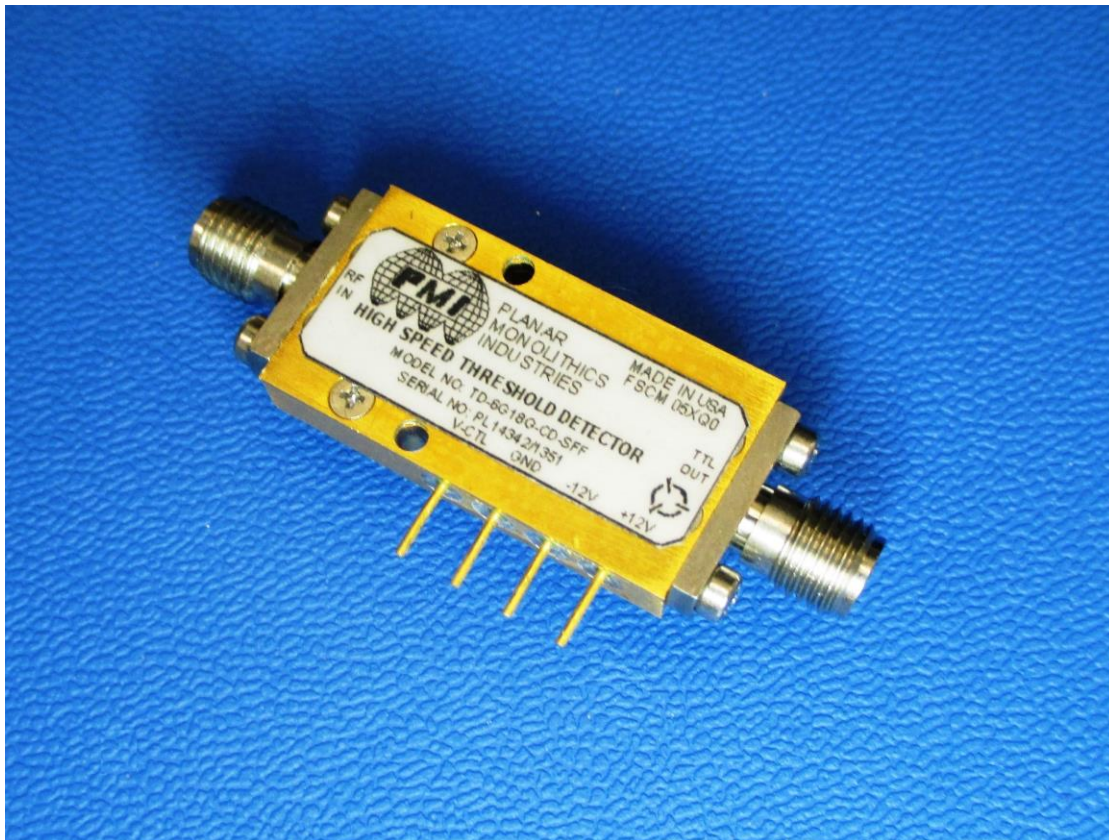




## TYPICAL CHARACTERISTICS ON TD-6G18G-CD-SFF

MODEL TD-6G18G-CD-SFF IS A HIGH SPEED THRESHOLD DETECTOR DESIGNED TO OPERATE OVER THE 6.0 GHz TO 18.0 GHz FREQUENCY RANGE, WITH AN ADJUSTMENT THRESHOLD LEVEL OF -30 TO -10dBm AND VSWR OF 3.0:1 MAX. THE UNIT COMES IN A VERY SMALL SIZE WITH FIELD REMOVABLE SMA CONNECTORS. THIS MODEL HAS BEEN DESIGNED USING CUTTING EDGE TECHNOLOGY WHICH PROVIDES STUNNING PERFORMANCE AND RELIABILITY IN A COMPACT PACKAGE.



