

## DESCRIPTION

PMI MODEL FD-60M-20M-1515 IS A FREQUENCY DISCRIMINATOR THAT MEETS THE SPECIFICATIONS BELOW.

## SPECIFICATIONS

- CENTER FREQUENCY: -----  $60 \pm 0.5$  MHz
- PULSE WIDTH: ----- 0.25  $\mu$ s MINIMUM  
0.50  $\mu$ s MAXIMUM
- RF BANDWIDTH: ----- 20 MHz NOMINAL
- SENSITIVITY: -----  $0.30 \pm 0.05$  V/MHZ MINIMUM
- OUTPUT POLARITY: ----- NEGATIVE BELOW CENTER FREQUENCY;  
POSITIVE ABOVE CENTER FREQUENCY
- VIDEO BANDWIDTH: ----- DC TO 7.5 MHz MINIMUM
- INPUT LEVEL: ----- THE NOMINAL INPUT RF POWER IS -15  
DECIBELS REFERRED TO A LEVEL OF  
ONE MILLIWATT (dBm). THE FREQUENCY  
DISCRIMINATOR SHALL MAINTAIN THE  
CENTER FREQUENCY OF SENSITIVITY,  
OUTPUT POLARITY, AND VIDEO  
BANDWIDTH
- IMPEDANCE: ----- INPUT: 50 OHMS AT 1.5 VSWR  
OUTPUT: 90 OHMS
- POWER (MAXIMUM): ----- -15 VDC @ 180 mA  
+15 VDC @ 80 mA
- CONNECTORS: ----- SMA FEMALE
- WEIGHT: ----- 230 GRAMS MAXIMUM

## ENVIRONMENTAL RATINGS

- TEMPERATURE: ----- -30 °C TO +70 °C (OPERATING);  
ATMOSPHERIC PRESSURE: 650 MILLIBARS  
-51 °C TO + 55 °C (STORAGE);  
ATMOSPHERIC PRESSURE: 160 MILLIBARS
- 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

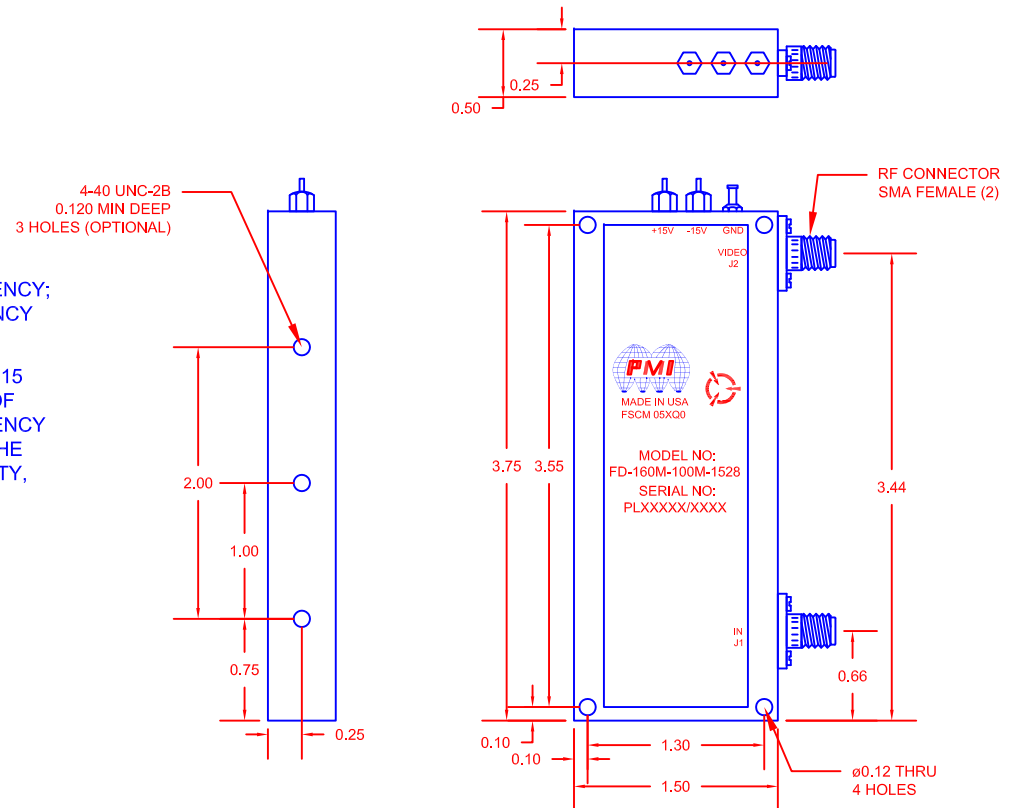
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

**PMI CONFIDENTIAL AND PROPRIETARY**

ALL DIMENSIONS  
ARE IN INCHES [mm]  
TOLERANCES:  
X,XX  $\pm 0.020$   
X,XXX  $\pm 0.010$

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	9/21/2018	

## MECHANICAL OUTLINE



## PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD

FREDERICK, MARYLAND 21704 USA

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ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE			REV.
DRAWN <i>EW</i>		9/21/18	PRODUCT FEATURE FD-60M-20M-1515			-
REDRAWN			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY	
ISSUED			SCALE N:S	SHEET 1 OF 4		

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PMI MODEL FD-60M-20M-1515 IS A FREQUENCY DISCRIMINATOR THAT MEETS THE SPECIFICATIONS BELOW.

