

## Electrical Specifications

Frequency	5.8 GHz
Frequency Stability and Accuracy	
External Ref.	Same as input
Internal Ref.	± 0.5 PPM (Over Temp Range)
Aging (after 2 months)	± 1.0 PPM max per year @ 25°C
Adjustability	10 years
Phase noise (dBc/Hz)	Typ.
L(100 Hz)	-85
L(1 kHz)	-110
L(10 kHz)	-120
L(100 kHz)	-125
L(1 MHz)	-145
L(10 MHz)	
Spurious (max)	-60 dBc
Harmonics/Sub-Harm. (typ.)	-20 / -20 dBc
DC Power	
+5.5 VDC ± 0.5 VDC	500 mA
Power Out (nom. / min. @ 25°C)	+15 / +13 dBm
Power Variation (typ.)	2 dB
Load VSWR (max.)	2:1
Phase-Lock Indicator (LD)	Open Collector (note 4)

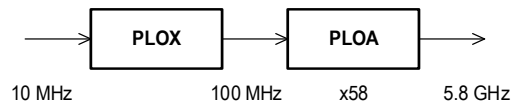
## Reference Specifications

Input Reference Frequency	10 MHz
Input Level	0 dBm ± 3 dBm

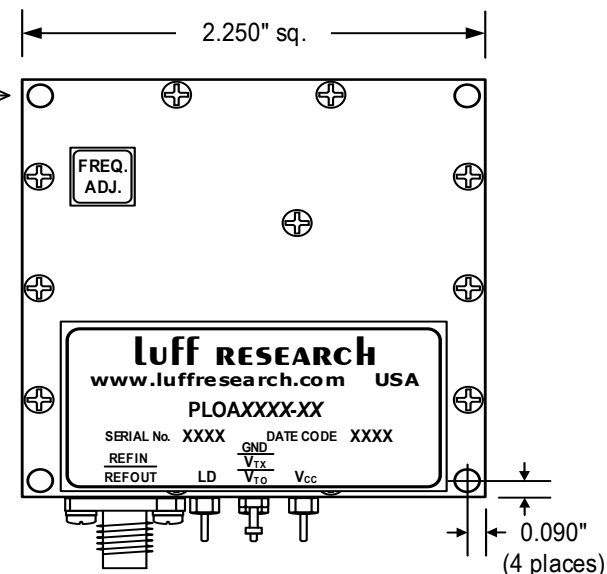
## Environment Specifications

Operating Temp. Range (surface)	-5°C to 65°C (note 3)
Storage Temp. Range	-40°C to 85°C
Relative Humidity (non-condensing)	90%RH @ 40°C
Shock	30G / 10 ms
Vibration	4G / 20 Hz - 20 kHz

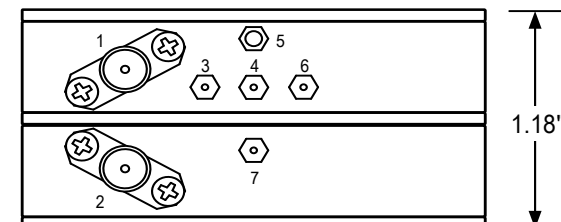
### Block Diagram



Tapped 4-40 UNC  
0.25" Deep from  
Top & Bottom  
(4 places)



1. Reference Input
2. RF Output
3. Lock Detector
4.  $V_{TX}$  (Test Point)
5. Ground Lug
6. DC Power ( $V_{CC}$ )
7.  $V_{TO}$  (Test Point)



### Notes:

1. This unit features an automatic switch to an internal reference TCXO (±0.5 PPM) when the external reference is removed.
2. Phase noise is reference dependent for offsets lower than 100 Hz.
3. Proper heatsinking may be required to keep surface temp. lower than +65°C.
4. TTL Compatible Lock Detect available upon quote.

