



# Frequency Divider, Divide by 4 Prescaler Module, 100 MHz to 20 GHz, SMA

## Frequency Dividers Technical Data Sheet

PE88D4002

### Features

- Wide Input Frequency Range: 100 MHz to 20 GHz
- Divide-by-4 Prescaler
- Output Frequency 25 MHz to 5 GHz
- Output Power: +3 dBm typical
- Low SSB Phase Noise: -153 dBc/Hz @ 100 KHz offset typical
- RoHS & REACH Compliant Assembly
- Bias Voltage: +5 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

### Description

The PE88D4002 is a coaxial packaged Frequency Divider module that operates across a wide input frequency range from 100 MHz to 20 GHz and supports a divide ratio of 4. Output Frequency is 25 MHz to 5 GHz. Impressive broadband typical performance of this Prescaler includes output power of +3 dBm, SSB phase noise of -153 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 +5 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 = 5 Vdc, Id1 = 170 mA)

| Description                           | Minimum | Typical | Maximum | Units  |
|---------------------------------------|---------|---------|---------|--------|
| Input Frequency (Sine Wave)           | 0.1     |         | 20      | GHz    |
| Output Frequency (Square Wave Output) | 0.025   |         | 5       | GHz    |
| Output Power                          | -1      | 5       |         | dBm    |
| Phase Noise @100kHz Offset            |         | -153    |         | dBc/Hz |
| Operating DC Voltage 1                |         | 5       |         | V      |
| Operating DC Current 1                |         | 170     |         | mA     |

### Performance by Frequency

| Description           | F1          | F2        | F3      | F4       | F5       | Units |
|-----------------------|-------------|-----------|---------|----------|----------|-------|
| Frequency Range       | 0.1 to 0.25 | 0.25 to 1 | 1 to 10 | 10 to 18 | 18 to 20 | GHz   |
| Input Power (CW), Max | 10          | 10        | 10      | 10       | 10       | dBm   |
| Input Power (CW), Min | 5           | -2        | -16     | -12      | -9       | dBm   |

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: [Frequency Divider, Divide by 4 Prescaler Module, 100 MHz to 20 GHz, SMA PE88D4002](#)



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### Mechanical Specifications

#### Size

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

Vibration

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

Altitude

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

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

### Plotted and Other Data

Notes:

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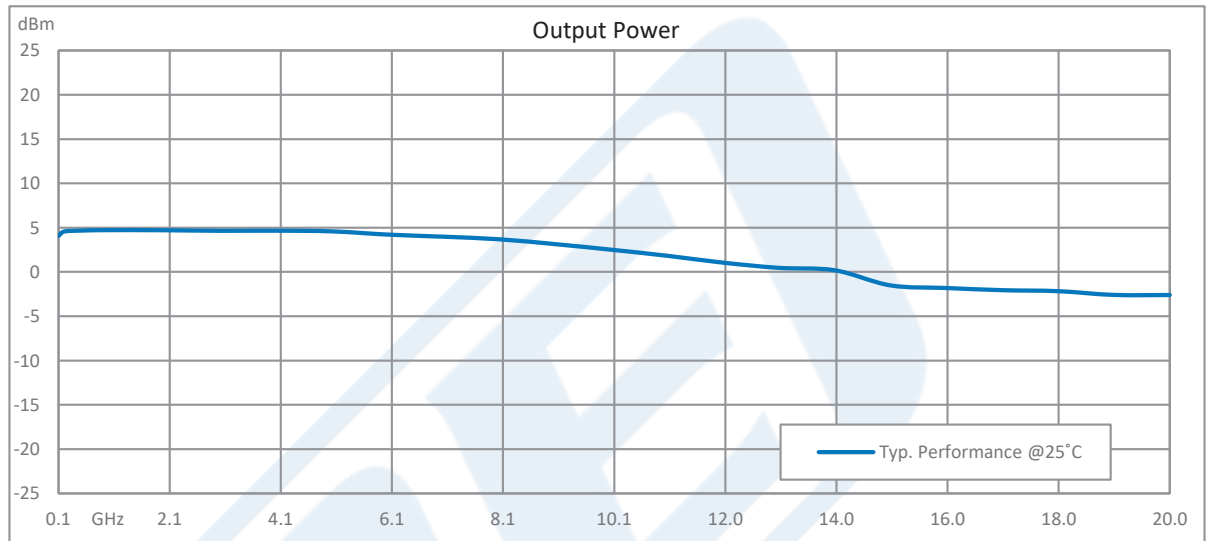


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### Typical Performance Data



Frequency Divider, Divide by 4 Prescaler Module, 100 MHz to 20 GHz, SMA from Pasternack Enterprises has same day shipment for domestic and International orders. Our RF, microwave and millimeter wave products maintain a 99.4% availability and are part of the broadest selection in the industry.

