

10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA

The FMPT1003 is a coaxial packaged Power Detector that operates across an ultra broadband frequency from 10 MHz to 18 GHz. The 50 Ohm design provides a positive output voltage that's proportional to the RF input signal level. Impressive performance includes high voltage sensitivity of 0.5 mV/uW typ, tangential signal sensitivity (TSS) -35 dBm typ, and low VSWR of 1.5:1 typ. The unit does not require a DC bias voltage, and has maximum RF input power handling of +23 dBm. The low profile pin package is aluminum with Gold plating and supports field replaceable SMA connectors, with a Male RF connector on the input port and a Female RF connector on the output port. With the connectors removed, the package can be drop mounted onto a PWB. The module has an operational temperature range from -40°C to +85°C and is guaranteed to meet a series of environmental test conditions for Altitude, Vibration, Humidity, and Shock.

Electrical Specifications (@ +25°C)

Description	Min	Typ	Max	Unit
Frequency Range	0.01		18	GHz
VSWR		1.5:1	1.8:1	
Voltage Sensitivity		0.5		mV/uW
Input Power			23	dBm
Tangential Signal Sensitivity (TSS)	-25	-35		dBm
Operating Temperature Range	-40		85	deg C
Output Polarity		Positive		



Features:

- Power Detector with Positive Output Slope
- 10 MHz to 18 GHz
- High Voltage Sensitivity 0.5 mV/uW typ
- Tangential Signal Sensitivity (TSS) -35 dBm typ
- VSWR 1.5:1 typ
- Maximum RF Input Power Handling +23 dBm
- No DC Bias Required
- 50 Ohm Design
- Field Replaceable SMA Connectors, Male input and Female output
- Operational Temperature Range -40°C to +85°C
- Rugged and Compact Aluminum Gold Plated Package Design
- Guaranteed Environmental Test Conditions Altitude, Vibration, Humidity, Shock

Applications:

- Test & Measurement
- Military & Commercial Communications
- Military Electronic Systems
- Research & Development

Fairview Microwave
 301 Leora Ln., Suite 100
 Lewisville, TX 75056
 Tel: 1-800-715-4396 / (972) 649-6678
 Fax: (972) 649-6689
www.fairviewmicrowave.com
sales@fairviewmicrowave.com

Mechanical Specifications

Size	
Length	0.63 in [16 mm]
Width	0.37 in [9.4 mm]
Height	0.41 in [10.41 mm]
Weight	0.01 lbs [4.54 g]
Connector 1	Field Replaceable SMA Male
Connector 2	Field Replaceable SMA Female

Environmental Specifications

Temperature	
Operating Range	-40 to +85 deg C
Storage Range	-50 to +105 deg C
Humidity	100% RH at 35 degrees C, 95% RH at 40 degrees C
Shock	20G for 11ms Half Sine Wave, 3 Axis Both Directions
Vibration	25g RMS (15 degrees 2KHz) Endurance, 1 Hour Per Axis
Altitude	30,000 ft (Epoxy Sealed Controlled Environment)

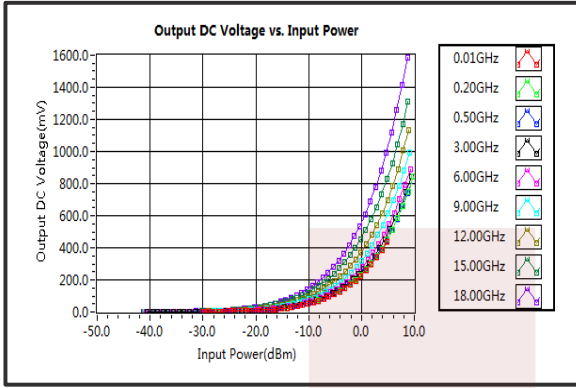
Compliance Certifications (see [product page](#) for current document)