**Luff Research, Inc.**

luffresearch.com | 20 N. Tyson Ave. Floral Park, NY 11001

Product Data Sheet

Analog Phase Locked Ceramic Resonating Oscillator

PLOA-5800-10

April 17, 2018

## Electrical Specifications

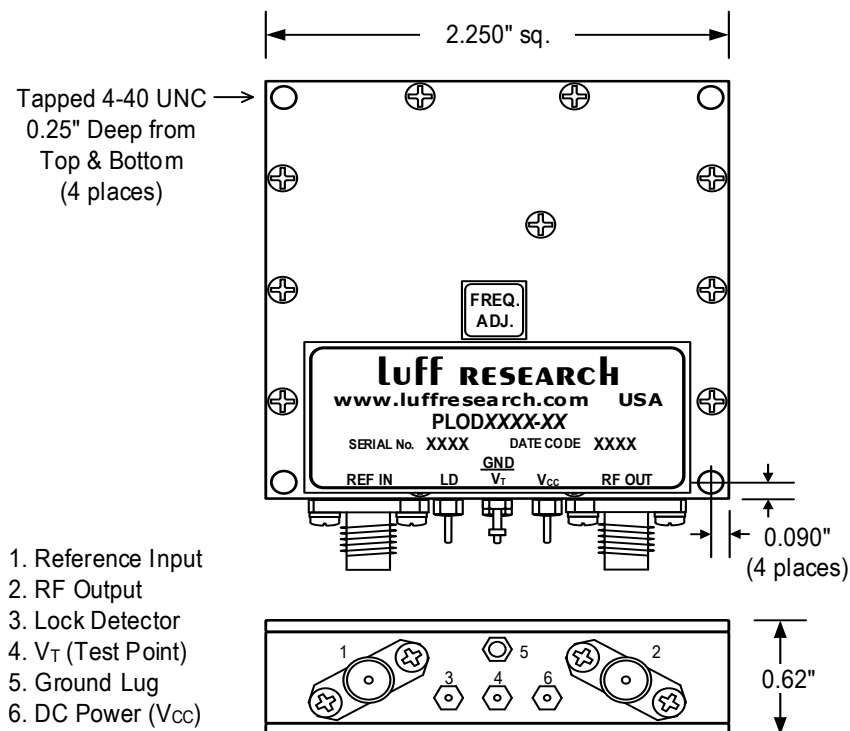
Frequency	990 MHz
Frequency Stability and Accuracy	
External Ref.	Same as input
Internal Ref.	$\pm 0.5$ PPM (Over Temp Range)
Aging (after 2 months)	$\pm 1.0$ PPM max per year @ 25°C
Adjustability	10 years
Phase noise (dBc/Hz)	
L(100 Hz)	-95
L(1 kHz)	-100
L(10 kHz)	-105
L(100 kHz)	-120
L(1 MHz)	-145
L(10 MHz)	-160
Spurious (max)	-60 dBc
Harmonics (typ.)	-30 dBc
DC Power	
+5.5 VDC $\pm 0.5$ VDC	250 mA
Power Out (min. @ 25°C)	+13 dBm
Power Variation (typ.)	2 dB
Load VSWR (max.)	2:1
Phase-Lock Indicator (LD)	Open Collector (note 5)

## Reference Specifications

Input Reference Frequency	10 MHz
Input Level	0 dBm $\pm 3$ dBm

## Environment Specifications

Operating Temp. Range (surface)	-5°C to 65°C (note 4)
Storage Temp. Range	-40°C to 85°C
Relative Humidity (non-condensing)	90%RH @ 40°C
Shock	30G / 10 ms
Vibration	4G / 20 Hz - 20 kHz



### Notes:

1. This unit is available with an internal TCXO ( $\pm 0.5$  PPM) upon quote.
2. "Reference Input" is not available on units with an internal TCXO.
3. Frequency Adjust feature is only applicable to units with an internal TCXO.
4. Proper heatsinking may be required to keep surface temp. lower than +65°C.
5. TTL Compatible Lock Detect available upon quote.

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Product Data Sheet

Digital Phase Locked Ceramic Resonating Oscillator

PLOD-0990-10

April 17, 2018