

DESCRIPTION

PMI MODEL: PMTO-8R8G9R56G-CD-1 IS A TEMPERATURE STABILIZED OUTPUT MEDIUM POWER X-BAND GUNN-EFFECT OSCILLATOR FOR USE AS AN RF SIMULATOR SIGNAL GENERATOR. THIS UNIT CONTAINS A PRECISION VOLTAGE REGULATOR, A LOW-NOISE GUNN-EFFECT OSCILLATOR MOUNTED ON A THERMAL PLATFORM WITH INTEGRAL LOAD ISOLATORS FOR EACH OF THE RF OUTPUTS AND A SOLID STATE PROPORTIONAL TEMPERATURE CONTROLLER ALONG WITH ASSOCIATED HEATERS AND TEMPERATURE SENSOR. THIS UNIT SHALL ME ALL REQUIREMENTS LISTED BELOW AFTER A 15 MINUTE WARMUP WITH ALL OUTPUTS TERMINATED IN A 50 Ω LOAD WITH A VSWR OF 1.5:1 FOR ALL PHASES OVER THE OPERATING RANGE. THE UNIT SHALL BE CAPABLE OF WITHSTANDING, WITHOUT DAMAGE OR PERMANENT DEGRADATION OF PERFORMANCE, ANY TEMPORARY EXTREME LOAD CONDITION; I.E., SHORT OR OPEN CIRCUIT.

SPECIFICATIONS

- FREQUENCY RANGE: ----- 8.8 TO 9.56 GHz (TUNING)
8.9 TO 9.46 GHz (TO MEET SPECIFICATION)
- TUNING SENSITIVITY: ----- 65 MHz/360° ROTATION
100 MHz/360° ROTATION
- OUTPUT FREQ. VS TUNER ROTATION:--- ±10 MHz, 8.90 TO 8.93 GHz TYP
(DEVEATION FROM A STRAIGHT LINE) ±10 MHz, 8.93 TO 9.43 GHz TYP
±15 MHz, 9.43 TO 9.46 GHz TYP
- POWER OUTPUT (ANY FREQUENCY): --- J1: +10 (+3 MAX, -0 MIN) dBm
J2: 0 (+3 MAX, -0 MIN) dBm
- TUNING ELEMENT: ----- STARTING TORQUE: 25 INCH-OZ MAX
WITHSTANDING TORQUE: 100 INCH-OZ MIN @ STOPS
- SPURIOUS HARMONIC SIGNALS: ----- 60 dBc MINIMUM (IN BAND)
45 dBc MINIMUM (OUT OF BAND)
30 dBc MINIMUM (HARMONICS)
- NOISE: ----- SEE PLOTS
- TEMPERATURE COEFFICIENT: ----- 2.5 MHz/hr TYP @ ANY CONSTANT TEMP FROM 0°C TO +40°C
150 MHz/hr TYP @ ANY CONSTANT TEMP FROM 40°C TO +50°C
- LONG TERM FREQUENCY DRIFT: ----- 50 kHz/hr MAX @ ANY CONSTANT TEMP FROM 0°C TO +50°C
- PULLING FACTOR: ----- LESS THAN 50 kHz
- REG/OSC POWER SUPPLY: ----- +24±1 VDC @ 1.5 A MAX, 2% REGULATION, RIPPLE = 2 mVrms
- HEATER POWER SUPPLY (ISOLATED): -- +24±1 VDC @ 1.5 A MAX, 2% REGULATION, RIPPLE = 50 mVrms
- CONNECTORS: ----- SMA FEMALE 2 PLACES
- SIZE (EXCLUDING CONNECTORS): ----- 3.50" x 3.50" x 3.00"
88.9 mm x 88.9 mm x 76.2 mm
- WEIGHT: ----- 3.2 lbs MAX
- FINISH: ----- CHEMICAL FILM PER MIL-C-5541 CLASS 1A OR NICKEL PLATED

