

## Field Replaceable SMA Frequency Divider Divide by 5 Prescaler Module Operating from 500 MHz to 8 GHz

The FMFD5000 is a low noise Divide-by-5 Static Prescaler Module that covers a wide input frequency bandwidth from 0.5 GHz to 8 GHz. The design utilizes advanced GaAs HBT MMIC semiconductor technology that produces low additive SSB phase noise performance with a typical level of -155 dBc/Hz at 100 kHz offset. Additional typical performance includes an output power level of -1 dBm and reverse leakage up to 58 dB. Input/output ports are matched for 50 ohms and are DC blocked. The design requires a single +5V DC supply. The compact drop-in package is RoHS compliant and hermetically sealed with field replaceable SMA connectors. And for added confidence, this rugged package assembly is designed to meet MIL-STD-883 test conditions for Hermeticity and Temperature Cycle.



### Electrical Specifications (TA= 25°C, Vd1 = 5 Vdc, Id1 = 80 mA)

Description	Min	Typ	Max	Units
Input Frequency (Sine Wave)	0.5		8	GHz
Impedance		50		Ohms
Input Power (CW)	-20			dBm
Output Power	-4	-1		dBm
Reverse Leakage		58		dB
Operating DC Voltage 1		5		V
Operating DC Current 1		80		mA

### Mechanical Specifications

Size	
Length	0.64 in [16.26 mm]
Width	0.59 in [14.99 mm]
Height	0.29 in [7.37 mm]
Body Material and Plating	Nickel, Gold
Input Connector	Field Replaceable SMA Female
Output Connector	Field Replaceable SMA Female
Power Supply Connector	Solder Pin

### Environmental Specifications

Temperature	
Operating Range	-55 to +85 deg C
Storage Range	-65 to +150 deg C
Temperature Cycling	MIL-STD-883, Method 101C, Cond B
Hermetic Seal	Gross Leak MIL-STD-883 Method 1014C1/Fine Leak MIL-STD-883, Method 1014A2, 5 x 10 <sup>-8</sup> atm cc
ESD Sensitivity	ESD Class 1A Material, Transport in Approved ESD bags. Handle only in approved ESD Workstation.



### Features:

- Divide by 5 Prescaler
- Wide Frequency Band
- GaAs HBT MMIC Technology
- Low Phase Noise -155 dBc/Hz @ 100 kHz offset
- Output Power -1 dBm
- Low Reverse Leakage Level 58 dB typical
- Single +5V Bias Voltage
- Integrated DC Blocking Capacitors
- Hermetically Sealed Module
- Mil Spec Compliant
- Field Replaceable SMA Connectors
- -55°C to +85°C Operating Temperature

### Applications:

- Electronic Warfare
- Electronic Countermeasures
- Point-To-Point Radio
- Point-To-Multipoint Radio
- VSAT Radios
- Fiber Optic
- Space Systems
- Test Instrumentation
- Telecom Infrastructure