Plotted and Other Data

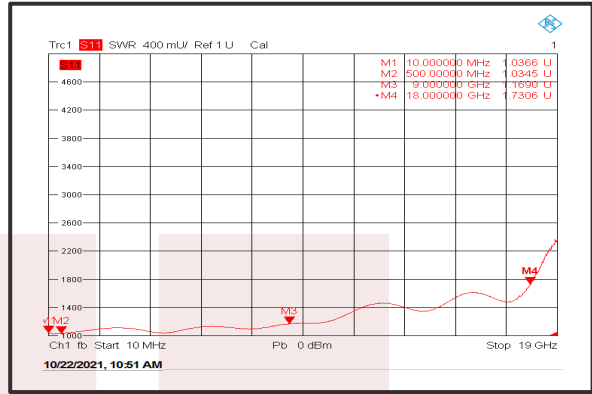
Notes:



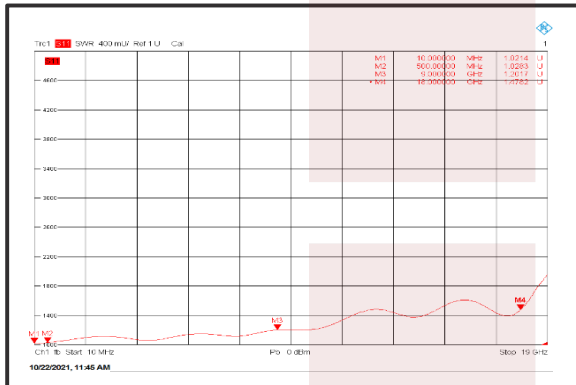
Output DC Voltage vs. Input Power



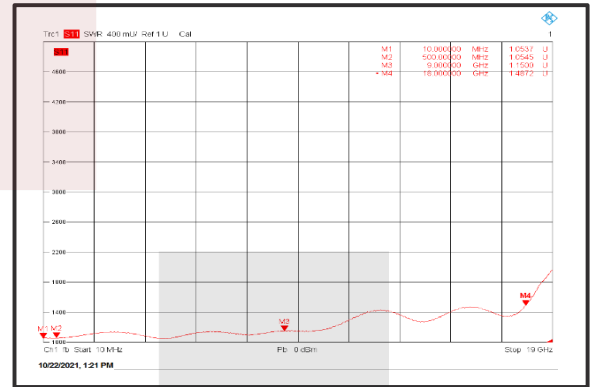
VSWR @+25°C



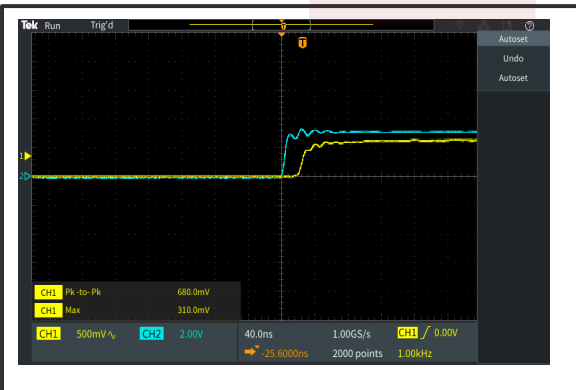
VSWR @-40°C



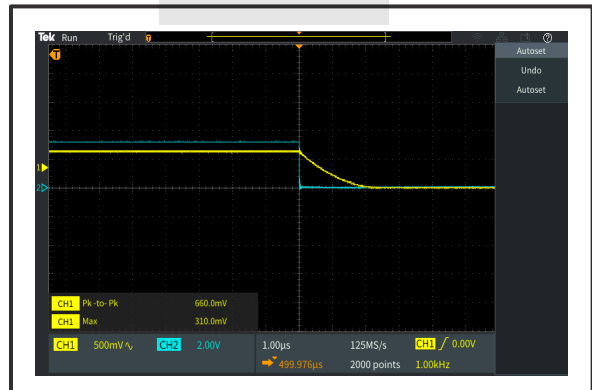
VSWR @+85°C



Rise Time



Fall Time

