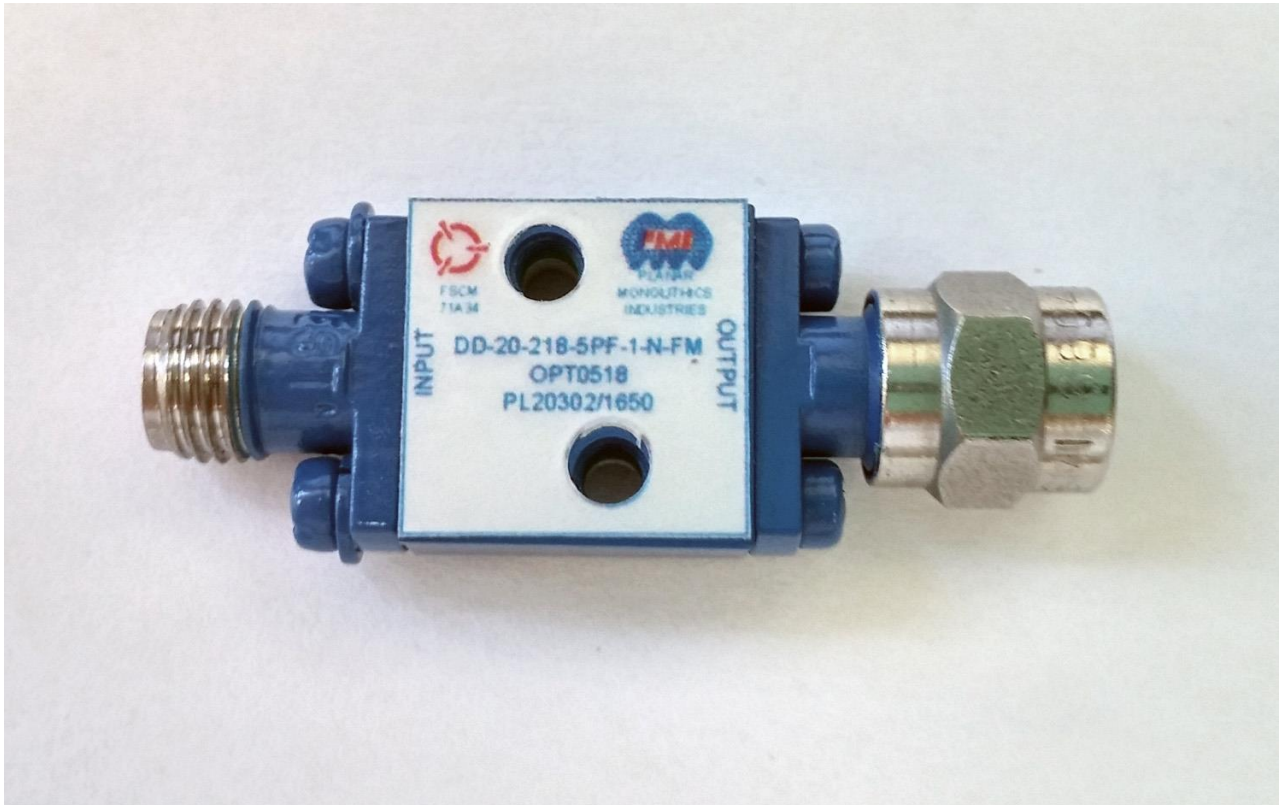




**Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518**

PMI MODEL: DD-20-218-5PF-1-N-FM-OPT0518 IS A HIGH SPEED, HIGH SENSITIVITY DIODE DETECTOR REQUIRING NO BIAS AND OFFERING EXCELLENT TEMPERATURE STABILITY, WITH A RESPONSE TIME OF LESS THAN 5 NANoseconds. THIS MODEL OPERATES OVER THE 0.5 TO 18 GHz FREQUENCY RANGE



Designed by: Dr. Ashok Gorwara

December 21, 2016

Tested by: Sterling Thayer

Reported by: Simon Kuhn

Page 1 of 8



**Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518**

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Typical Characteristics On DD-20-218-5PF-1-N-FM-OPT0518

Product Feature & Mechanical Drawing

DESCRIPTION

PMI MODEL: DD-20-218-5PF-1-N-FM-OPT0518 IS A HIGH SPEED, HIGH SENSITIVITY DIODE DETECTOR REQUIRING NO BIAS AND OFFERING EXCELLENT TEMPERATURE STABILITY, WITH A RESPONSE TIME OF LESS THAN 5 NANoseconds. THIS MODEL OPERATES OVER THE 0.5 TO 18 GHz FREQUENCY RANGE.

