

SMA SPDT High Power PIN Diode Switch

From 100 MHz to 500 MHz Rated at 100 Watts for Hot Switching

The FMSW8004 is a Single Pole Double Throw (SPDT) High Power PIN Diode Switch that operates over the frequency range of 100 MHz to 500 MHz. The 50 ohm reflective design supports TTL control logic and is rated for cold switching up to 100 watts average power and 500 watts peak power (1 usec pulse width). The switch also supports up to 100 watts average power for hot switching (reference conditions in spec table). Impressive typical performance includes 0.3 dB insertion loss, 65 dB isolation, 40 microsecond switching speed, and 1.1:1 VSWR. Operating voltages are +12Vdc to +15Vdc @ 250 mA nominal and +5 Vdc @ 40 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 J1-COM
 On/Low Loss: 2 to 5 V J2-COM
 Off port is reflective

Description	Min	Typ	Max	Units
Frequency Range	100		500	MHz
Impedance		50		Ohms
VSWR		1.2:1	1.25:1	
Insertion Loss		0.3	0.5	dB
Isolation	55	65		dB
Switching Time*			40	us
Positive Operating Voltage		15		Vdc
Positive Operating Voltage 2		5		Vdc
Current @ 15 Vdc		250		mA
Current @ 5 Vdc		40		mA
Operating Temperature	-20		+70	deg C

Electrical Specification Notes:

*Switching Speed: 50% TTL to 10% or 90% RF

**If switch rate exceeds 1000 cycles per second, external heat sinking will be required to maintain a maximum case temperature of +70°C

Description	Min	Typ	Max	Units
Average Power (Cold Switch)			100	Watts
Average Power (Hot Switch)**			100	Watts
Input Power (Peak) 1 usec pulse width			500	Watts

Mechanical Specifications

Weight 0.7 lbs [317.51 g]
 Design SPDT



Features:

- Single Pole Double Throw (SPDT) High Power PIN Diode Switch
- Frequency Range 100 MHz to 500 MHz
- Reflective Design
- TTL Control Logic
- Cold Switching up to 100 Watts Average Power and 500 Watts Peak Power
- Hot Switching up to 100 Watts Average Power
- Insertion Loss 0.3 dB typ
- Isolation 65 dB typ
- VSWR 1.2:1
- Switching Speed 40 microseconds max
- Operating Voltages +12 Vdc to +15 Vdc @ 250 mA and +5 Vdc @ 40 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
- Microwave Radio Systems
- Radar Systems
- Test & Measurement
- Research & Development
- RF Wideband Front Ends

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RF Connector
Control Connector