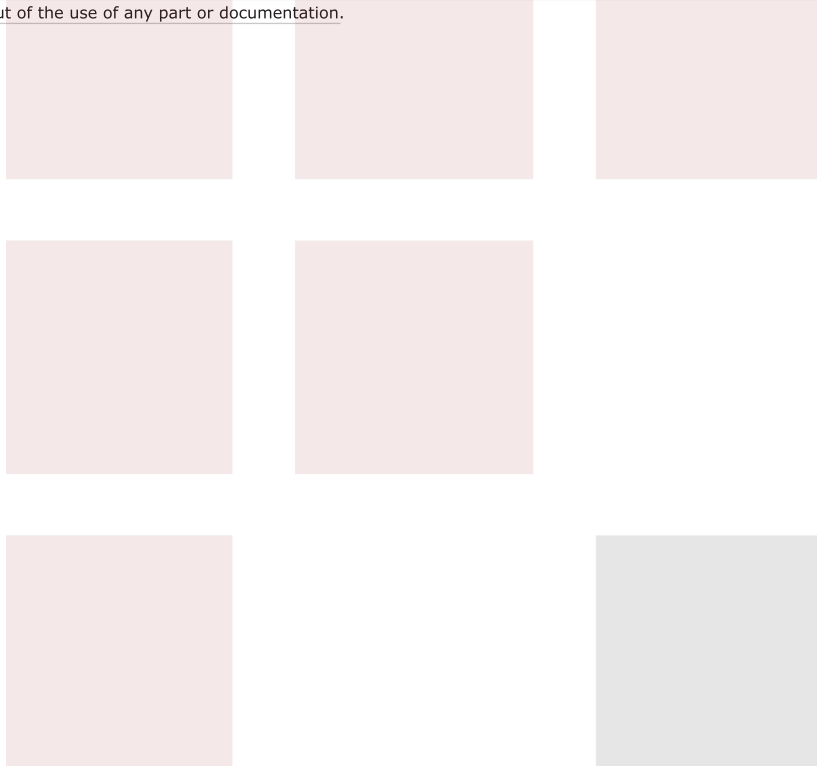


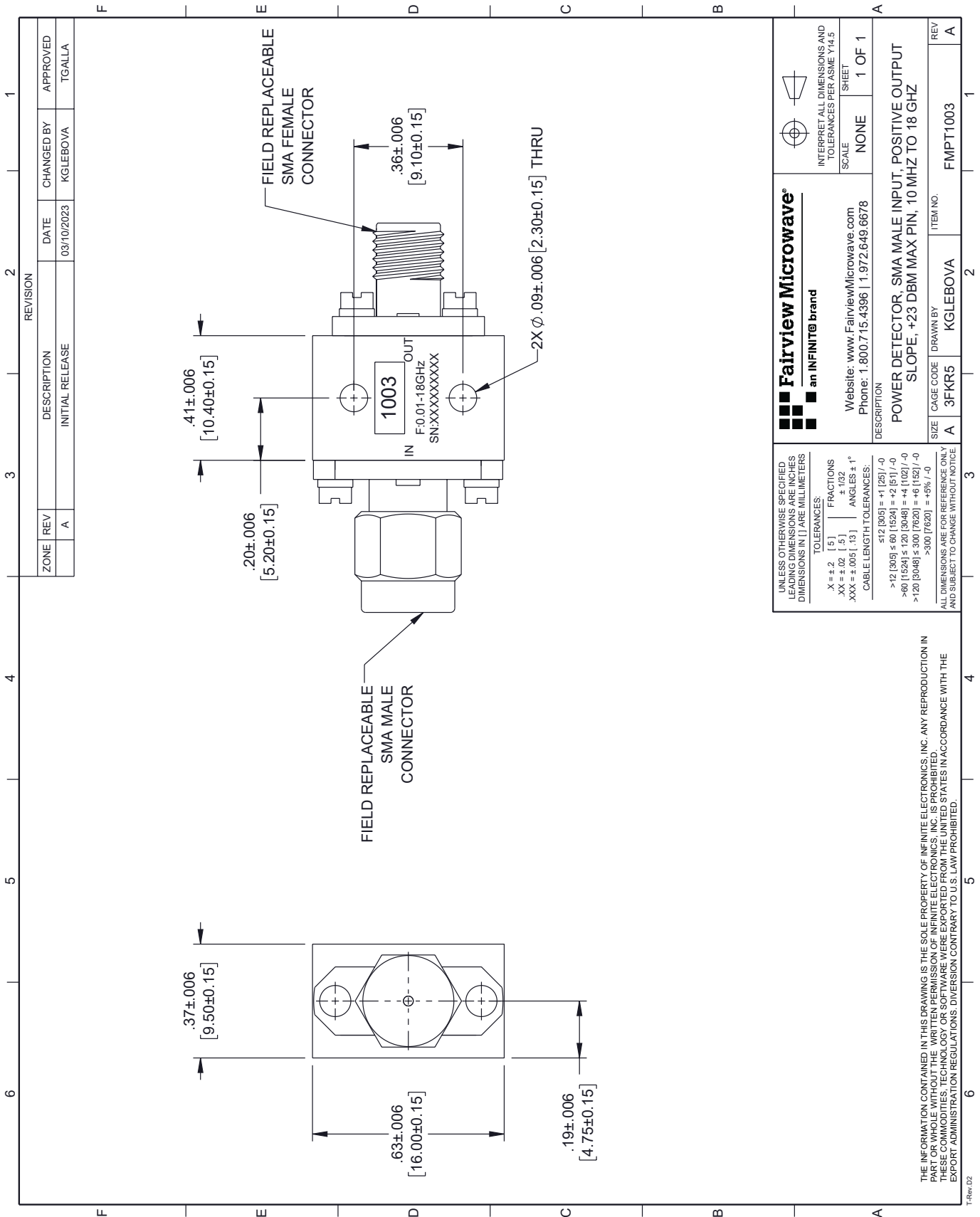
10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA from Fairview Microwave is in-stock and available to ship same-day. All of our RF/microwave products are available off-the-shelf from our ISO 9001:2008 certified facilities in Lewisville, Texas. Fairview Microwave is RF on-demand.

