

### DESCRIPTION:

PMI MODEL TD-218-RB IS A THRESHOLD DETECTOR OPTIMIZED FOR THE 2 TO 18 GHz FREQUENCY RANGE. IT HAS AN INTERNALLY FIXED THRESHOLD LEVEL PROVIDING A MINIMUM SIGNAL LEVEL OF -27 dBm AND A MAXIMUM INPUT VSWR OF 2.75:1. THE THRESHOLD SETTING STABILITY IS CONSTANT  $\pm 3.0$  dB OVER THE OPERATING TEMPERATURE AND FREQUENCY.

### SPECIFICATIONS:

- OPERATING FREQUENCY: ..... 2 GHz TO 18 GHz
- INPUT OPERATING RANGE: ..... -32 dBm TO -10 dBm (2-18 GHz)
- INPUT VSWR: ..... 2.75:1 (2-18 GHz)
- THRESHOLD LEVEL: ..... INTERNALLY FIXED TO PROVIDE A MINIMUM SIGNAL LEVEL OF -30  $\pm 1.5$  dBm AT 6 GHz
- THRESHOLD SETTING STABILITY:  $\pm 3.0$  dB OVER THE OPERATING TEMPERATURE AND FREQUENCY RANGE
- MAXIMUM INPUT POWER: ..... +10 dBm (WITHOUT DAMAGE)
- DETECTED OUTPUT: ..... THE DETECTED OUTPUT SIGNAL SHALL BE A TTL LEVEL HIGH WHEN THE RF SIGNAL APPLIED TO THE RF INPUT EXCEEDS THE THRESHOLD LEVEL. ANY SIGNALS BELOW THE THRESHOLD LEVEL SHALL RESULT IN AN OUTPUT LEVEL OF TTL LOW (0) THE TTL OUTPUT SHALL BE BUFFERED IN SUCH A WAY THAT OUTPUT LOADING HAS NO EFFECT ON DETECTOR RESPONSE. THE DETECTED OUTPUT SHALL HAVE A DRIVE CAPACITY OF AT LEAST TWO STANDARD TTL LOADS.
- RESPONSE TIME: ..... FOR ANY RF INPUT GREATER THAN 3 dB ABOVE THRESHOLD, THE MAXIMUM TURN ON RESPONSE TIME MEASURED AT 90% RF TO A TTL "1" OUTPUT SHALL BE 100 ns. THE MAXIMUM TURN OFF RESPONSE TIME MEASURED AT 10% RF TO A TTL "0" SHALL BE 100 ns.
- CONNECTORS: ..... THE INPUT SIGNAL CONNECTOR SHALL BE AN SMA FEMALE IN ACCORDANCE WITH MIL-C-39012. THE OUTPUT SIGNAL CONNECTION SHALL BE A SOLDERABLE PIN ( $\phi 0.020$ " MINIMUM) WITH A GROUND LUG NEXT TO IT. THE POWER CONNECTION SHALL BE A SOLDERABLE PIN ( $\phi 0.020$ " MINIMUM).
- POWER SUPPLY VOLTAGE: ..... +15V @ 250 mA MAXIMUM
- SIZE: ..... 1.50" (L) x 1.50" (W) x 0.50" (H)
- WEIGHT: ..... 2.0 OUNCES
- FINISH: ..... GRAY 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:

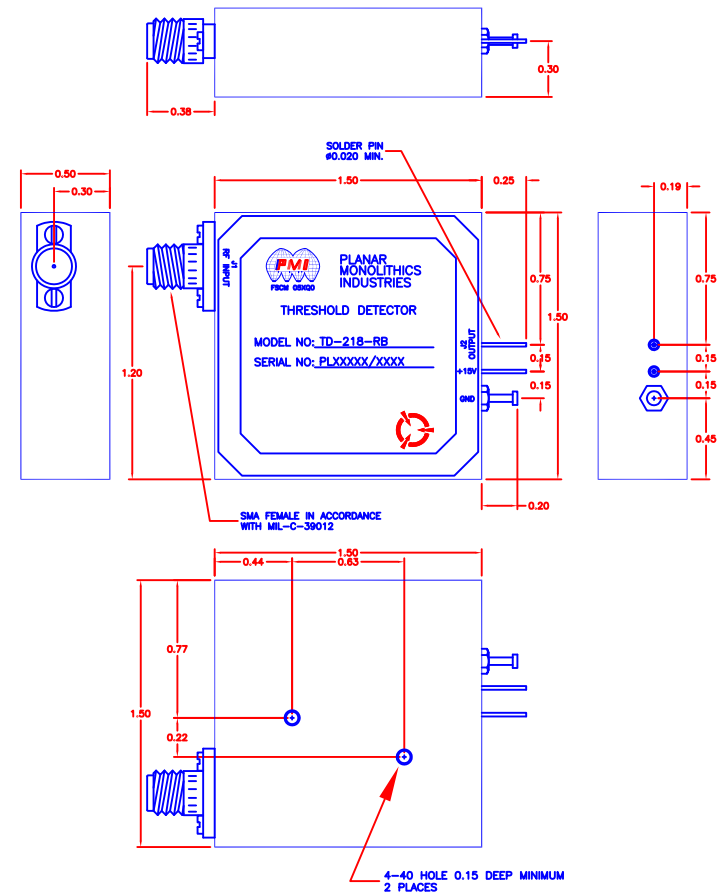
- TEMPERATURE: ..... -55°C TO +85°C (OPERATING)  
..... -65°C TO +125°C (NON-OPERATING)
- HUMIDITY: ..... MIL-STD-202F, METHOD 103B CONDITION B
- SHOCK: ..... MIL-STD-202F, METHOD 213B CONDITION B
- VIBRATION: ..... MIL-STD-202F, METHOD 204D CONDITION B
- ALTITUDE: ..... MIL-STD-202F, METHOD 105C CONDITION B
- TEMPERATURE CYCLE: ..... MIL-STD-202F, METHOD 107D CONDITION A

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:

X.XX  $\pm 0.020$   
X.XXX  $\pm 0.010$

REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	9/8/09	
	B1	CHANGED THRESHOLD LEVEL TO -30 dBm	8/25/10	
	B2	ECN # 14-0141	8/18/14	



PMI CONFIDENTIAL AND PROPRIETARY

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ISO 9001 CERTIFIED



APPROVALS		DATE		TITLE	
DRAWN		8/25/10		PRODUCT FEATURE	
CHECKED				TD-218-RB	
ISSUED				2 TO 18 GHz THRESHOLD DETECTOR	
SIZE		FSCM NO.		DWG NO.	
A		05XQ0		27010925-B	
SCALE		N:S		SHEET	
				1 OF 1	