N Female
Solder Pin

Environmental Specifications

Temperature

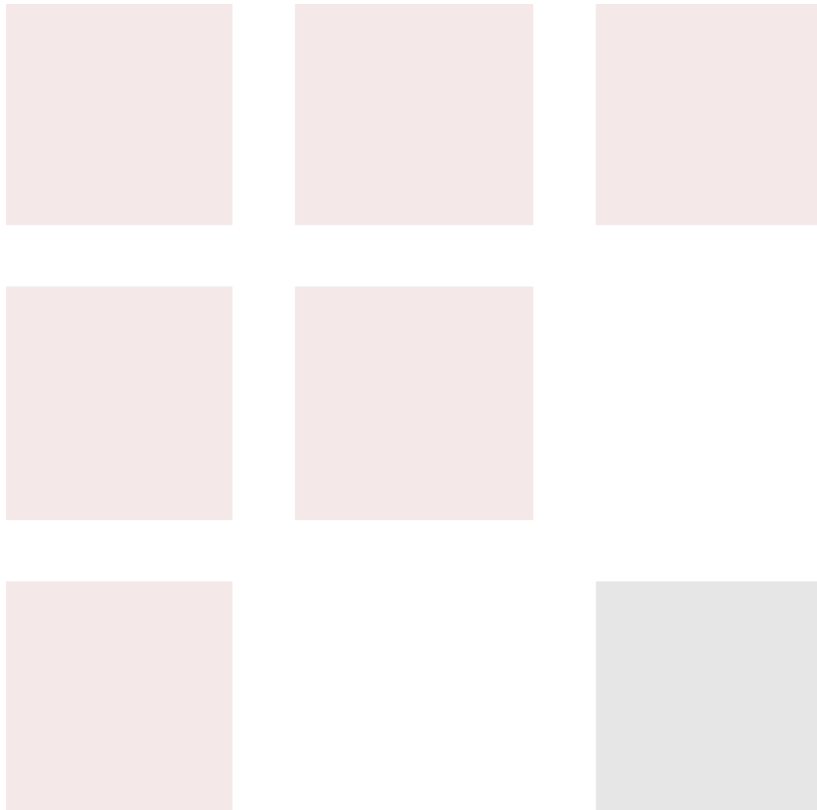
Operating Range
Storage Range

-20 to +70 deg C
-55 to +85 deg C

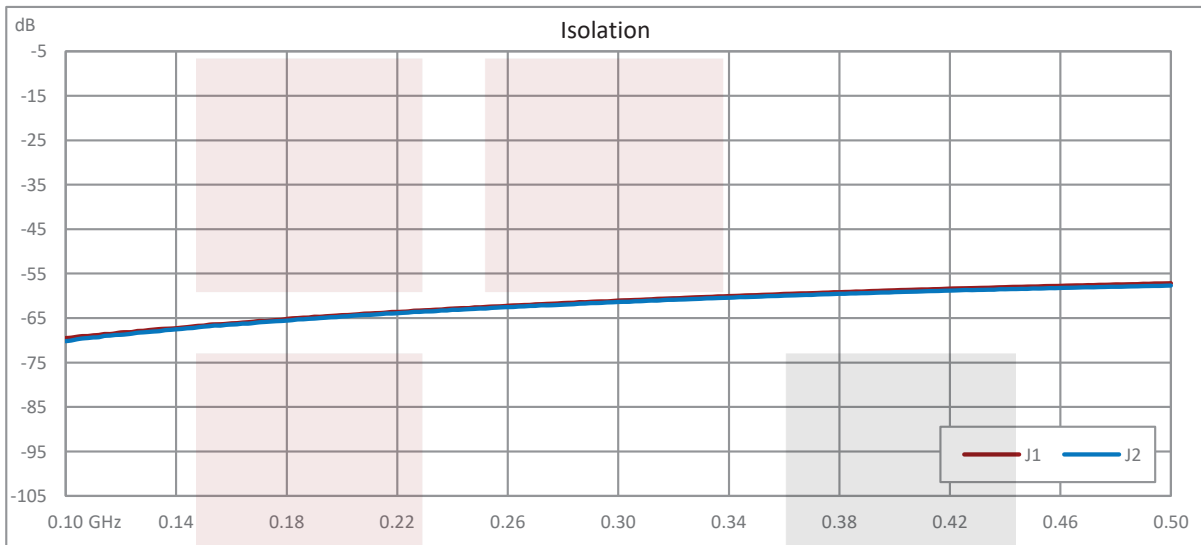
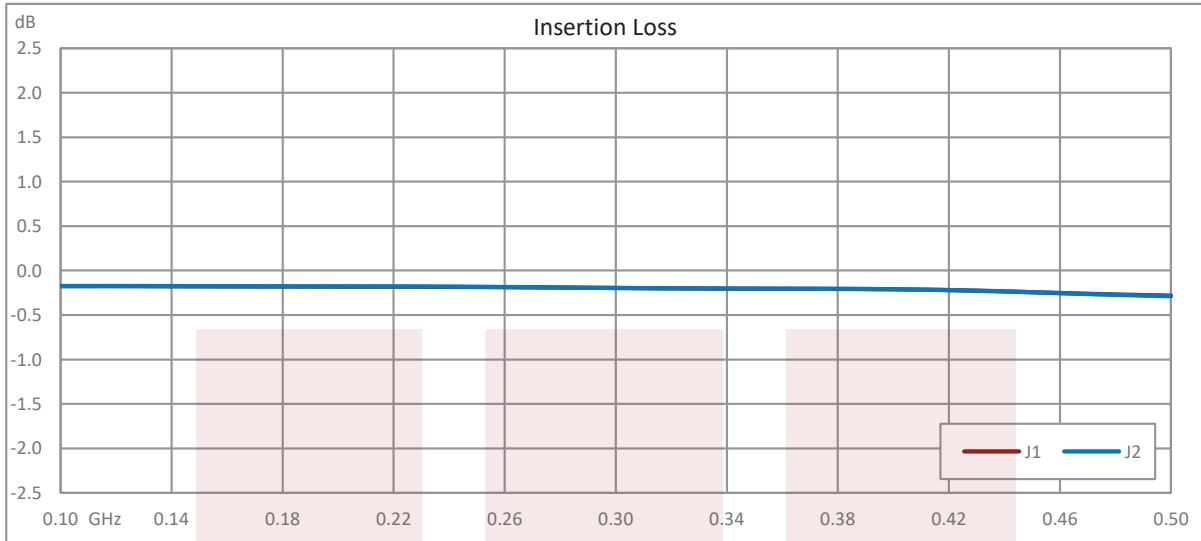
Compliance Certifications (see [product page](#) for current document)

