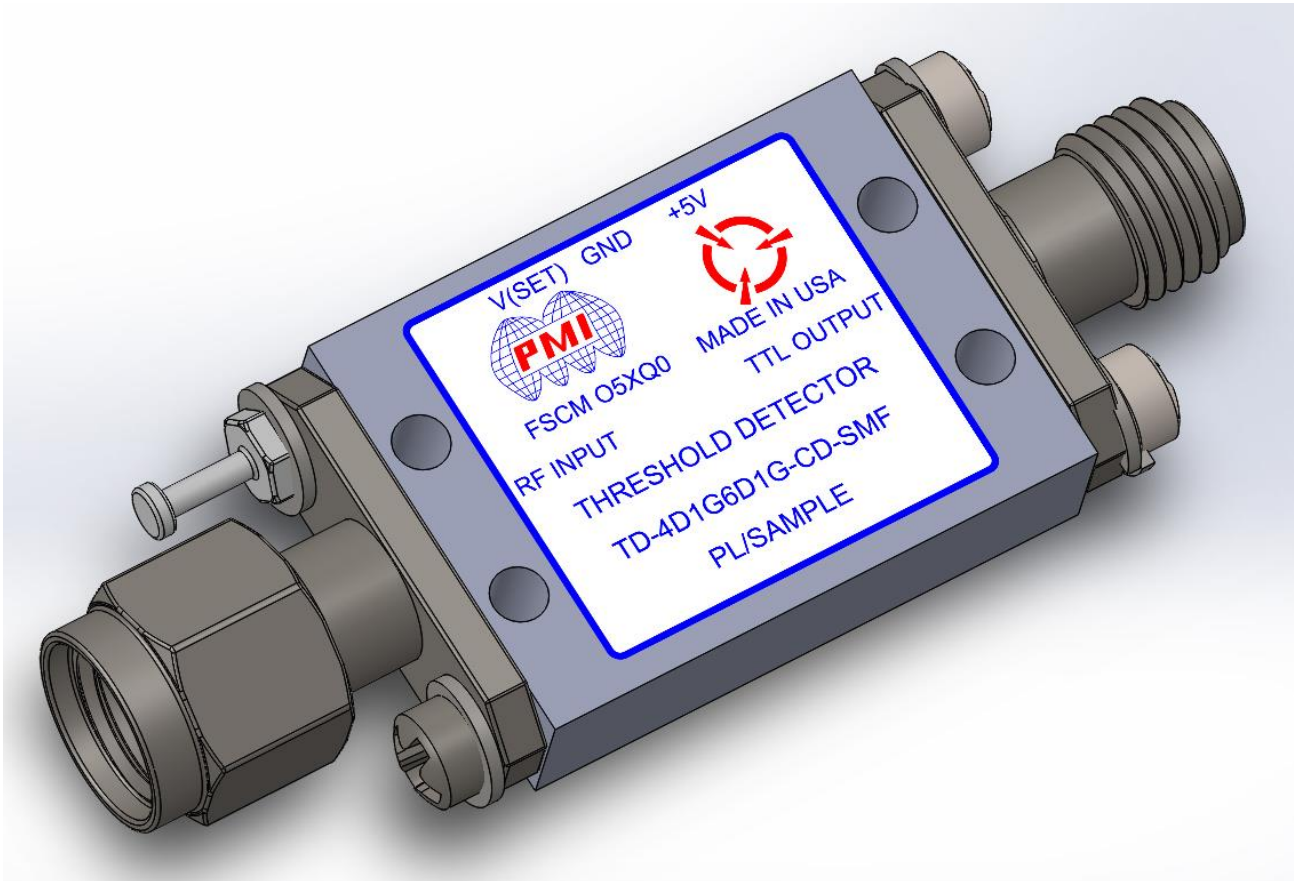




Typical Characteristics on TD-4D1G6D1G-CD-SMF

PMI MODEL TD-4D1G6D1G-CD-SMF IS A HIGH SPEED THRESHOLD DETECTOR DESIGNED TO OPERATE OVER THE 4.1 TO 6.1 GHz FREQUENCY RANGE. IT HAS AN EXTERNAL ADJUSTMENT TO VARY THE THRESHOLD LEVEL FROM -20 dBm TO 0 dBm.



