

DESCRIPTION

PMI MODEL NO. PVCO-14G18G-10DBM-SF IS A VOLTAGE CONTROLLED OSCILLATOR THAT PROVIDES +10 dBm TO +17 dBm OVER 14.0 TO 18.0 GHz. THE HARMONICS ARE -15 dBc AND SPURIOUS IS -45 dBc. THIS VCO IS TEMPERATURE STABILIZED OFFERING LESS THAN 55 MHz FREQUENCY DRIFT OVER THE SPECIFIED OPERATING TEMPERATURE RANGE. THE TUNING VOLTAGE IS 0 TO 10 VDC WITH A 1 kΩ INPUT IMPEDANCE.

SPECIFICATIONS

- * FREQUENCY RANGE: ----- 14.0 GHz TO 18.0 GHz
- * OUTPUT POWER: ----- +10 mW MIN
+50 mW MAX
- * HARMONICS: ----- -15 dBc MIN
- * SPURIOUS: ----- -45 dBc MIN
- * OUTPUT POWER VARIATION vs. FREQUENCY: ----- 6 dB MAX
- * OUTPUT POWER VARIATION vs. TEMPERATURE: ----- ±1 dB MAX
- * FREQUENCY DRIFT: ----- 55 MHz MAX OVER OPERATING TEMP
- * PULLING: ----- ±0.25% MAX INTO 1.5:1 VSWR
- * PUSHING: ----- ±0.2% / VOLT MAX
- * RESIDUAL FM: ----- 350 kHz PK-PK MAX
- * TUNING VOLTAGE RANGE: ----- 0 TO +10 VDC, 1 kΩ MIN INPUT IMPEDANCE
- * SLOPE LINEARITY: ----- 3:1 MAX (NOTE 1)
- * TUNING LINEARITY: ----- ±0.5% MAX (NOTE 2)
- * MODULATION RESPONSE BANDWIDTH: ----- 5 MHz MAX (NOTE 3)
- * POST TUNING DRIFT: ----- 100 kHz MIN (FULL BAND DEVIATION)
- * HEATER CONTROL: ----- TRUE PROPORTIONALLY CONTROL
- * WARM-UP TIME: ----- 8 MINUTES MAX FROM -30 °C
- * DC SUPPLIES: ----- +15 VDC ± 5% @ 1.2 AMPS MAX
-15 VDC ± 5% @ 0.1 AMPS MAX
+65 VDC ± 5% @ 0.025 AMPS MAX
115 VAC ± 5% @ 50 TO 400 Hz
1.5 AMPS MAX (TURN-ON)
0.8 AMPS MAX (STEADY-STATE @ -30 °C)
- * RF OUTPUT & TUNING CONNECTORS: ----- SMA FEMALE
- * POWER CONNECTION: ----- RFI SOLDER TERMINALS
- * SIZE: ----- 5.0" x 3.15" x 1.80"
- * FINISH: ----- EPOXY PAINTED BLUE

NOTE 1: SLOPE LINEARITY IS DEFINED AT THE VARIATION OF TUNING SENSITIVITY OVER THE FULL FREQUENCY RANGE.

NOTE 2: THE MAXIMUM OUTPUT FREQUENCY DEVIATION FROM A BEST FIT STRAIGHT LINE APPROXIMATION OF THE TUNING CURVE UNDER SPECIFIED LOAD AND CONSTANT TEMPERATURE CONDITION.

$$\text{TUNING LINEARITY} = \frac{\pm \Delta f \text{ (MHz)}}{\text{TUNING BANDWIDTH (MHz)}} \cdot 100(\%)$$

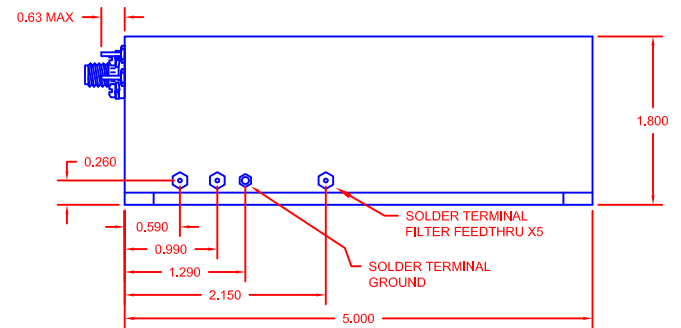
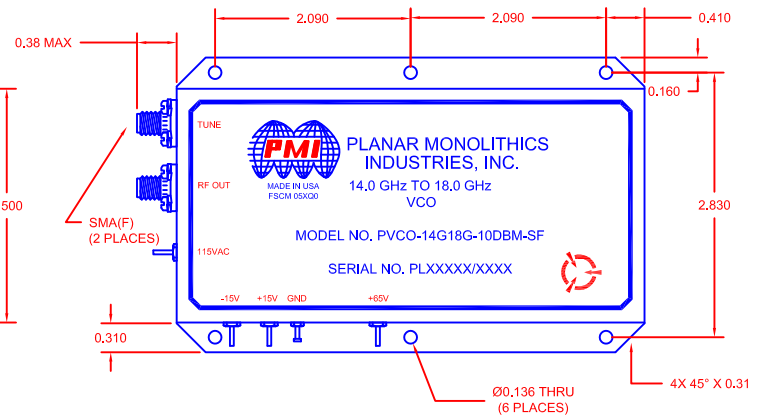
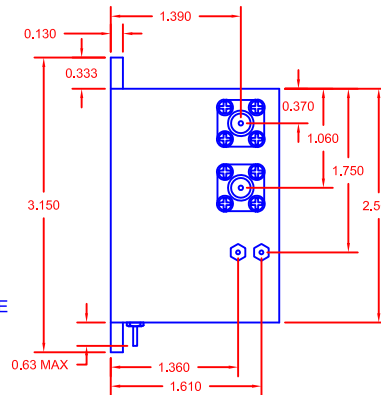
NOTE 3: THE FREQUENCY DRIFT IN A TIME PERIOD STARTING 10 ms AFTER APPLICATION OF THE TUNING VOLTAGE AND CONTINUING FOR 3 SECONDS SHALL NOT EXCEED 5 MHz.

ENVIRONMENTAL RATINGS

- * TEMPERATURE: ----- -55 °C TO +85 °C (OPERATING)
-65 °C TO +125 °C (STORAGE)
- * SHOCK: ----- 15G. 11 ±1 ms
- * VIBRATION: ----- 0.1 INCH PK-PK or 10G (5 TO 500 Hz)
MIL-E-5400R FIG. 2 (SHEET 1 OF 3 - CURVE 4)
- * RELATIVE HUMIDITY: ----- 100%

NOTE: SPECIFICATIONS WILL VARY OVER OPERATING TEMPERATURE

NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



REVISIONS				
ZONE	REV.	DESCRIPTION	DATE	APPROVED
	-	PRELIMINARY	12/21/15	

MECHANICAL OUTLINE

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 ISO 9001 CERTIFIED



APPROVALS		DATE	TITLE		
DRAWN <i>M. Berry</i>		12/21/14	PRODUCT FEATURE PVCO-14G18G-10dBm-SF		
CHECKED			SIZE A	FSCM NO. 05XQ0	DWG NO. PRELIMINARY
ISSUED			SCALE N:S		REV. -
				SHEET	1 OF 1

PMI CONFIDENTIAL AND PROPRIETARY

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