December 12th 2013

Prepared By: E. Benson  
Tested By: E. Benson  
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# TYPICAL CHARACTERISTICS ON TD-6G18G-CD-SFF

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	9/24/13	

**PMI CONFIDENTIAL AND PROPRIETARY**

**PLANAR MONOLITHICS INDUSTRIES, INC.**

7311-F GROVE ROAD  
FREDERICK, MARYLAND 21704 USA  
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E-MAIL: sales@pmi-rf.com  
ISO 9001 CERTIFIED

APPROVALS	DATE	PRODUCT FEATURE
DRAWN T. LUDDEN	9/24/13	TD-6G18G-CD-SFF
CHECKED		
ISSUED		
	SIZE FROM NO.	DWG NO.
	A 05X00	27020591
	SCALE	N/S
		SHEET 1 OF 1

**Description:**

PMI Model Number: TD-6G18G-CD-SFF is a High Speed Threshold Detector designed to operate over the 6 to 18GHz Frequency Range, with an Adjustable Threshold Level of -30 to +10dBm, and VSWR of 3.0:1 Max. This Unit comes in a Very Small Size with Field Removable SMA Connector on the Input and Output.

**Specifications:**

Frequency Range: 6.0 to 18.0 GHz  
 Dynamic Range: -30 to +10 dBm  
 -Setting: -26 to +10 dBm  
 -Pulse Signal: ±1.5dB Max.  
 Flatness: 20 nsec Typ, 30nsec Max.  
 Propagation Delay: TTL Compatible  
 Output: 150 nsec Max.  
 Recovery Time: (Or Pulse Stretching)  
 VSWR @ -20 dBm or Lower: 3.0:1 Max.  
 Power Supply: ±12 or ±15 Volts @ +110 mA Max, -40mA Max  
 Threshold Uncertainty: ±0.75 dB Max.  
 Threshold Setting: 0 to 4 volts, Resistive Setting is Optional  
 Connectors In/Out: SMA Female  
 Finish: Gold Plated

**Environmental Ratings:**

Temperature: -25°C to + 85°C (Operating)  
 -65°C to +125°C (Storage)  
 Humidity: MIL-STD-202F, METHOD 103B COND B.  
 Shock: MIL-STD-202F, METHOD 213B COND B.  
 Altitude: MIL-STD-202F, METHOD 105C COND B.  
 Temperature Cycle: MIL-STD-202F, METHOD 107D COND A

Note: The above specifications are subject to change or revision.

Labels in drawing: SMA FEMALE CONNECTOR (2 PLACES), RF IN, HIGH SPEED THRESHOLD DETECTOR, TTL OUT, +12V, -12V, GND, FEEDTHRU PIN, (4 PLACES), LONG TYP., 0.025X0.200, Ø0.078 THRU (2 PLACES), 0.30, 0.19, 0.095, 1.10, 0.70, 0.40, 0.90, 0.90, 0.05.