December 02, 2015
Designed by: PMI Engineering
Reported by: Kevin Mansfield



Typical Characteristics on TD-4D1G6D1G-CD-SMF

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Typical Characteristics on TD-4D1G6D1G-CD-SMF

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	1	ORIGINAL RELEASE	10/16/15	

DESCRIPTION
 PMI MODEL TD-4D1G6D1G-CD-SMF IS A HIGH SPEED THRESHOLD DETECTOR DESIGNED TO OPERATE OVER THE 4.1 TO 6.1 GHz FREQUENCY RANGE. IT HAS AN EXTERNAL ADJUSTMENT TO VARY THE THRESHOLD LEVEL FROM -20 dBm TO 0 dBm.

SPECIFICATIONS

- FREQUENCY RANGE: 4.1 TO 6.1 GHz MINIMUM
- VSWR: 2.6:1 TYPICAL
- DYNAMIC RANGE: -20 dBm TO +10 dBm
- THRESHOLD VARIATION: ±0.75 dB MAXIMUM (WITH FREQUENCY)
- PROPAGATION DELAY: 10 ns TYPICAL, 3 dB ABOVE THRESHOLD SETTING (50% RF INPUT TO 50% LOGIC AT -10 dBm)
- MINIMUM PULSE WIDTH: 50 ns TYPICAL
- OUTPUT: TTL "1" INPUT POWER > THRESHOLD SETTING, TTL "0" OTHERWISE
- TEMPERATURE STABILITY: 1.0 dB TYPICAL, 3 dB ABOVE THRESHOLD SETTING
- THRESHOLD SETTING CONTROL: EXTERNAL VOLTAGE 0 TO +5 V
- THRESHOLD LEVEL SETTING RANGE: -20 dBm TO 0 dBm
- INPUT POWER: 100 mW CW MAXIMUM
- POWER SUPPLY: +5 V @ 100 mA TYPICAL
- CONNECTORS:
 - RF INPUT: REMOVABLE SMA (MALE)
 - TTL OUTPUT: REMOVABLE SMA (FEMALE)
 - THRESHOLD ADJUST: SOLDER PIN
- SIZE: 0.85" x 0.625" x 0.20"
- 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: -55°C TO +95°C (OPERATING) -65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, 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

PLANAR MONOLITHICS INDUSTRIES, INC.
 7311-F GROVE ROAD
 FREDERICK, MARYLAND 21704 USA
 TEL: 301-662-5019 FAX: 301-662-1731
 WEBSITE: www.pmi-rf.com
 E-MAIL: sales@pmi-rf.com
 ISO 9001 CERTIFIED

APPROVALS		DATE		TITLE	
DESIGNED	<i>M. Berry</i>		10/16/15	PRODUCT FEATURE	
CHECKED				TD-4D1G6D1G-CD-SMF	
ISSUED		SIZE	FECOM NO.	DWG NO.	REV
		A	05XQ0	27028441	1
		SCALE	N:S		SHEET 1 OF 1

