

DESCRIPTION

PMI MODEL NO. PSM-1G1R1G-TRSW-2500W IS AN INTEGRATED TRANSMIT / RECEIVE (T/R) MODULE THAT IS DESIGNED FOR USE IN AN IFF APPLICATION. THIS T/R MODULE OPERATES FROM 1.0 GHz TO 1.1 GHz AND HANDLES PEAK INPUT POWER LEVELS UP TO 2.5 kW HAVING A MAXIMUM PULSE WIDTH OF 17 μ s AND A DUTY CYCLE OF 2%.

SPECIFICATIONS

- FREQUENCY RANGE: ----- 1.0 TO 1.1 GHz
- RF INPUT POWER: ----- 2.5 kW PEAK (J1 ONLY)
- PULSE WIDTH: ----- 17 μ s MAXIMUM
- DUTY CYCLE: ----- 2% MAXIMUM
- PRF: ----- 600 Hz
- INSERTION LOSS: ----- 0.8 dB TYPICAL, 1.0 dB MAXIMUM (J1 TO J2 & J1 TO J3, TRANSMIT MODE)
0.6 dB TYPICAL, 0.8 dB MAXIMUM (J2 TO J4 & J3 TO J5, RECEIVE MODE)
- ISOLATION: ----- 25 dB MINIMUM (J2 TO J3)
60 dB MINIMUM (J2 TO J4)
60 dB MINIMUM (J3 TO J5)
- SWITCHING RATE: ----- 2 kHz MAXIMUM
- SWITCHING SPEED: ----- 250 ns TYPICAL (50% TTL TO 10% OR 90% RF)
- SWITCHING CONTROLS: ----- TTL LOGIC (SEE TABLES 1 & 2)
- DC SUPPLIES: ----- +50 V, 60 mA TYPICAL
+5 V, 400 mA TYPICAL
- CONNECTORS: ----- SMA FEMALE
- SIZE: ----- 7.75" x 3.00" x 0.575"
- SEALING: ----- HERMETIC
- 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.
MOUNTING SURFACE TO BE FREE OF PAINT.

NOTE: COLD SWITCHING ONLY OR DAMAGE WILL OCCUR

NOTE: WHEN IN RECEIVE MODE NO HIGH POWER TO BE PRESENT AT J1

NOTE: SOURCE & LOAD TERMINATIONS TO BE BETTER THAN 1.5:1

ENVIRONMENTAL RATINGS

- TEMPERATURE: ----- -45 °C TO +85 °C (OPERATING - BASE PLATE)
-54 °C TO +125 °C (STORAGE)
- ENVIRONMENTAL: ----- MIL-STD-810E
- EMI/EMC: ----- MIL-STD-461

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	02/18/16	
	A1	ECN # 16-0140	10/07/16	
	B1	ECN #16-0179	11/29/16	