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
XXX ±0.020  
X.XXX ±0.010



## TYPICAL CHARACTERISTICS ON TD-6G18G-CD-SFF

### TEST DATA

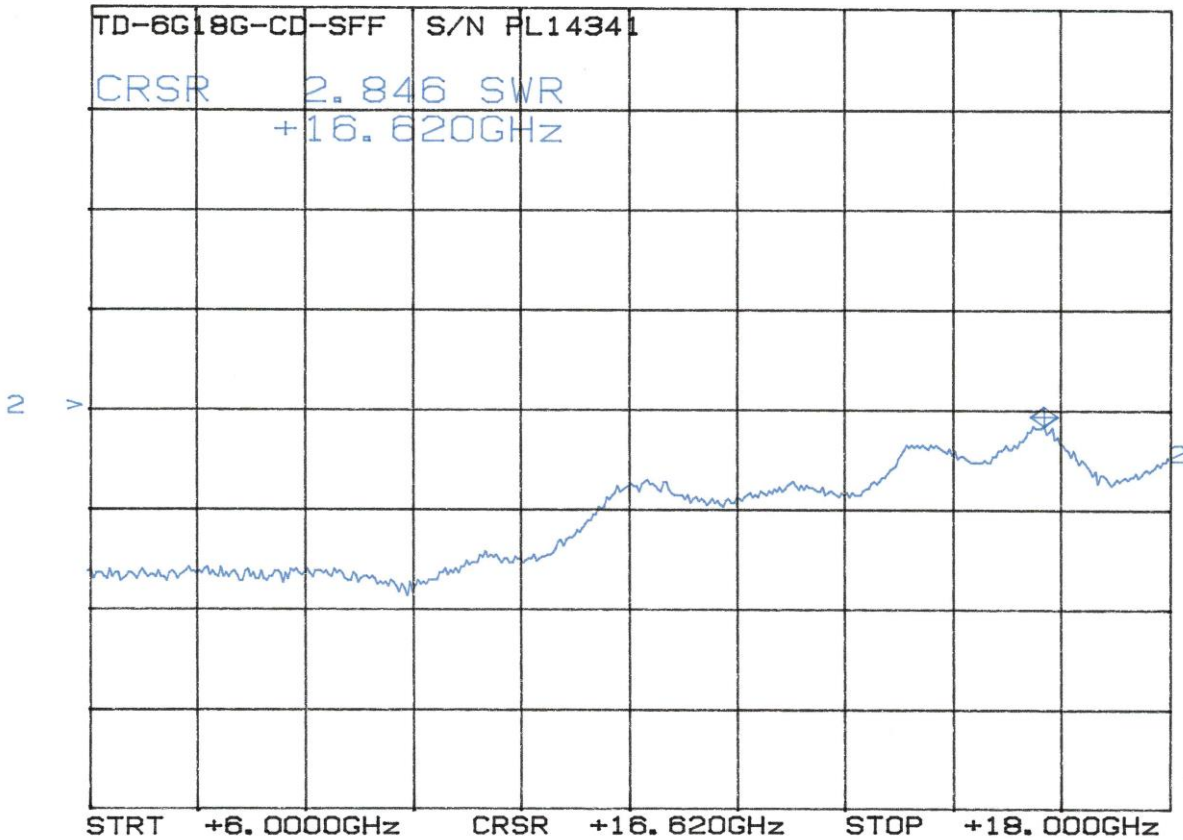
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	PASS FAIL
1	Frequency Range:	6 TO 18 GHz Min	6 TO 18 GHz
2	VSWR:	3.0: 1 Typ @ -20dBm	<b>2.846:1 (See Plot)</b>
3	Threshold Variation Over Frequency	± 1.5 dB (Max)	± 0.6 dB
4	Threshold Uncertainty	± 0.75 dB (Max)	± 0.4 dB
5	Threshold Setting	0 to 4 Volts	0.23 to 3.14 Volts
6	Propagation Delay (From 50% RF to 50% TTL @ -10dBm (3dB Above Threshold))	20 nsec (Typ), 30 nsec (Max)	<b>15.085 nsec (See Photo)</b>
7	Recovery Time	150 nsec (Max)	<b>18 nsec</b>
8	Dynamic Range:	-30dBm to -10dBm	<b>-33dBm to -6dBm</b>
9	DC Supply:	±12VDC or ±15VDC @ +110mA to -40mA Max	+15VDC @ 75mA -15VDC @ 32mA