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



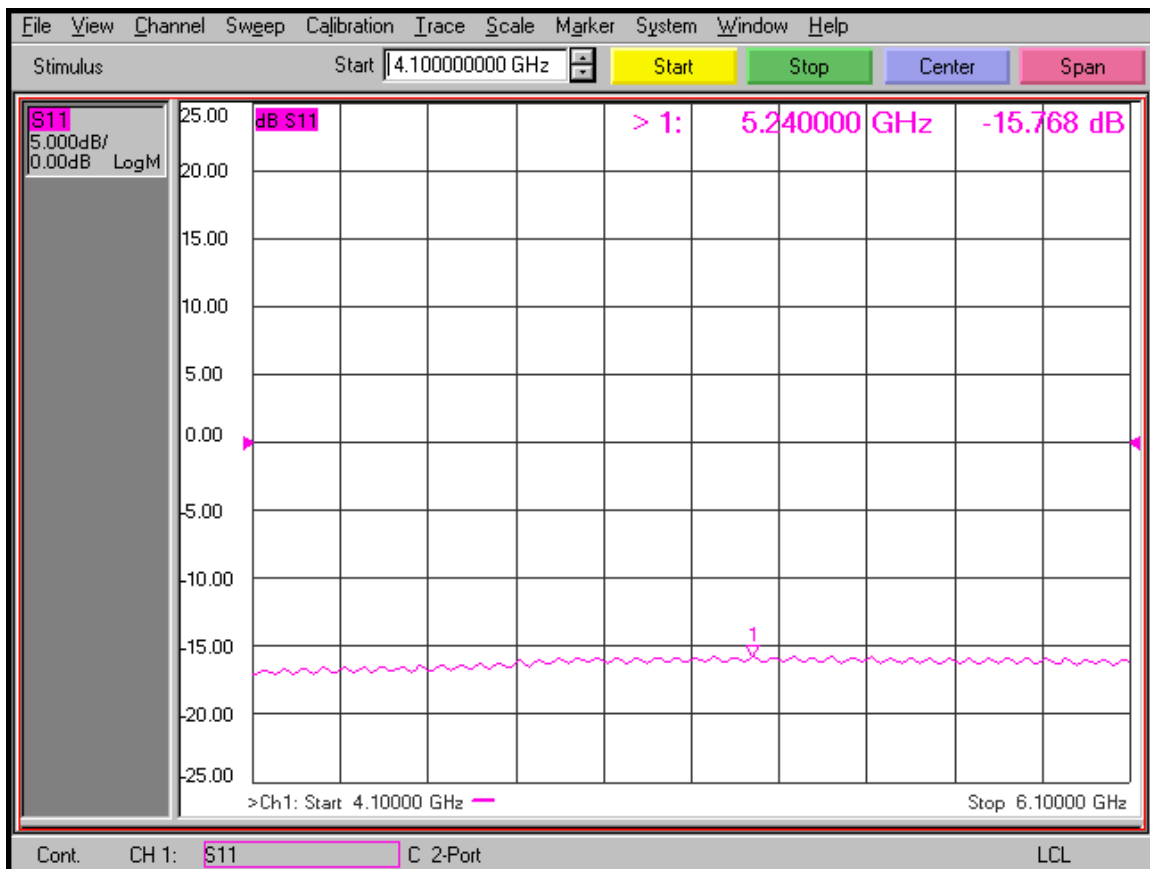
Typical Characteristics on TD-4D1G6D1G-CD-SMF

TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range	4.1 to 6.1 GHz	4.1 to 6.1 GHz See Plot	
2	VSWR	2.6:1 TYP	1.4:1 See Plot	
3	Dynamic Range	-20 dBm to +10 dBm	-20 dBm to +10 dBm	
4	Threshold Variation (With Frequency)	±0.75 dB MAX	0.38 dB See Plot	
5	Propagation Delay	10 ns TYP, 3dB Above Threshold (50% RF Input to 50% Logic @ -10dBm)	28 ns See Plot	
6	Minimum Pulse Width	50 ns TYP	40 ns See Plot	
7	Output	TTL "1" = Input Power > Threshold Setting TTL "0" = Otherwise	Pass	
8	Temperature Stability	1.0 dB TYP, 3.0 dB Above Threshold	Pass	
9	Threshold Setting Control	External Voltage, 0 to +5 V	Pass	
10	Threshold Level Setting Range	-20 dBm to 0 dBm	-20 dBm to 0 dBm See Plot	
11	Input Power	100 mW CW MAX	100 mW CW	
12	DC Supply	+5 V @ 100 mA TYP	+5 V @ 84 mA	