TABLE 1 - SW1 CTL

TTL	FUNCTION
"0"	TRANSMIT TO J2 ISOLATION TO J3
"1"	TRANSMIT TO J3 ISOLATION TO J2

TABLE 2 - SW2 & SW3 CTL

TTL	FUNCTION
"0"	RECEIVE MODE
"1"	TRANSMIT MODE

TABLE 3 - J6 PIN OUT

PIN	FUNCTION
1	+50 V
2	GROUND
3	NOT USED
4	+5 V
5	GROUND
6	TTL 1
7	NOT USED
8	NOT USED
9	TTL 2

PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD

FREDERICK, MARYLAND 21704 USA

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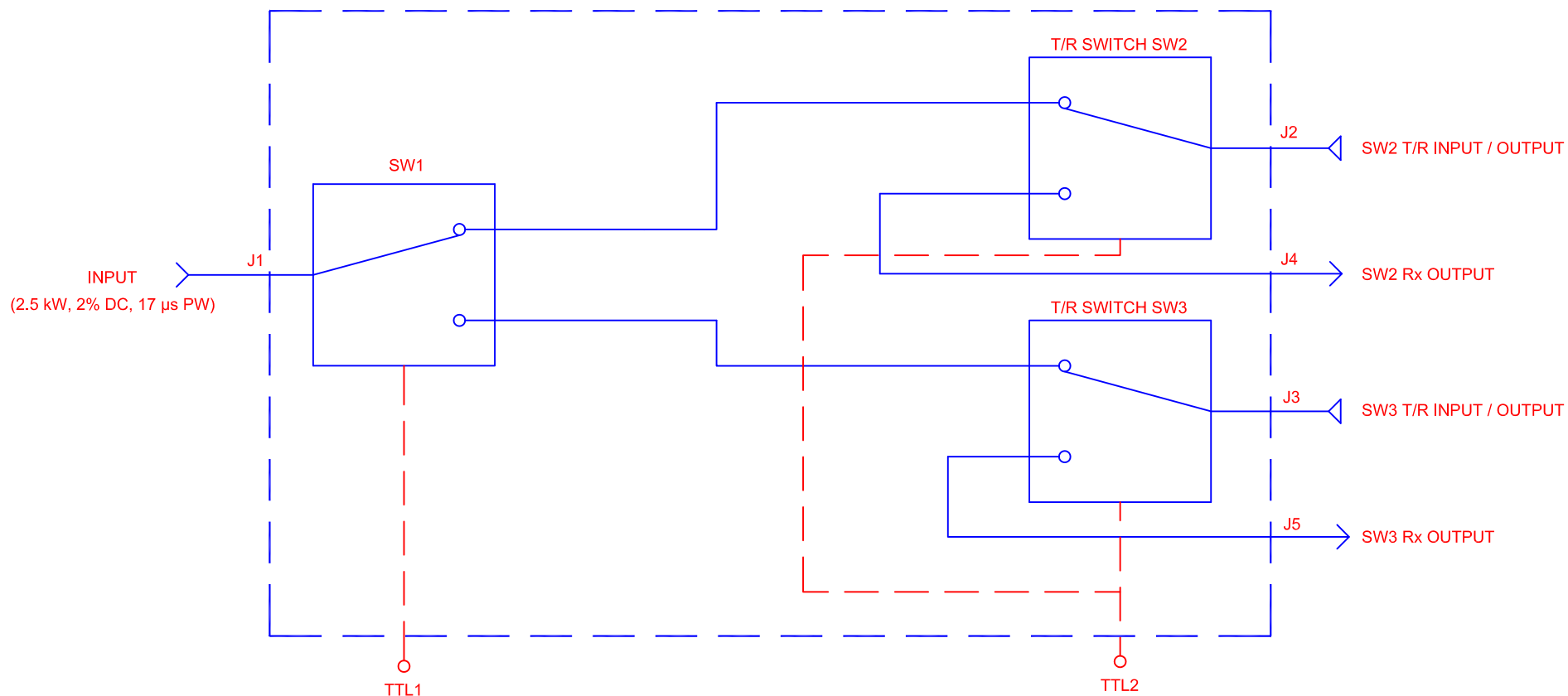


APPROVALS		DATE	TITLE			
DRAWN <i>M. Berry</i>		11/29/16	PRODUCT FEATURE PSM-1G1R1G-TRSW-2500W			
CHECKED			SIZE A	FSCM NO. 05XQ0	DWG NO. 27028600	REV. B1
ISSUED			SCALE N:S		SHEET 1 OF 3	

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FUNCTIONAL BLOCK DIAGRAM

STATES OF OPERATION

STATE #1: RECEIVE MODE - BOTH T/R SWITCHES (SW2 & SW3) WILL BE IN RECEIVE MODE AND THE POWER AMPLIFIER WILL BE OFF SUCH THAT HIGH POWER IS NOT PRESENT AT SW1.

STATE #2: IN THIS MODE BOTH T/R SWITCHES (SW2 & SW3) WILL BE IN TRANSMIT MODE AND SW1 WILL BE FEEDING SW2.

STATE #3: IN THIS MODE BOTH T/R SWITCHES (SW2 & SW3) WILL BE IN TRANSMIT MODE AND SW1 WILL BE FEEDING SW3.