TABLE I. Test data sheet

OPERATOR :  
DATE :  
TEMP :

PARAMETER	UNIT	MIN	MAX	VALUE	CONDITIONS
Frequency (3.1.1.b)	MHz	59.50	60.50		Output is 0.000 Vdc. For this and all following tests, the RF power input is to be set to value of paragraph 3.1.1.g. See Figure 2.
RF Bandwidth (3.1.1.c)	MHz	Nom	Nom		Nominal, 20 MHz. From plot of Figure 3.
Sensitivity (3.1.1.d)	V/MHz	0.25	0.35		From plot of Figure 3.
Risetime (3.1.1.e)	ns	NA	50		
Linearity (3.1.1.f)  * ± 5 percent on $f_m$ per plot of Figure 2.	Vdc	*	*		50 MHz
					52 MHz
					54 MHz
					56 MHz
					58 MHz
					60 MHz
					62 MHz
					64 MHz
					66 MHz
					68 MHz
	Vdc	*	*		70 MHz
Input Level (3.1.1.g)	dBm	-17	-11		Paragraphs 3.1.1.b, 3.1.1.d, 3.1.1.e, 3.1.1.f
Impedance Input (3.1.1.h)	VSWR	0.0	1.5		50 ohms reference
Power Requirements (3.1.1.i)	mA	NA	80		+ 15 Vdc
			180		- 15 Vdc

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X.XX ±0.020  
X.XXX ±0.010

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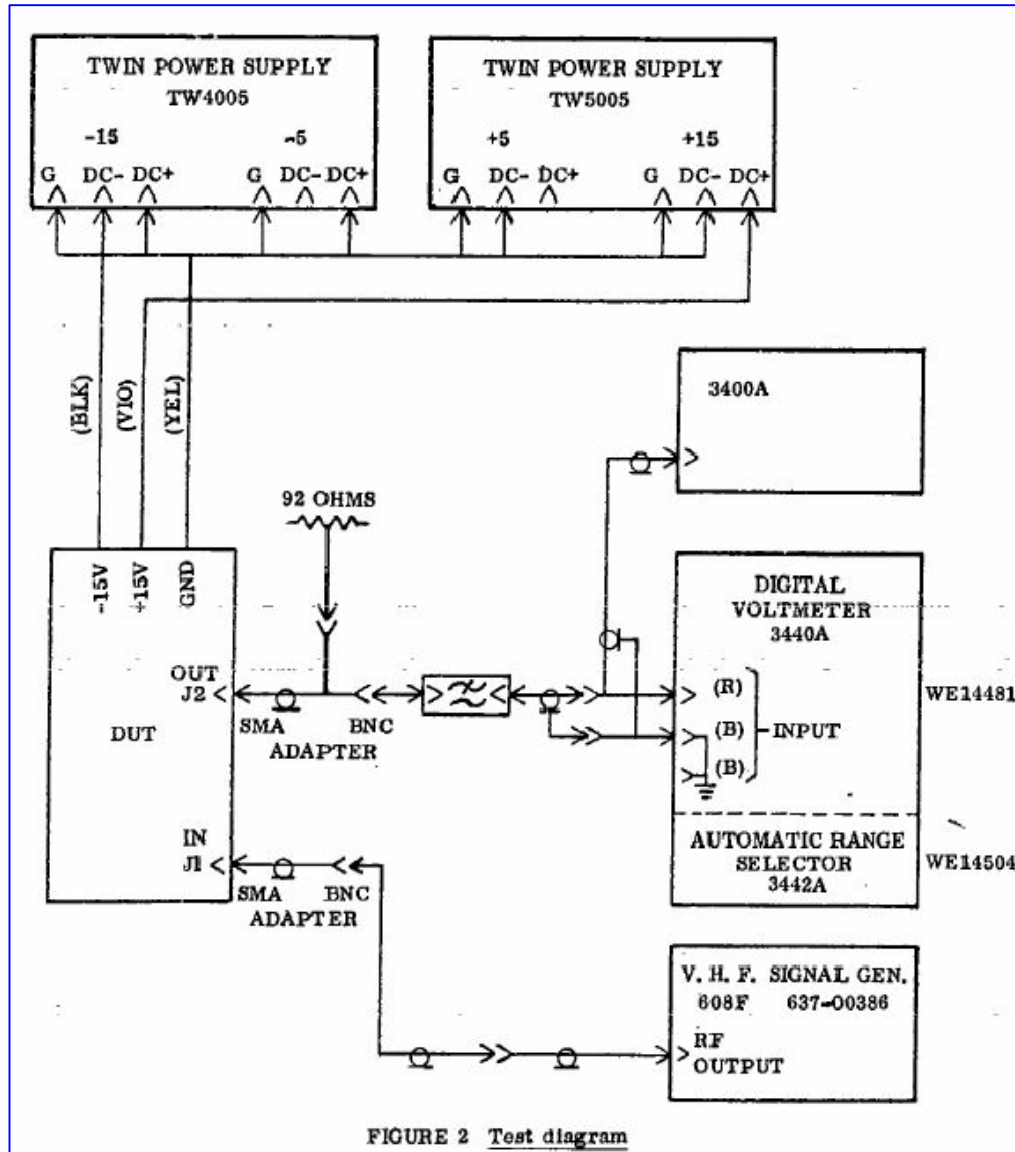