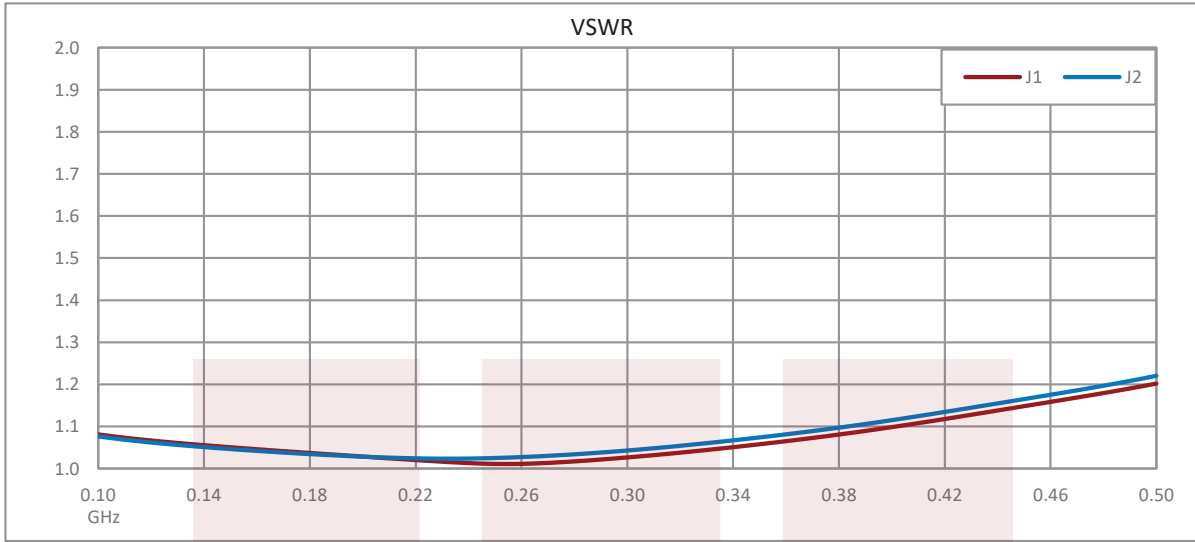
Plotted and Other Data

Notes:



Typical Performance Data



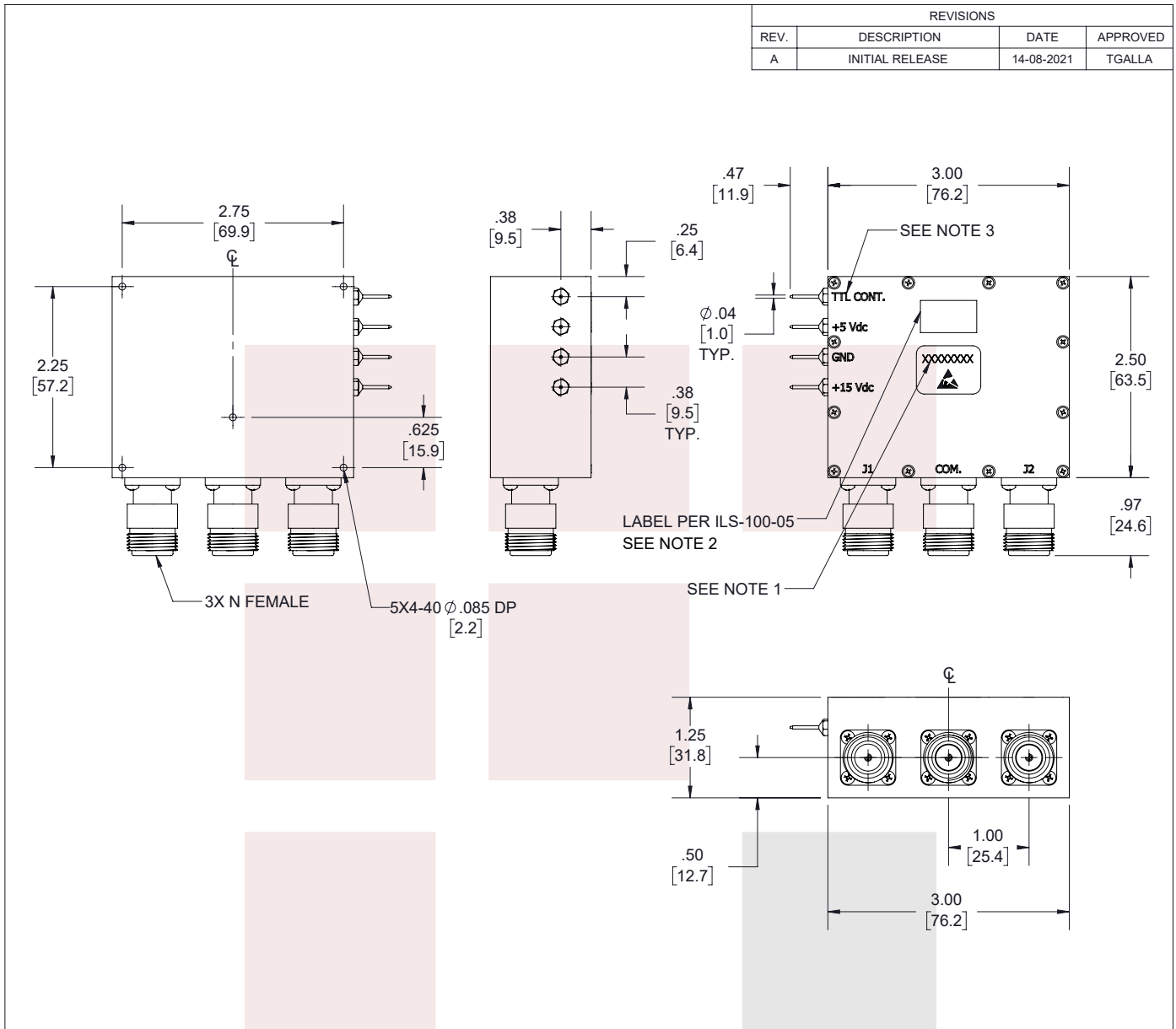


SMA SPDT High Power PIN Diode Switch From 100 MHz to 500 MHz Rated at 100 Watts for Hot Switching from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SMA SPDT High Power PIN Diode Switch From 100 MHz to 500 MHz Rated at 100 Watts for Hot Switching FMSW8004](#)

URL: <https://www.fairviewmicrowave.com/sma-spdt-high-power-pin-diode-switch-from-100-mhz-to-500-mhz-rated-at-100-watts-for-hot-switching-fmsw8004-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.
- TTL LOW= COMMON TO J1, TTL HIGH= COMMON TO J2

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	<p>TOLERANCES:</p> <p>.X = ± 2 [5.08] FRACTIONS ± 1/32 .XX = ± 0.2 [5.1] ANGLES ± 1° .XXX = ± 0.005 [0.13]</p>		<p>CABLE LENGTH (L) TOLERANCES:</p> <p>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</p>	
<p>TITLE</p> <p>SMA SPDT High Power PIN Diode Switch From 100 MHz to 500 MHz Rated at 100 Watts for Hot Switching</p>				
<p>ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.</p>				
SIZE	CAGE CODE	DRAWN BY	ITEM NO.	REV.
A	3FKR5	MVEERAPPAN	FMSW8004	A
<p>SHEET 1 OF 1</p>			<p>SCALE N/A</p>	

T-Rev.D