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SCALE		N:S		SHEET	
				2 OF 3	

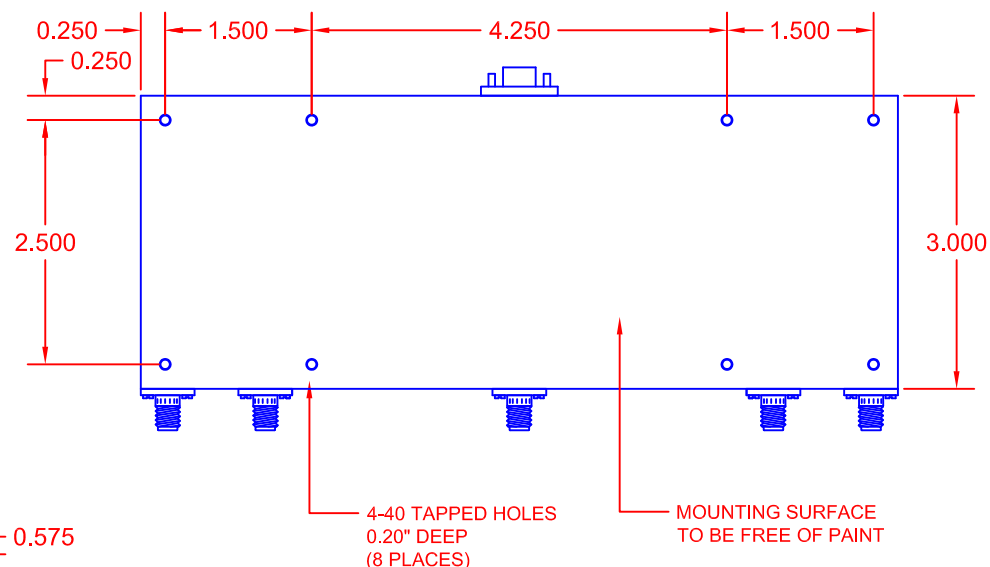
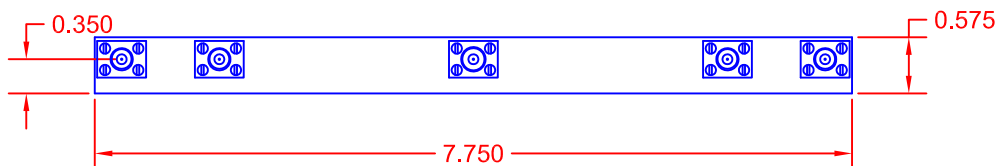
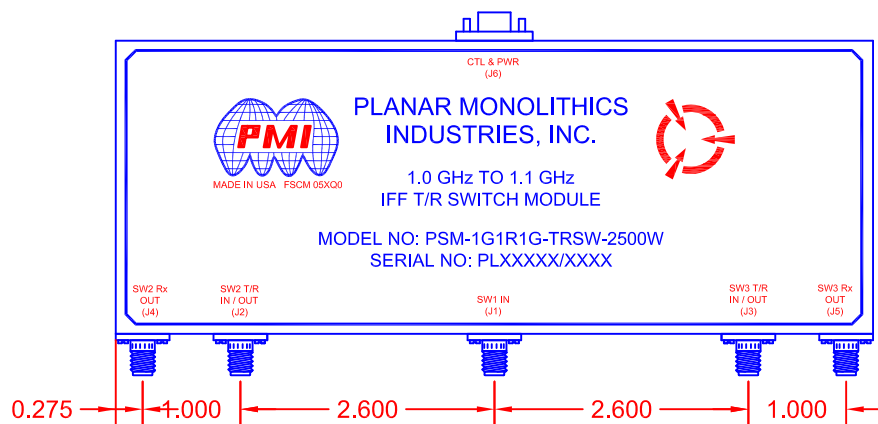
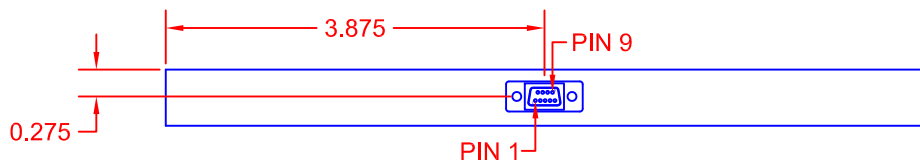
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REV.
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MECHANICAL LAYOUT

ENVIRONMENTAL RATINGS

- TEMPERATURE: ----- -45 °C TO +85 °C (OPERATING - BASE PLATE)
-54 °C TO +125 °C (STORAGE)
- ENVIRONMENTAL: ----- MIL-STD-810E
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ALL DIMENSIONS
ARE IN INCHES (mm)
TOLERANCES:
X.XX ±0.020
X.XXX ±0.010

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