Typical Characteristics on TD-4D1G6D1G-CD-SMF

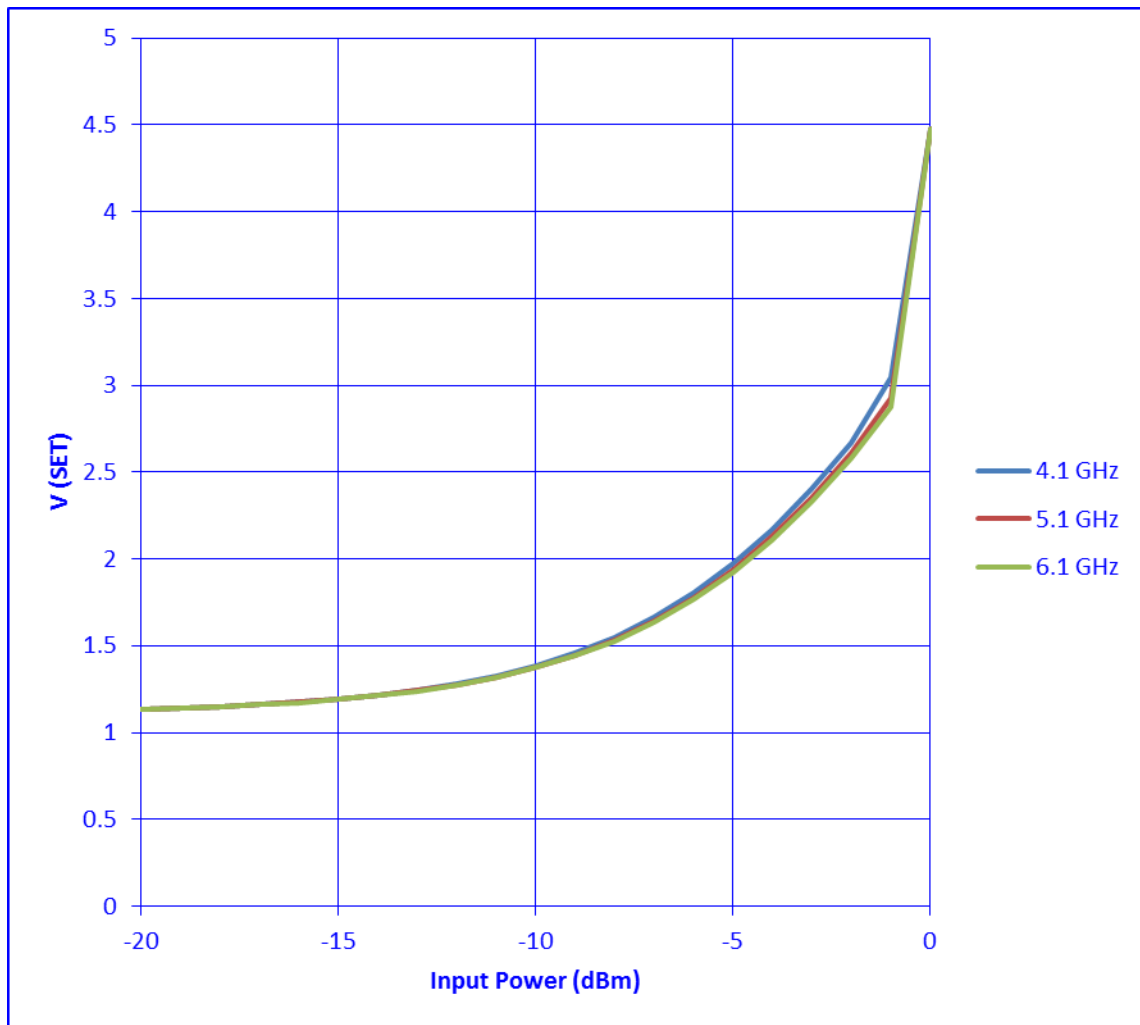
Return Loss





Typical Characteristics on TD-4D1G6D1G-CD-SMF

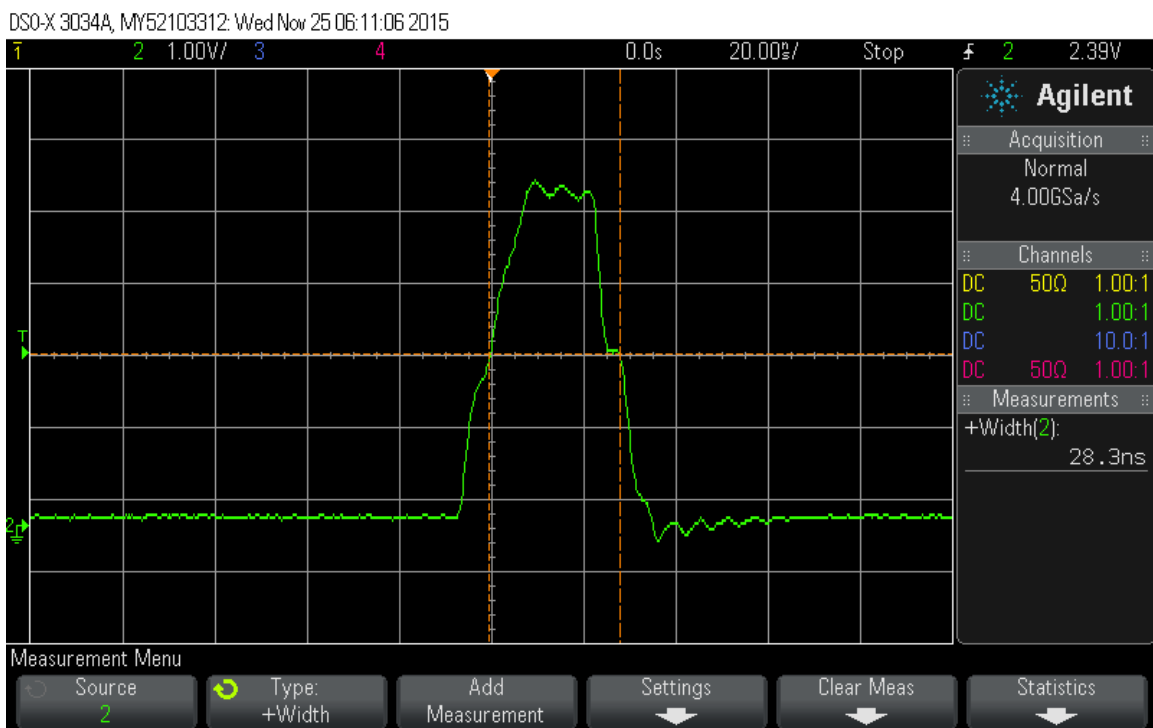
Threshold Level Setting Range





Typical Characteristics on TD-4D1G6D1G-CD-SMF

Pulse Width

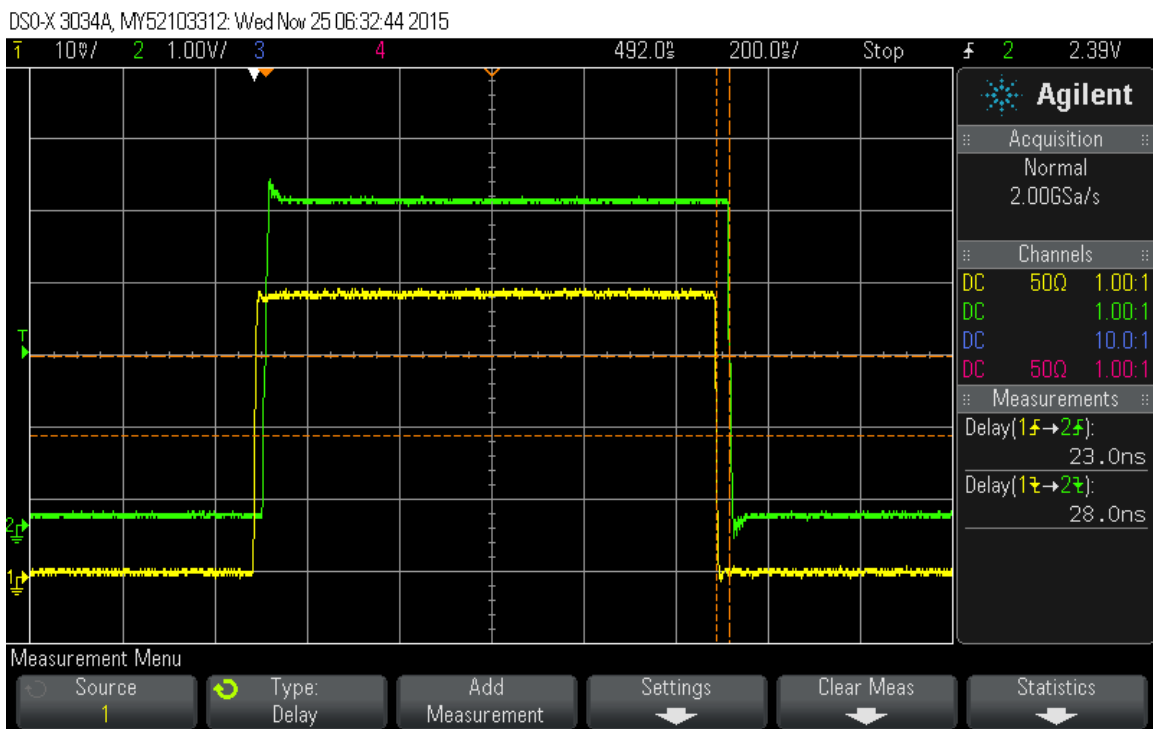


Input Pulse: 5.1 GHz
40 ns Pulse Width
500 KHz Pulse Rate
2 us Pulse Period
Threshold Voltage set at -10 dB Level
-7 dBm Amplitude



Typical Characteristics on TD-4D1G6D1G-CD-SMF

Propagation Delay



Input Signal: 4.1 GHz
500 KHz Pulse Rate
2 us Pulse Period
1 us Pulse Width
Threshold Voltage set at -10 dB Level
-7 dBm Input Power

Yellow Trace = RF Pulse
Green Trace = TTL Output