APPROVALS		DATE	TITLE		
DRAWN <i>EW</i>		9/21/18	PRODUCT FEATURE FD-60M-20M-1515		
REDRAWN			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY
ISSUED			SCALE N:S		REV. -
				SHEET	2 OF 4

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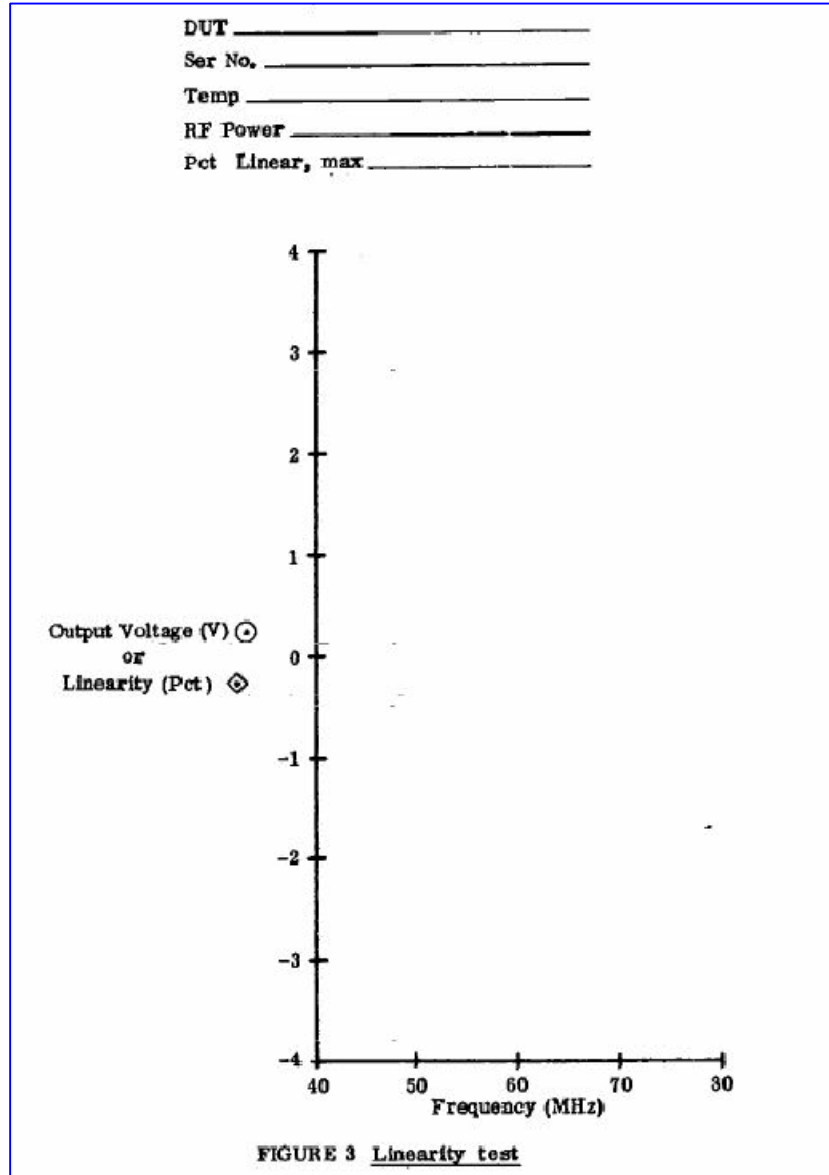
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APPROVALS		DATE	TITLE		PRODUCT FEATURE FD-60M-20M-1515
DRAWN <i>EW</i>		9/21/18	A 05XQ0		
REDRAWN			DWG NO.	PRELIMINARY	REV. -
ISSUED			SCALE N:S	SHEET	3 OF 4

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PMI MODEL FD-60M-20M-1515 IS A FREQUENCY DISCRIMINATOR THAT MEETS THE SPECIFICATIONS BELOW.



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 ARE IN INCHES [mm]  
 TOLERANCES:  
 X.XX ±0.020  
 X.XXX ±0.010

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APPROVALS		DATE	TITLE		PRODUCT FEATURE FD-60M-20M-1515
DRAWN <i>EW</i>		9/21/18	SIZE		
REDRAWN			A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY
ISSUED			SCALE	N:S	REV. -
				SHEET	4 OF 4