

SMA Frequency Divider Divide by 12 Prescaler Module Operating from 100 MHz to 13 GHz

The FMFD12000 is a coaxial packaged Frequency Divider module that operates across a wide input frequency range from 100 MHz to 13 GHz and supports a divide ratio of 12. Output Frequency is 8 MHz to 1.08 GHz. Impressive broadband typical performance of this Prescaler includes output power of -1 dBm and SSB phase noise of -145 dBc/Hz at 100 kHz offset. This exceptional technical performance is achieved through the use of a hybrid MIC PCB solder assembly which is RoHS and REACH compliant. This frequency divider design requires +12 Vdc typical bias voltage, operates over maximum temperature range of -40°C to +85°C, and has an absolute maximum rating for input power of +13 dBm. The rugged and compact package supports SMA Female connectors, RFI and Ground Pins. For highly reliable operation, the model is guaranteed to meet MIL-STD-202 environmental test conditions for Humidity, Shock, Vibration, and Altitude.

Electrical Specifications (TA= 25°C, Vd1 = 12 Vdc, Id1 = 185 mA)

| Description | Min | Typ | Max | Units |
|---------------------------------------|-------|------|------|--------|
| Input Frequency (Sine Wave) | 0.1 | | 13 | GHz |
| Output Frequency (Square Wave Output) | 0.008 | | 1.08 | GHz |
| Phase Noise @100kHz Offset | | -145 | | dBc/Hz |
| Operating DC Voltage 1 | 9 | 12 | 15 | V |
| Operating DC Current 1 | | 185 | 200 | mA |

Performance by Frequency

| Description | F1 | F2 | F3 | F4 | F5 | Units |
|------------------------|----------|---------|----------|----------|----|-------|
| Frequency Range | 0.1 to 1 | 1 to 10 | 10 to 12 | 12 to 13 | | GHz |
| Input Power (CW), Max | 10 | 10 | 3 | 3 | | dBm |
| Input Power (CW), Typ | 0 | 0 | 0 | 0 | | dBm |
| Input Power (CW), Min | -1 | -15 | -10 | -5 | | dBm |
| Output Power (CW), Typ | -2 | -1 | -1 | -1 | | dBm |
| Output Power (CW), Min | -4 | -4 | -4 | -4 | | dBm |

Mechanical Specifications

| Size | |
|------------------|--------------------|
| Length | 1.25 in [31.75 mm] |
| Width | 1.25 in [31.75 mm] |
| Height | 0.563 in [14.3 mm] |
| Output Connector | SMA Female |

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:

- Wide Input Frequency Range: 100 MHz to 13 GHz
- Divide-by-12 Prescaler
- Output Frequency 8 MHz to 1.08 GHz
- Output Power: -1 dBm typical
- Low SSB Phase Noise: -145 dBc/Hz @ 100 KHz offset typical
- RoHS & REACH Compliant Assembly
- Bias Voltage: +12 Vdc
- Operational Temperature Range: -40°C to +85°C
- Compact SMA Connectorized Package
- Designed to meet MIL-STD-202 Test Conditions

Applications:

- PLL Applications
- Test Instrumentation
- Countermeasures
- Point to Point Microwave Radio
- SATCOM
- MILCOM
- Base Stations

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Vibration
Altitude

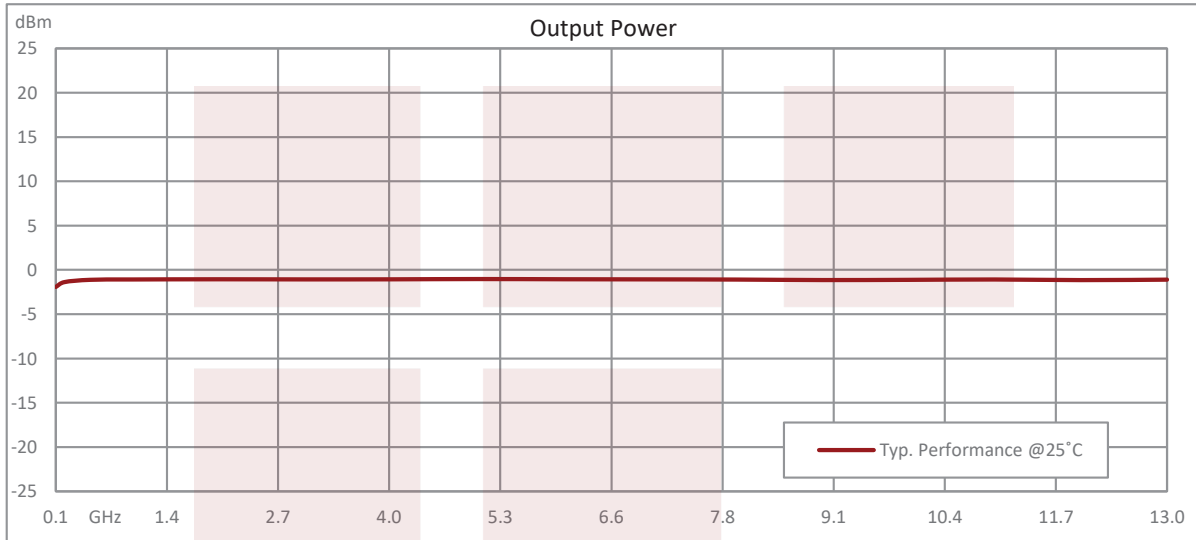
MIL-STD-202F, Method 204D, Condition B
MIL-STD-202F, Method 105C, Condition B