# TYPICAL CHARACTERISTICS ON TD-6G18G-CD-SFF

VSWR Measured: 2.846:1

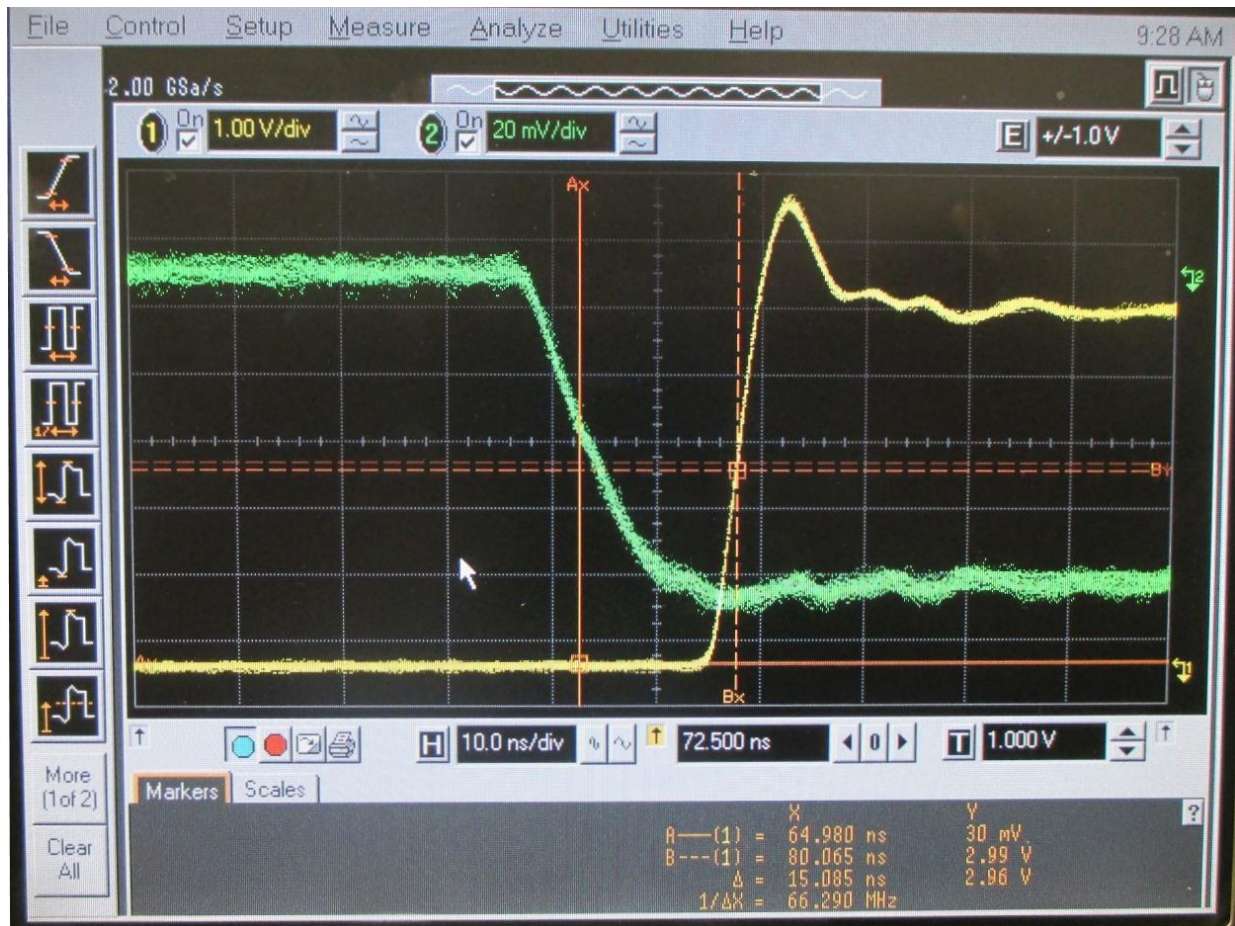
CH2: B -M 2.846 SWR  
1.00 / REF 3.000 SWR





## TYPICAL CHARACTERISTICS ON TD-6G18G-CD-SFF

Propagation Delay 15.085 ns  
Full Pulse  
10ns per Div. & 100ns Pulse Width



Green Trace = RF using a Crystal Detector (Neg) output.  
Yellow Trace = TTL Output 1V per Div.