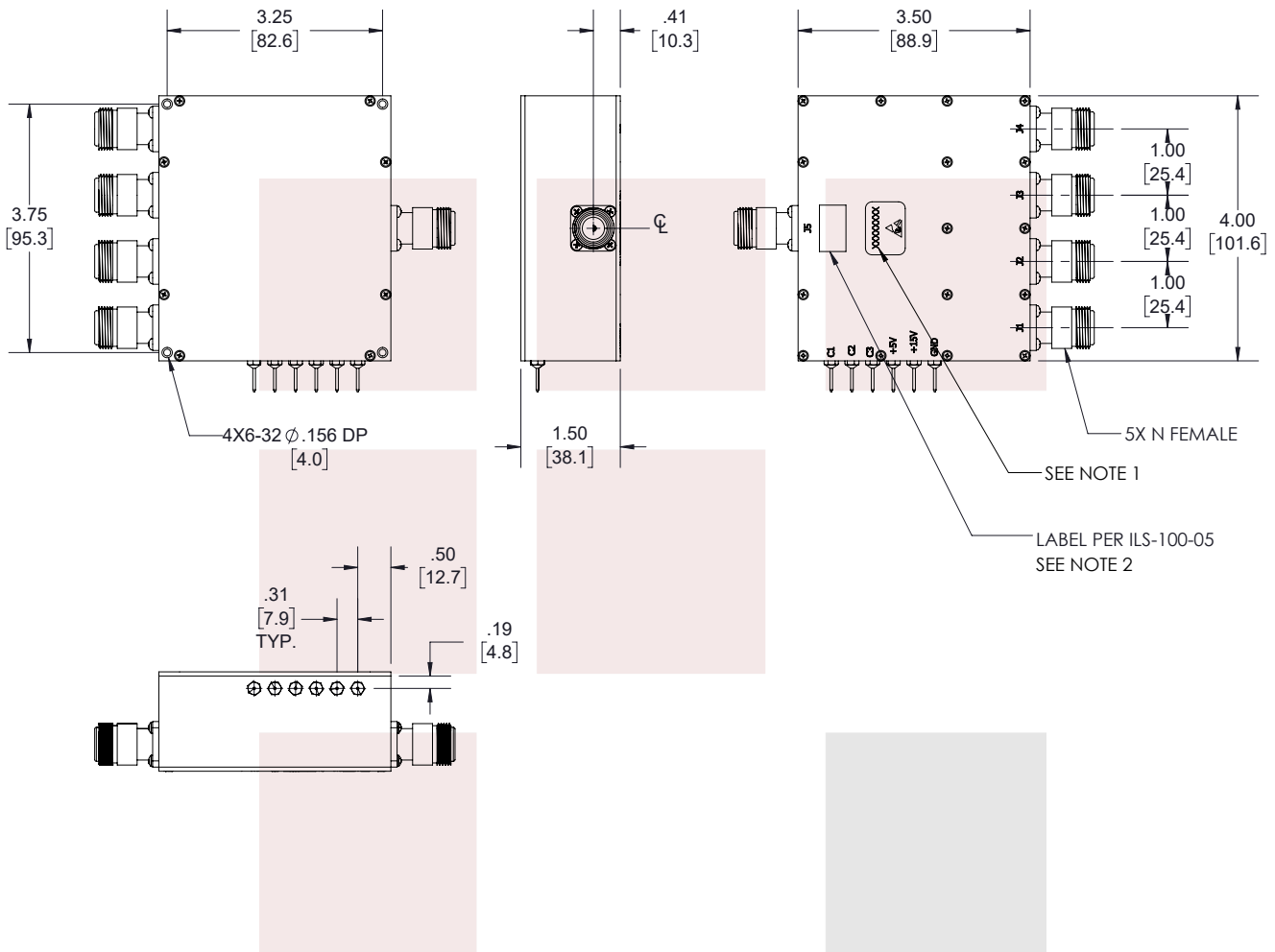
N SP4T High Power PIN Diode Switch From 30MHz to 512 MHz Rated at 200 Watts from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [N SP4T High Power PIN Diode Switch From 30MHz to 512 MHz Rated at 200 Watts FMSW8003](https://www.fairviewmicrowave.com/n-sp4t-high-power-pin-diode-switch-from-30-mhz-to-512-mhz-rated-at-200-watts-fmsw8003)

URL: <https://www.fairviewmicrowave.com/n-sp4t-high-power-pin-diode-switch-from-30-mhz-to-512-mhz-rated-at-200-watts-fmsw8003-p.aspx>

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REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	14-08-2021	TGALLA



**NOTES:**

- SERIAL NUMBER AND DATE CODE ARE COMBINED. EX: 202008280001.
- LABEL PER ILS-100-05. FOR INTERNAL REFERENCE ONLY. LABEL LOCATION SHOULD BE SAME AS SHOWN.

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	TOLERANCES:		CABLE LENGTH (L) TOLERANCES:		
.X = ±.2 [5.08] FRACTIONS ± 1/32 .XX = ±.02 [.51] ANGLES ± 1° .XXX = ±.005 [.13]		L ≤ 12 [305] = +1 [25] / -0 12 [305] < L ≤ 60 [1524] = +2 [51] / -0 60 [1524] < L ≤ 120 [3048] = +4 [102] / -0 120 [3048] < L ≤ 300 [7620] = +6 [152] / -0 300 [7620] < L = +5%L / -0		THE INFORMATION AND DESIGN IN THIS DOCUMENT IS THE PROPERTY OF FAIRVIEW MICROWAVE CORPORATION. ALL RIGHTS RESERVED.	
TITLE N SP4T High Power PIN Diode Switch From 30MHz to 512 MHz Rated at 200 Watts		ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.		SHEET 1 OF 1 SCALE N/A	
SIZE A	CAGE CODE 3FKR5	DRAWN BY MVEERAPPAN	ITEM NO. FMSW8003	REV A	

T-Rev.D