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

Plotted and Other Data

Notes:

Typical Performance Data

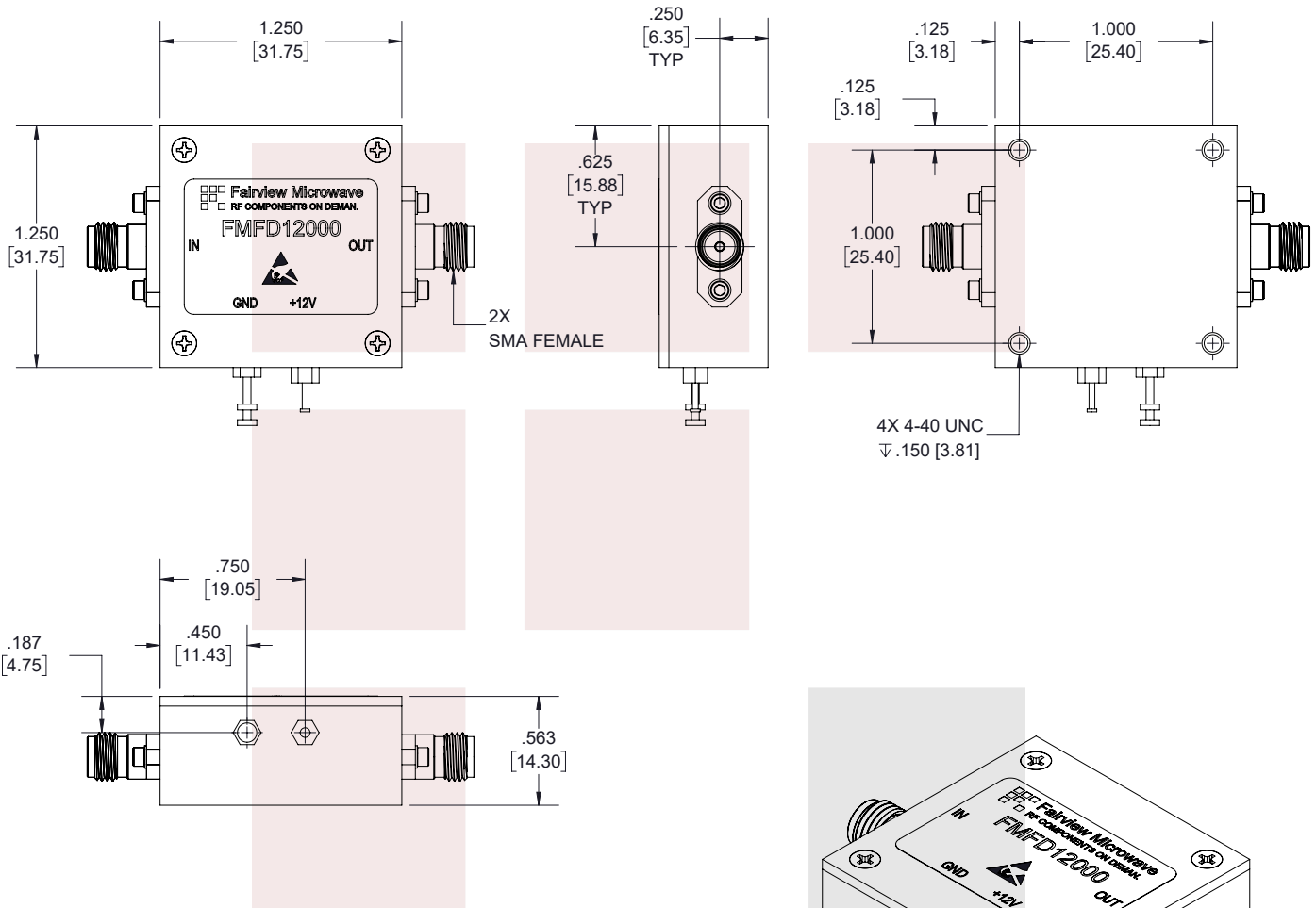


SMA Frequency Divider Divide by 12 Prescaler Module Operating from 100 MHz to 13 GHz from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [SMA Frequency Divider Divide by 12 Prescaler Module Operating from 100 MHz to 13 GHz FMFD12000](#)

URL: <https://www.fairviewmicrowave.com/sma-frequency-divider-divide-12-prescaler-module-100-mhz-13-ghz-fmfd12000-p.aspx>

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or the documentation of the part, in order to implement improvements. Fairview Microwave reserves the right to make such changes as required. Unless otherwise stated, all specifications are nominal. Fairview Microwave does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Fairview Microwave does not assume any liability arising out of the use of any part or documentation.



| STANDARD TOLERANCES | |
|---------------------|--------|
| .X | ±0.2 |
| .XX | ±0.01 |
| .XXX | ±0.005 |

*STANDARD TOLERANCES APPLY ONLY TO DIMENSIONS IN INCHES

| | | | | | | |
|--|----------|---|--------|-----------|-----|------|
| <p>Fairview Microwave an INFINIT[®] brand</p> | | <p>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].</p> | | | | |
| TITLE | | DWG NO | | CAGE CODE | | |
| SMA Frequency Divider Divide by 12 Prescaler Module Operating from 100 MHz to 13 GHz | | FMFD12000 | | 3FKR5 | | |
| CAD FILE | 04/26/18 | SHEET | 1 OF 1 | SCALE | N/A | SIZE |
| | | | | | | 7361 |