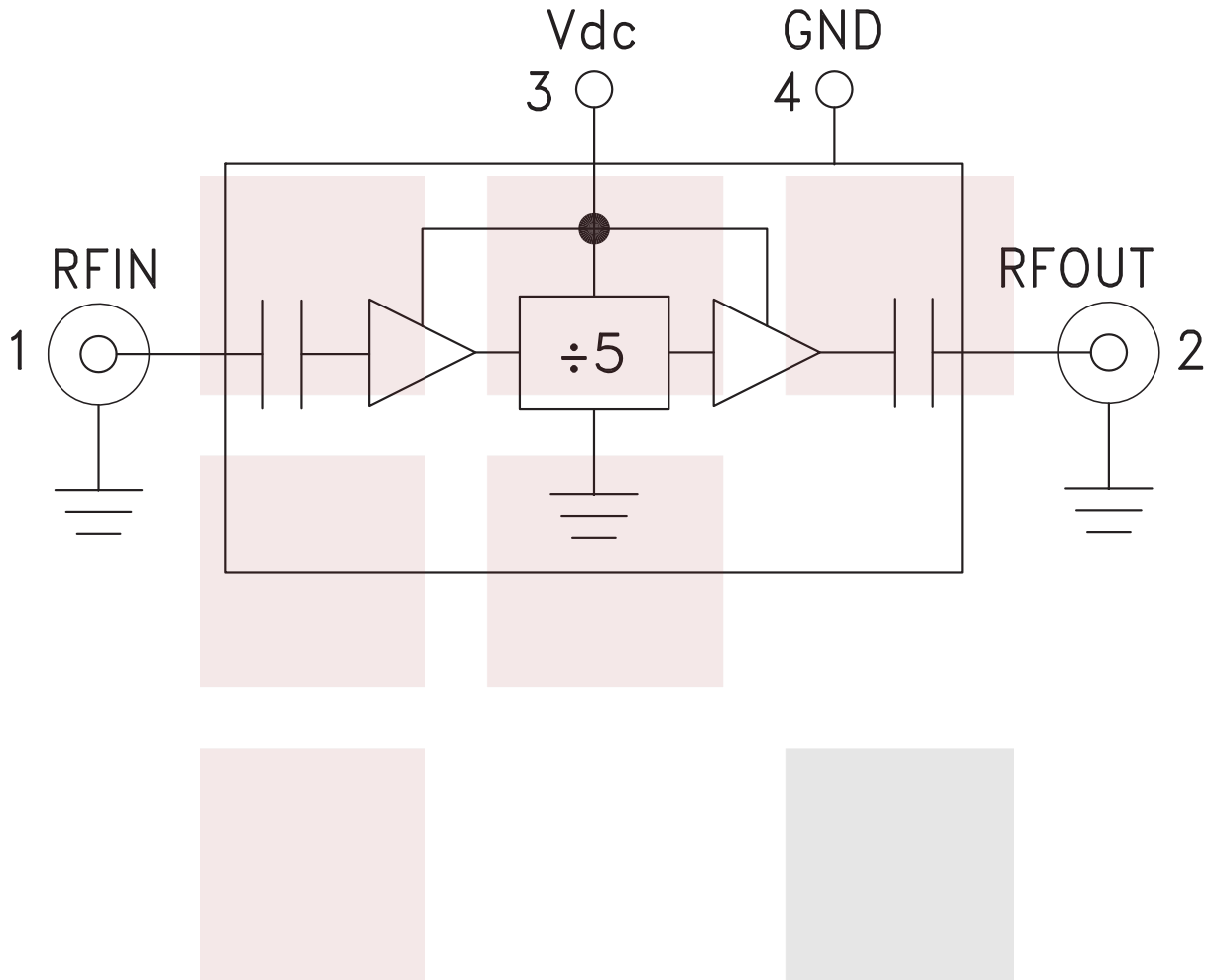
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**Compliance Certifications** (see [product page](#) for current document)

**Plotted and Other Data**

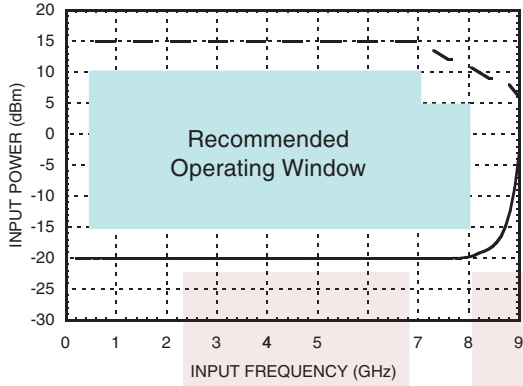
Notes:

**Functional Block Diagram**

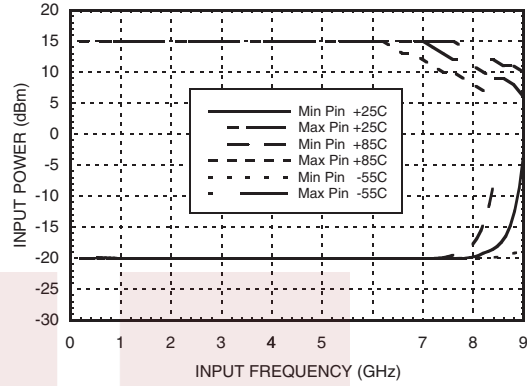


**Typical Performance Data**

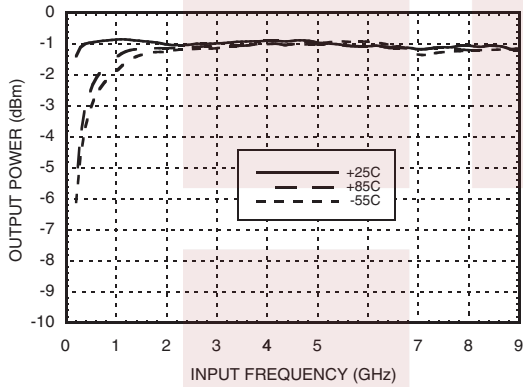
**Input Sensitivity Window, T= 25 °C**



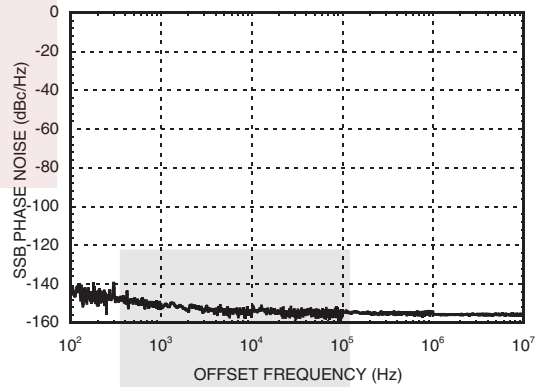
**Input Sensitivity vs. Temperature**



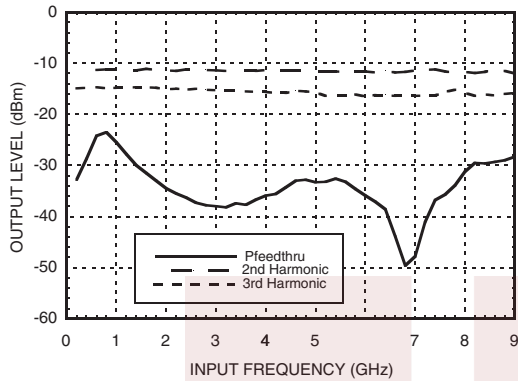
**Output Power vs. Temperature**



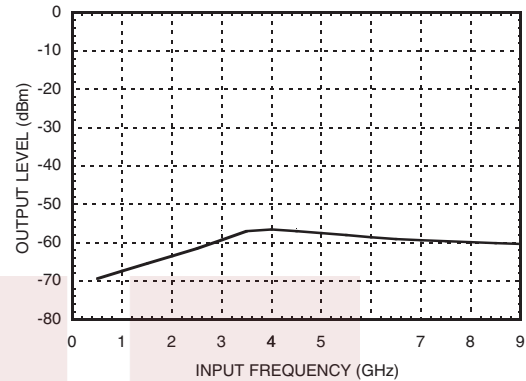
**SSB Phase Noise Performance, Pin= 0 dBm, T= 25 °C**



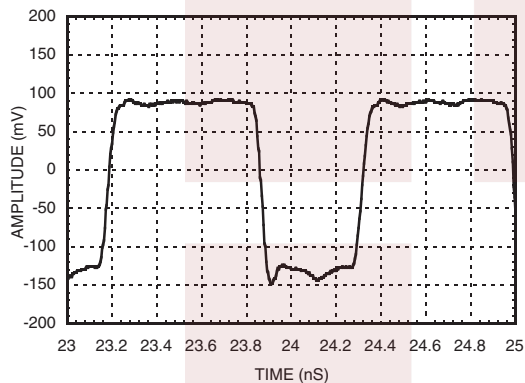
**Output Harmonic Content,**  
 **$P_{in} = 0 \text{ dBm}$ ,  $T = 25 \text{ }^\circ\text{C}$**



**Reverse Leakage,  $P_{in} = 0 \text{ dBm}$ ,  $T = 25 \text{ }^\circ\text{C}$**



**Output Voltage Waveform,**  
 **$P_{in} = 0 \text{ dBm}$ ,  $F_{out} = 882 \text{ MHz}$ ,  $T = 25 \text{ }^\circ\text{C}$**