ENVIRONMENTAL RATINGS

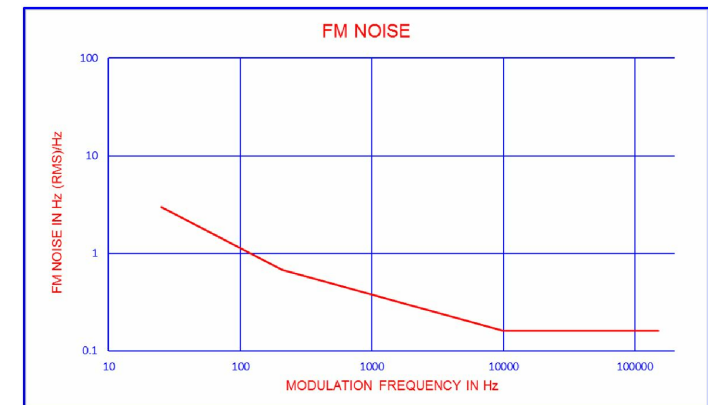
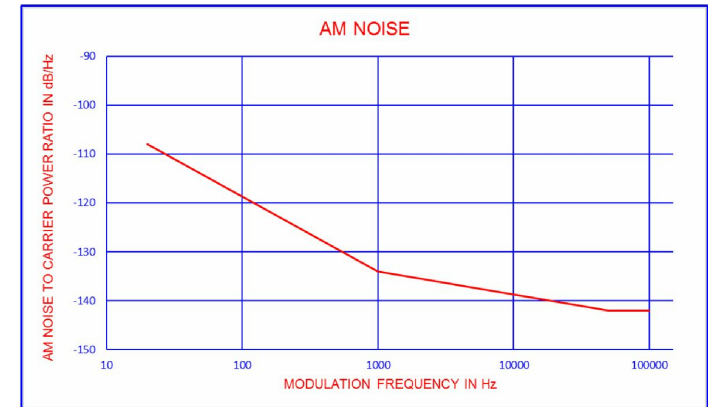
- TEMPERATURE: ----- -0 °C TO +50 °C (OPERATING)
-62 °C TO +75 °C (NON-OPERATING)
- HUMIDITY: ----- MIL-F-18870 (OS) CLASS 4 EQUIPMENT
- SHOCK: ----- 30G, 11ms, 3 HALF-SINE SHOCKS, 3-AXIS
(±1 MHz FREQUENCY SHIFT MAXIMUM)
- VIBRATION: ----- MIL-STD-167 TYPE I

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	05/09/17	
	2	MISCELLANEOUS UPDATES	9/26/17	
	3	MECHANICAL AND ELECTRICAL UPDATES	1/30/20	



PLANAR MONOLITHICS INDUSTRIES, INC.

7311-F GROVE ROAD

FREDERICK, MARYLAND 21704 USA

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ISO 9001 CERTIFIED



APPROVALS		DATE		TITLE	
DRAWN		M. Berry		05/09/17	
CHECKED					
ISSUED					
SIZE		FSCM NO.		DWG NO.	
A		05XQ0		27031550	
SCALE		N:S		SHEET	
				1 OF 2	