For additional information on this product, please click the following link: [10 MHz to 18 GHz Power Detector, Positive Output Slope, +23 dBm Max Pin, SMA FMPT1003](#)

URL: <https://www.fairviewmicrowave.com/power-detector-sma-male-10-mhz-18-ghz-fmpt1003-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.





ZONE		REVISION		DESCRIPTION		DATE		CHANGED BY		APPROVED	
A				INITIAL RELEASE		03/10/2023		KGLEBOVA		TGALLA	

<p>Fairview Microwave an INFINIT[®] brand</p>		<p>INTERPRET ALL DIMENSIONS AND TOLERANCES PER ASME Y14.5</p>	
Website: www.FairviewMicrowave.com Phone: 1.800.715.4396 1.972.649.6678		SCALE	SHEET
DESCRIPTION		NONE	1 OF 1
POWER DETECTOR, SMA MALE INPUT, POSITIVE OUTPUT SLOPE, +23 DBM MAX PIN, 10 MHZ TO 18 GHz			
SIZE	CAGE CODE	DRAWN BY	ITEM NO.
A	3FKR5	KGLEBOVA	FMPT1003
REV			A

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

TOLERANCES:
 .X = ±.2 [.5] FRACTIONS
 .XX = ±.02 [.5] ± 1/32
 .XXX = ±.005 [.13] ANGLES ± 1°

CABLE LENGTH TOLERANCES:
 ≤12 [305] = +1 [25] / -0
 >12 [305] ≤ 60 [1524] = +2 [51] / -0
 >60 [1524] ≤ 120 [3048] = +4 [102] / -0
 >120 [3048] ≤ 300 [7620] = +6 [152] / -0
 >300 [7620] = +5% / -0

ALL DIMENSIONS ARE FOR REFERENCE ONLY AND SUBJECT TO CHANGE WITHOUT NOTICE

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF INFINITE ELECTRONICS, INC. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF INFINITE ELECTRONICS, INC. IS PROHIBITED. THESE COMMODITIES, TECHNOLOGY OR SOFTWARE WERE EXPORTED FROM THE UNITED STATES IN ACCORDANCE WITH THE EXPORT ADMINISTRATION REGULATIONS. DIVERSION CONTRARY TO U.S. LAW PROHIBITED.