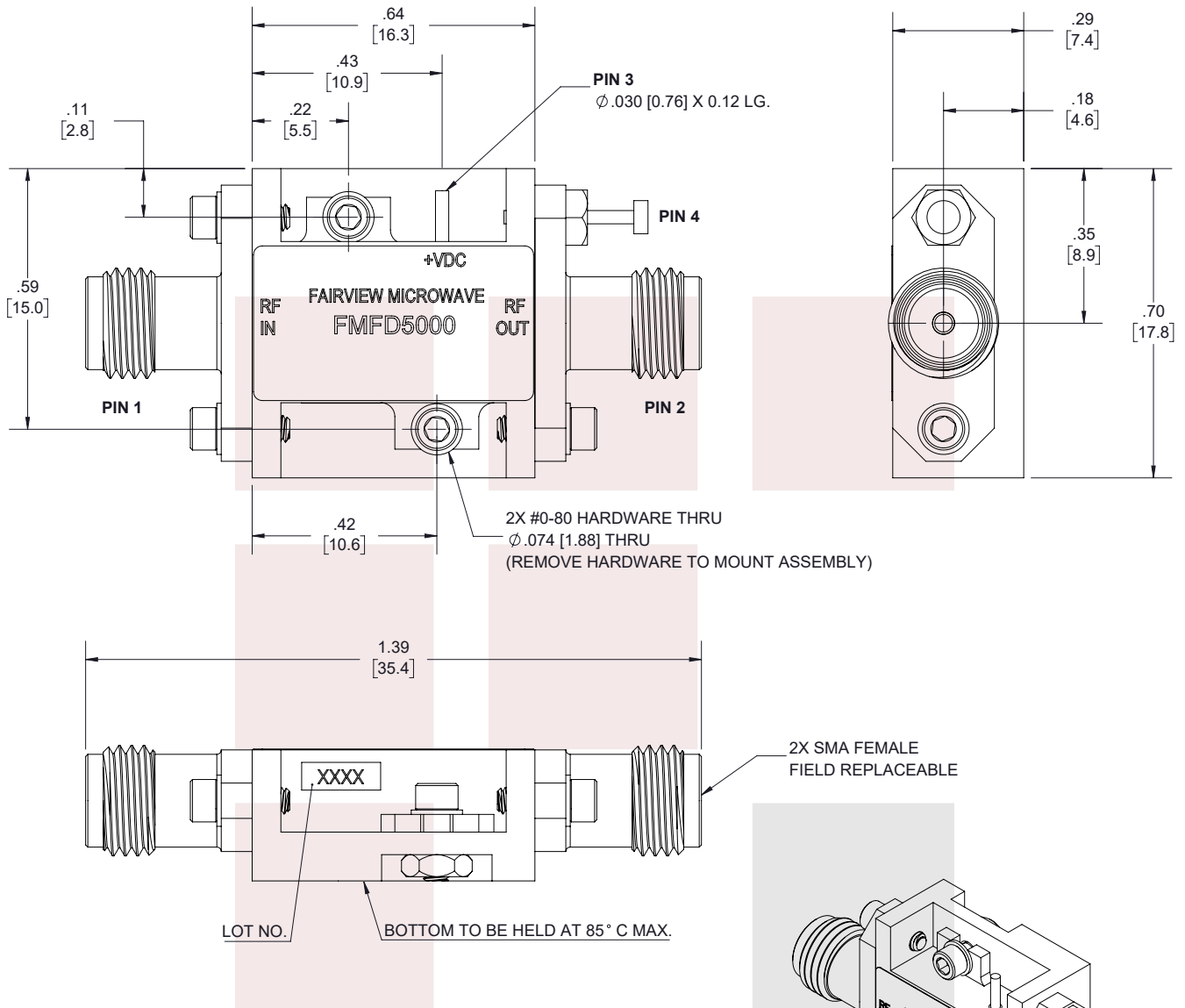


Field Replaceable SMA Frequency Divider Divide by 5 Prescaler Module Operating from 500 MHz to 8 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Allen, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [Field Replaceable SMA Frequency Divider Divide by 5 Prescaler Module Operating from 500 MHz to 8 GHz FMFD5000](#)

URL: <https://www.fairviewmicrowave.com/sma-frequency-divider-divide-5-prescaler-module-500-mhz-8-ghz-fmfd5000-p.aspx>

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STANDARD TOLERANCES	
.X	$\pm 0.2$
.XX	$\pm 0.01$
.XXX	$\pm 0.005$

\*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

		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].	
<b>TITLE</b> Field Replaceable SMA Frequency Divider Divide by 5 Prescaler Module Operating from 500 MHz to 8 GHz		<b>DWG NO</b> FMFD5000	<b>CAGE CODE</b> 3FKR5
<b>CAD FILE</b> 05/29/18	<b>SHEET</b> 1 OF 2	<b>SCALE</b> N/A	<b>SIZE</b> A 7361