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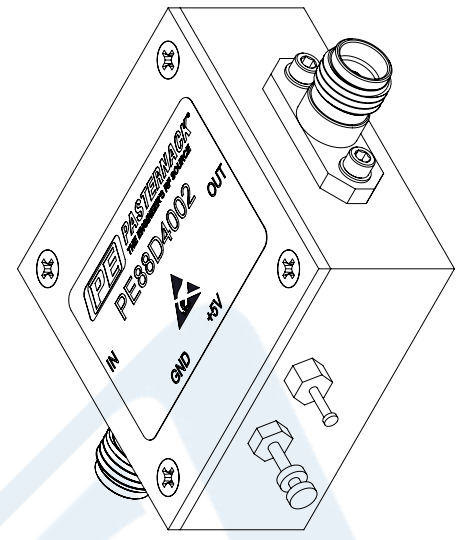
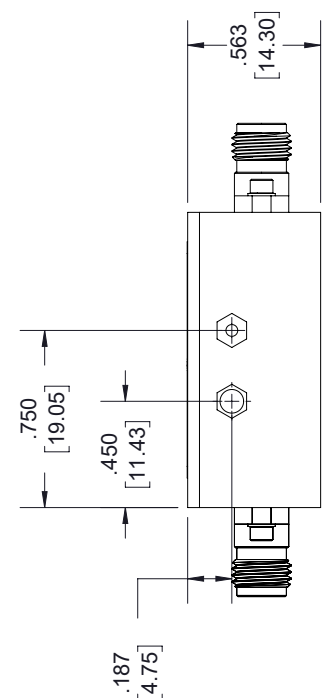
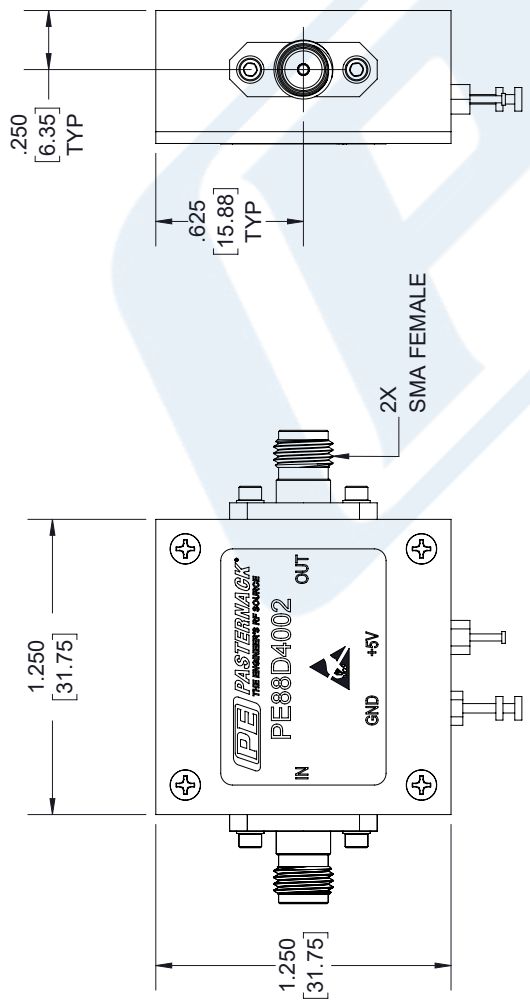
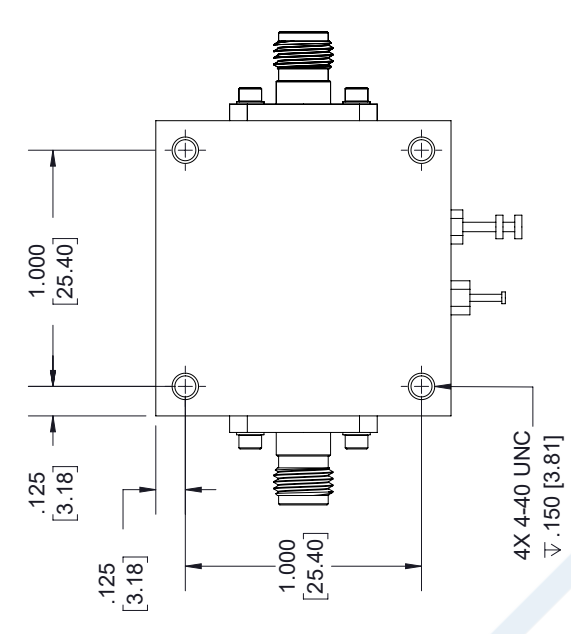
URL: <https://www.pasternack.com/frequency-divider-divide-4-prescaler-module-100-mhz-20-ghz-sma-pe88d4002-p.aspx>

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# PE88D4002 CAD Drawing

Frequency Divider, Divide by 4 Prescaler Module, 100 MHz to 20 GHz, SMA

| REVISIONS |                 |          |          |
|-----------|-----------------|----------|----------|
| REV.      | DESCRIPTION     | DATE     | APPROVED |
| A         | INITIAL RELEASE | 04/25/19 | T. GALLA |



UNLESS OTHERWISE SPECIFIED LEADING DIMENSIONS ARE INCHES DIMENSIONS IN [ ] ARE MILLIMETERS

TOLERANCES:  
 X $\pm$  2 [5.08]  
 XX $\pm$  .01 [ .25]  
 .XXX $\pm$  .005 [ .13]

FRACTIONS  
 $\pm$  1/32  
 ANGLES  $\pm$  1°

ALL DIMENSIONS SHOWN ARE FOR REFERENCE ONLY.

THIRD-ANGLE PROJECTION

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SHEET 1 OF 1  
 SCALE N/A

SIZE A  
 CAGE DRAWN BY K.DANG  
 PART NUMBER PE88D4002  
 REV A

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