SPECIFICATIONS

- FREQUENCY RANGE: 0.5 TO 18 GHz
- VSWR IN/OUT: 3.5:1 TYP
(MEASURED @ -23 dBm WITH 27 kΩ IMPEDANCE)
- FREQUENCY FLATNESS: ±1.5 dB, ±1.0 dB TYP
- SPEED: 5 ns
- VOLTAGE SENSITIVITY: 650 mV/mW, 700 mV/mW TYP
- TANGENTIAL SENSITIVITY: -50 dBm @ 2 MHz VIDEO BANDWIDTH
- VIDEO CAPACITANCE: 5.6 pF
- OUTPUT VOLTAGE: NEGATIVE (POSITIVE IS AVAILABLE)
- MAX INPUT POWER: +17 dBm
- CONNECTORS: SMA (F) INPUT & SMA (M) OUTPUT
- SIZE: 0.5" X 0.5" X 0.22" (EXCLUDING CONNECTORS)
- FINISH: BLUE EPOXY POLIMIDE COATING IAW MIL-C-22750, TYPE I OVER EPOXY POLIMIDE PRIMER IAW MIL-P-23377, TYPE I, CLASS 1 OR 3

ENVIRONMENTAL RATINGS

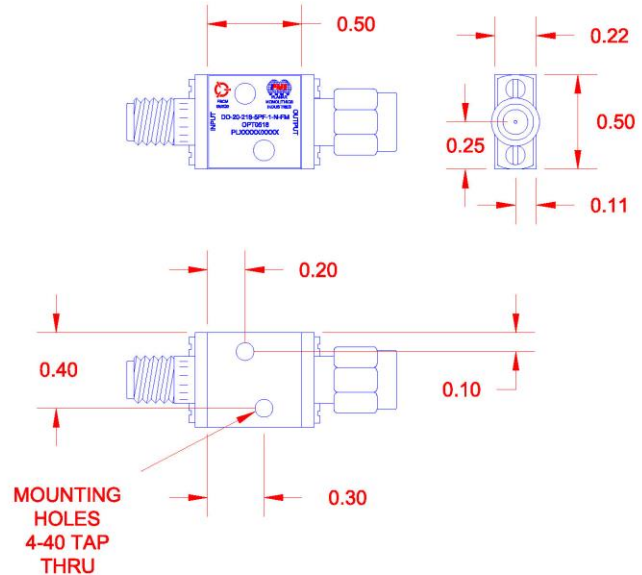
- TEMPERATURE: -54 °C TO +85 °C (OPERATING)
-85 °C TO +100 °C (STORAGE)
- HUMIDITY: MIL-STD-202, METHOD 103B COND. B
- SHOCK: MIL-STD-202, METHOD 213B COND. B
- VIBRATION: MIL-STD-202, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202, METHOD 107D COND. A

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

PMI CONFIDENTIAL AND PROPRIETARY

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	10/18/18	SP,PK

MECHANICAL OUTLINE



PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD
FREDERICK, MARYLAND 21704 USA
TEL: (301)-662-5019, FAX: (301)-662-1731
WEB: www.pmi-rf.com, EMAIL: sales@pmi-rf.com
ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN	SPU	10/22/18	PRODUCT FEATURE DD-20-218-5PF-1-N-FM-OPT0518		
CHECKED			SIZE	FROM NO.	DWG NO.
ISSUED			A	05XQ0	27031045
			SCALE	N:S	SHEET 1 OF 1
					REV. 1



**Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518**

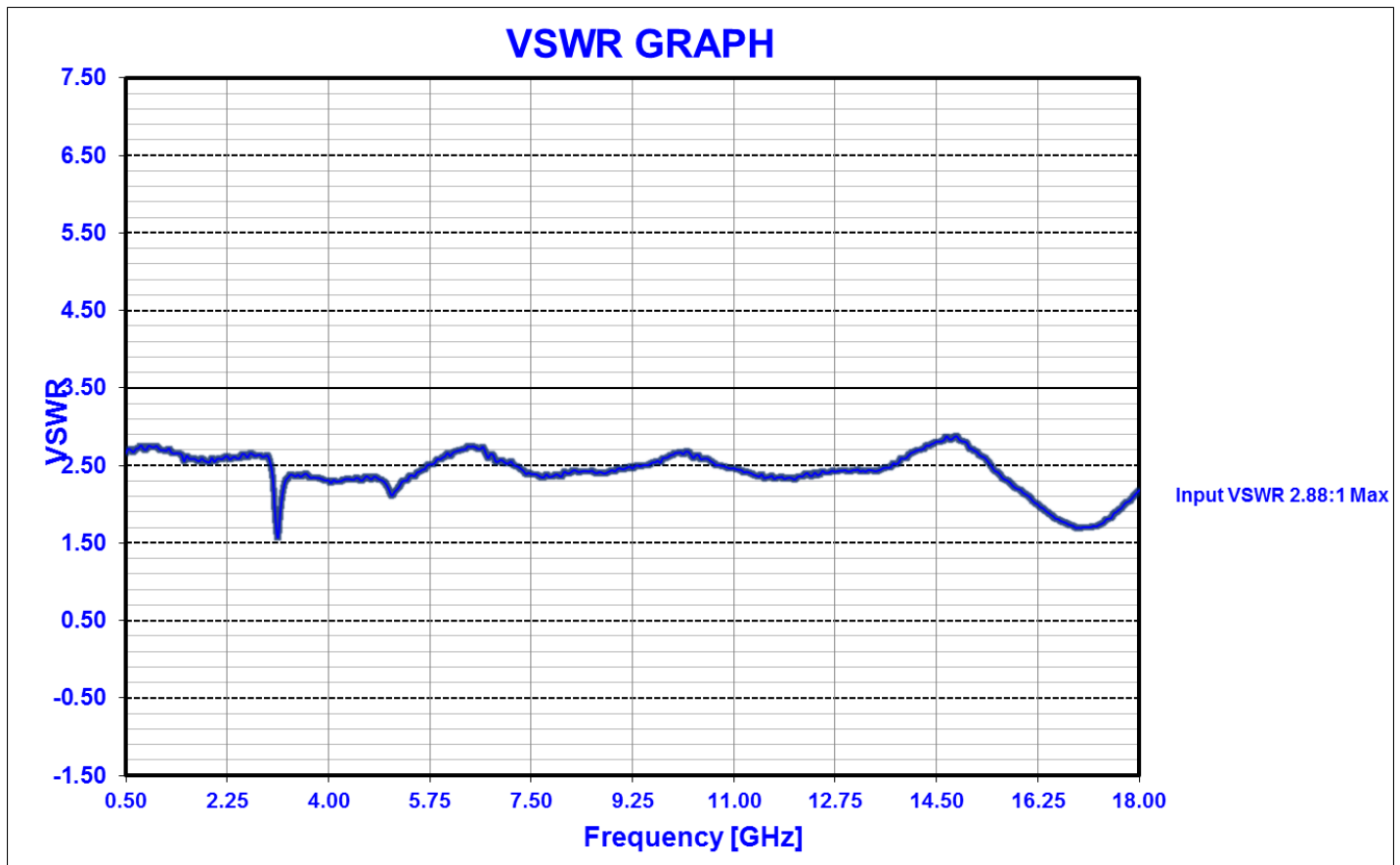
Tabulated Data

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.5 to 18 GHz	0.5 to 18 GHz See Plot	
2	VSWR In/Out:	3.5:1 Typ. (Measured @ -23dBm with 27kOhm load impedance)	2.88:1 See Plot	
3	Frequency Flatness:	±1.5 dB, ±1.0 dB Typ.	± 0.895 dB See Plot	
4	Speed:	5 ns	4.632 ns See Plot	
5	Voltage Sensitivity:	650 mV/mW, 700mV/mW Typ.	1540 mV/mW See Plot	
6	Tangential Sensitivity:	-50dBm @ 2 MHz Video Bandwidth	-50dBm @ 2MHz	
7	Video Capacitance:	5.6 pF	Pass	
8	Output Voltage:	Negative (Positive is Available)	Pass See Graphs	
9	Max Input Power:	+17 dBm	Pass	



**Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518**

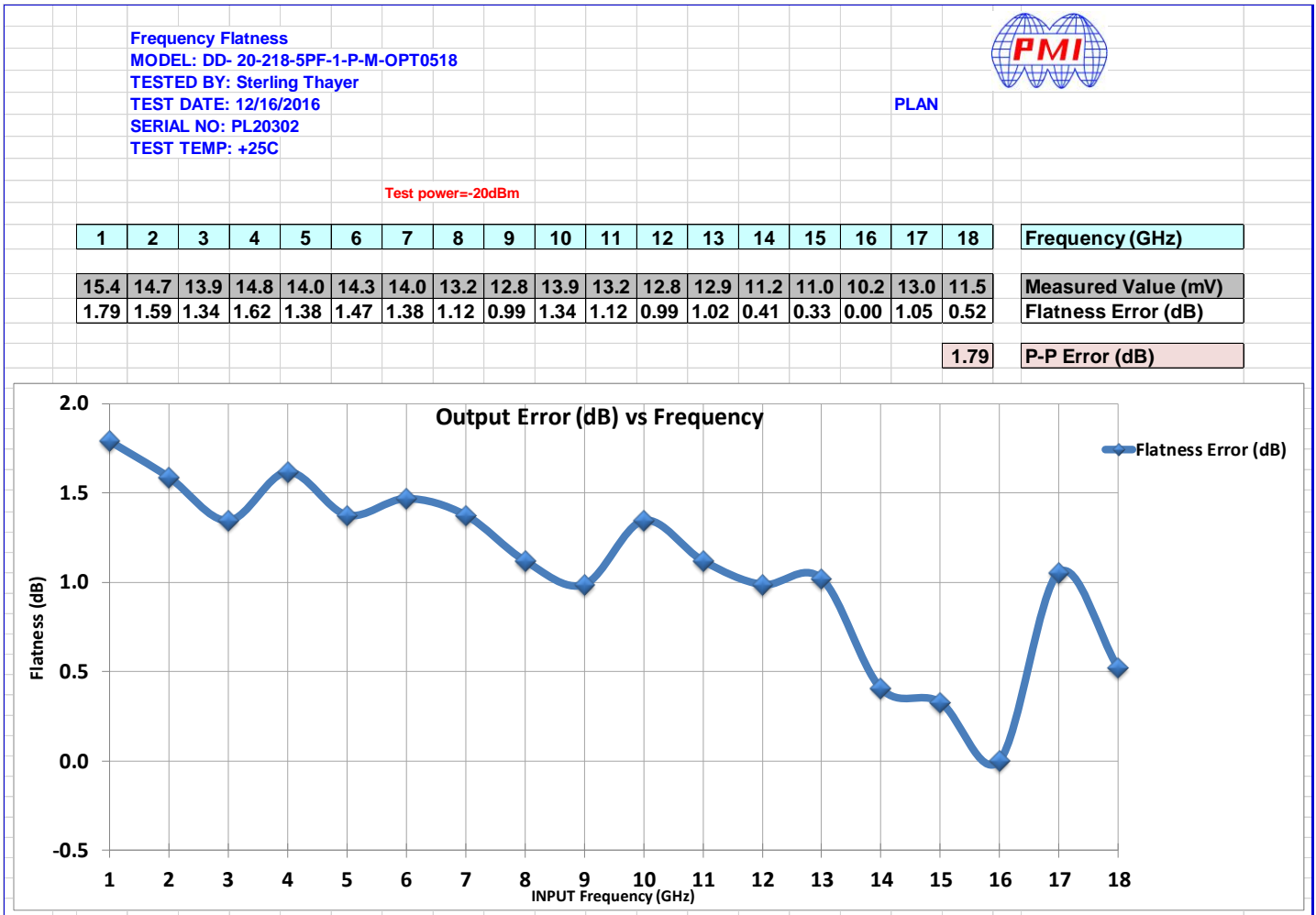
VSWR





**Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518**

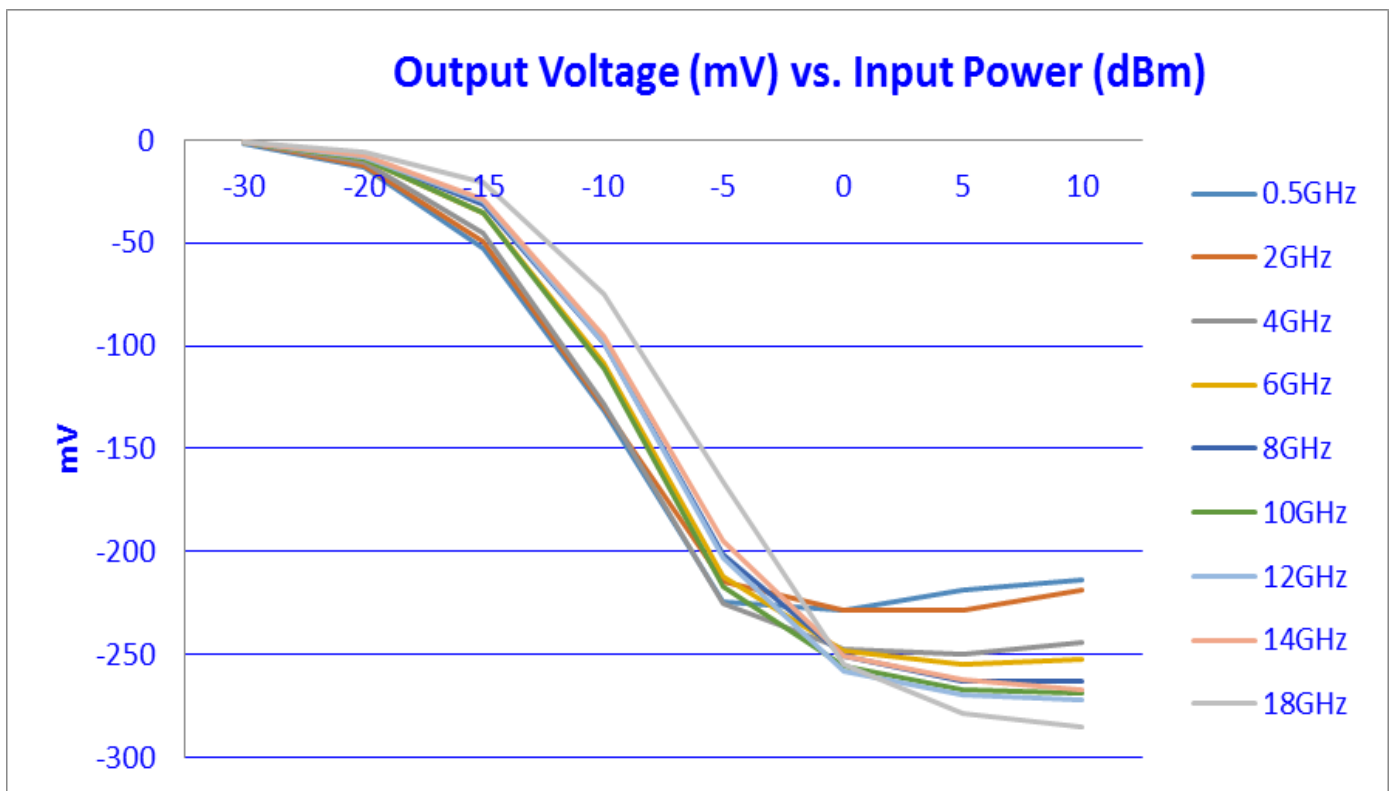
Detector Flatness vs Frequency





**Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518**

Output Voltage (mV) vs Input Power (dBm)





Typical Characteristics
On
DD-20-218-5PF-1-N-FM-OPT0518

Rise Time