PRODUCT FEATURE

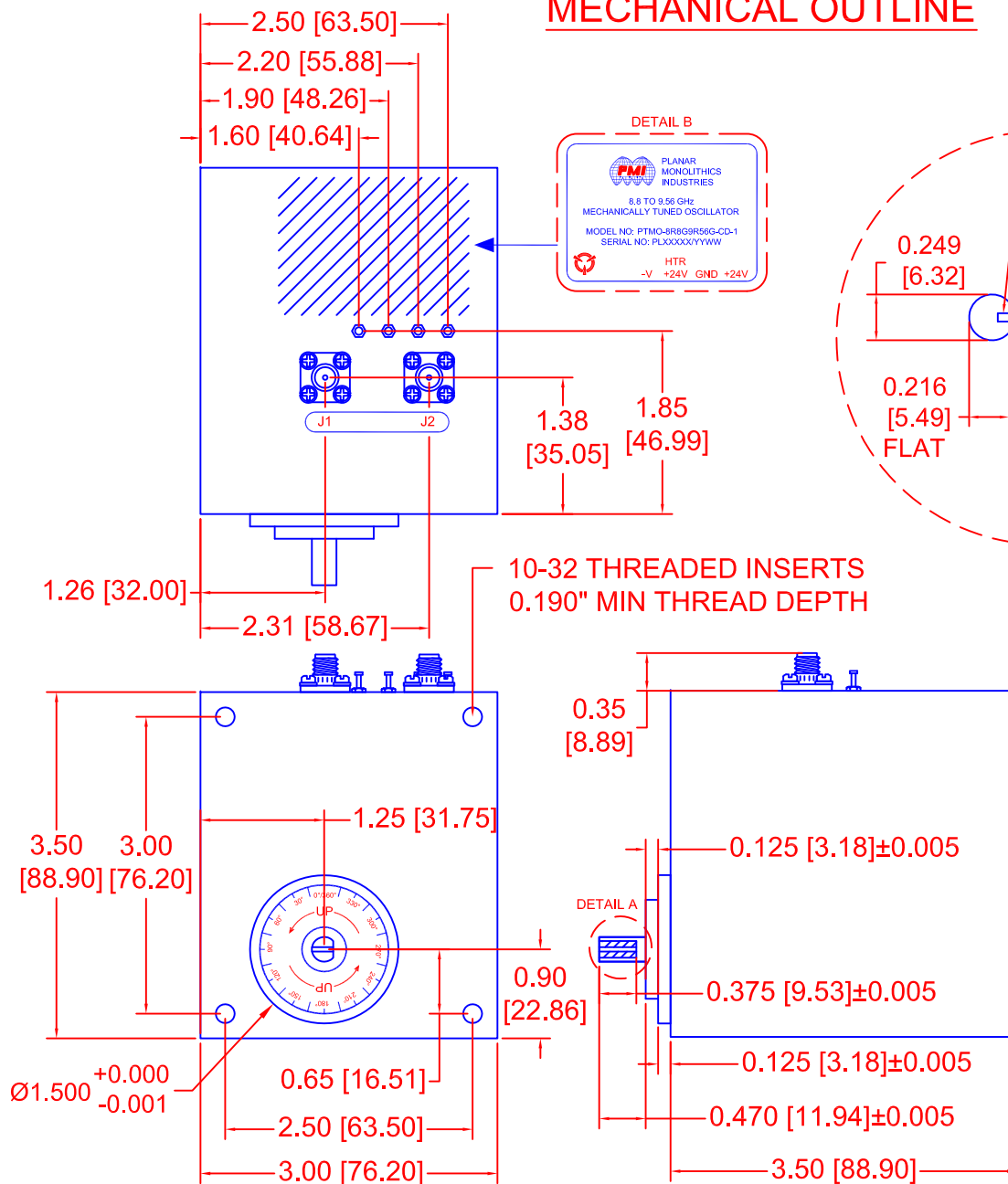
PMTO-8R8G9R56G-CD-1

8.8 to 9.56 GHz Mechanically Tuned Oscillator

REV.
3

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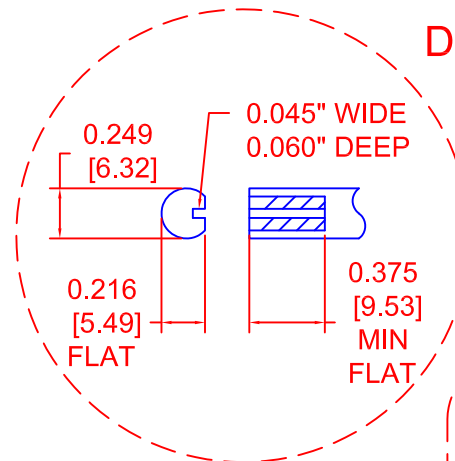
MECHANICAL OUTLINE



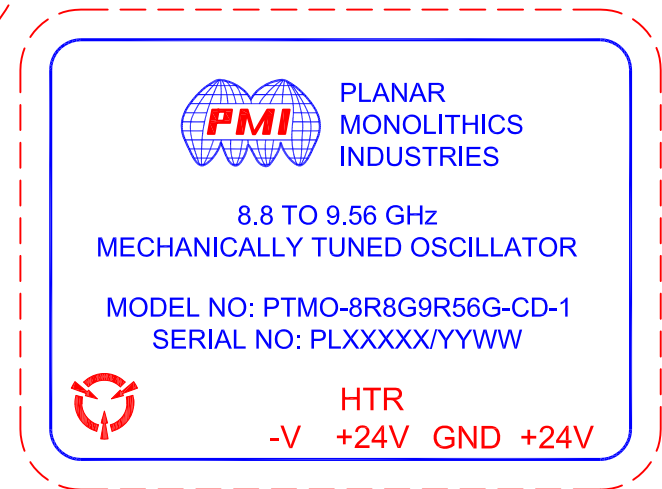
ALL DIMENSIONS
ARE IN INCH [mm]
TOLERANCES:
X.XX ± 0.020 [0.508]
X.XXX ± 0.010 [0.254]

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DETAIL A



DETAIL B



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APPROVALS		DATE		TITLE	
DRAWN <i>M. Berry</i>		05/09/17		PRODUCT FEATURE PMTO-8R8G9R56G-CD-1 8.8 to 9.56 GHz Mechanically Tuned Oscillator	
CHECKED				SIZE A	FSCM NO. 05XQ0
ISSUED				DWG NO. 27031550	REV. 3
SCALE N:S				SHEET 2 OF 2	