



SMA Reflective SPDT GaN High Power PIN Diode Switch from DC to 18 GHz Rated at 10 Watts 50ns Speed with Heatsink

The FMSW1107 is a high power Reflective SPDT PIN Diode Switch that operates from DC to 18 GHz and incorporates an integrated heatsink to ensure optimum thermal dissipation for highly reliable operation. The module utilizes Gallium Nitride (GaN) and chip-and-wire technology in the manufacturing process that ensures state-of-the-art power performance with excellent power-to-volume ratio that's ideal for broadband high power applications. The 50 ohm reflective design has impressive RF input power handling capability for cold switching up to +40 dBm, and incorporates TTL compatible driver circuitry for accurate logic control. Typical performance includes 1.3 dB insertion loss, 35 dB isolation, 1.6:1 VSWR, and 50 nsec switching speed. Operational temperature range is -45°C to +85°C and the bias voltage requirement is +5Vdc. The rugged and compact package supports SMA female connectors and is designed to meet a series of environmental conditions including Altitude, Vibration, Humidity, and Shock.

Electrical Specifications

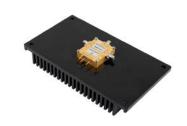
TTL Control Logic Off/Isolation: 0 to 0.8 V On/Low Loss: 2.8 to 5 V

Description	Min	Тур	Max	Units
Frequency Range	DC		18	GHz
Impedance		50		Ohms
VSWR		1.6:1	2:1	
Insertion Loss		1.3	2.3	dB
IL Temp. Coefficient		0.003		dB/degC
Isolation	23	35		dB
Switching Time		50	100	ns
P0.1dB		40		dBm
Input IP3		55		dBm
Input Power (CW)			10	Watts
DC Power Dissipation		0.5		
Watt				
Positive Operating Voltage		5		Vdc
Current @ 5 Vdc		100		mA
Operating Temperature	-45		+85	deg C

Performance by Frequency

Description	F1	F2	F3	F4	F5	Units
Frequency Range	DC to 6	6 to 12	12 to 18			GHz
VSWR, Max	1.3:1	1.8:1	2:1			
VSWR, Typ	1.15:1	1.6:1	1.6:1			
Insertion Loss, Ma	x 1.3	1.8	2.3			dB
Insertion Loss, Typ	o 0.8	1.3	1.7			dB
Isolation, Min	40	30	23			dB
Isolation, Typ	45	35	25			dB

Electrical Specification Notes:



Features:

- Reflective SPDT High Power PIN Diode Switch
- GaN Semiconductor Technology
- · Reflective Design
- Frequency Range: DC to 18 GHz
- Insertion Loss: 1.3 dB typ
- Isolation: 35 dB typ
- VSWR: 1.6:1 typMaximum RF Input
- Maximum RF Input
 Power: +40 dBm
- Input IP3: 55 dBm typ
- Switching Speed: 50 nsec typ
- TTL Compatible Driver Circuitry
- 50 Ohm Design
- SMA Female Connectors
- Compact Package Design withstands up to 95% Relative Humidity
- -45°C to +85°C Operating Temperature

Applications:

- Aerospace & Defense
- Microwvae Radio
- Military & Commercial Communication
- VSAT
- SATCOM
- Test & Measuurement
- Wireless Infrastructure
- · Fiber Optics

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Note that below 100 Mhz the power handling capability is reduced by 6 dB and the noise figure will increase above IL Internal TTL Driver will become damaged if Negative Voltage is applied

*Cold Switching: Before changing any TTL signal(s), the RF input power must be blanked or the switch could become damaged

Absolute Maximum Rating

Parameter	Rating			
Biasing	+5V±10%			
TTL Control Voltage	0~0.8V/2.8~5V			



ESD Sensitive Material,
Transport material in
Approved ESD bags.
Handle only in approved
ESD Workstation.

Mechanical Specifications

 Length
 1.57 in [39.88 mm]

 Width
 1.34 in [34.04 mm]

 Height
 0.37 in [9.4 mm]

 Weight
 1.67 lbs [757.5 g]

 Design
 Reflective, SPDT

 RF Connector
 SMA Female

Environmental Specifications

Temperature

Operating Range -45 to +85 deg C Storage Range -55 to +125 deg C

Humidity 100% RH @ 35°C, 95% RH @ 40°C

Shock 20G for 11ms Half Sinewave, 3 axis both directions Vibration 25g RMS (15° 2KHz) endurance, 1 hr per axis Altitude 30,000 ft. (Epoxy Sealed Controlled Environment)

Compliance Certifications (see product page for current document)

Plotted and Other Data

Notes:

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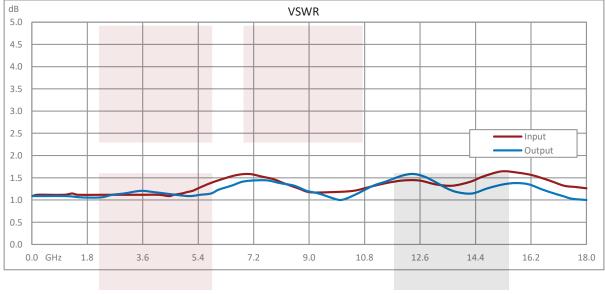
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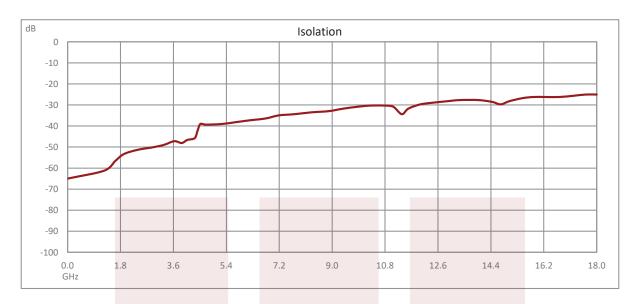
Typical Performance Data











SMA Reflective SPDT GaN High Power PIN Diode Switch from DC to 18 GHz Rated at 10 Watts 50ns Speed with Heatsink 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 Reflective SPDT GaN High Power PIN Diode Switch from DC to 18 GHz Rated at 10 Watts 50ns Speed with Heatsink FMSW1107

URL: https://www.fairviewmicrowave.com/sma-spdt-pin-diode-switch-18-ghz-10-watts-fmsw1107-p.aspx

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