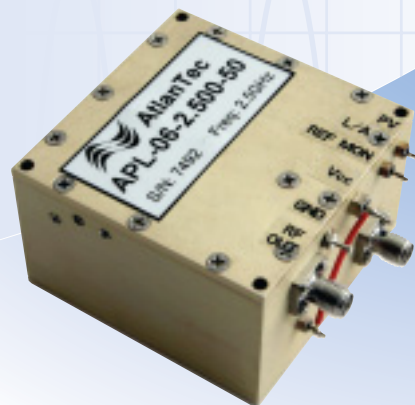


Phase Locked Oscillators

High Stability Internal Reference APL - 06 Series

- 300 MHz to 14 GHz
- Very High Stability
- Fundamental Frequency (CRO or DRO)
- Internal Reference (OCXO)
- Low Phase Noise
- Low Microphonics
- Low Current
- Custom Design



General Specifications (also see options)

Output Frequency	300 MHz to 14.0 GHz
Frequency Stability	+/-0.05ppm max. over -20+60C +/-0.005ppm/day typ. at despatch +/-0.5ppm/year max.
Output Power	+13dBm min. (see options)
Output Power Stability	+/-2dB max
Harmonics	-20dBc max.
Ref. Related Spurious	-70dBc max.
Other Spurious	-80dBc max.
Load VSWR	2.5:1 max.
Input Voltage	+15V d.c. (see options)
Input Current	600mA max. (for +13dBm)
Operating Temperature	-20+60C
Storage Temperature	-40+85C
Lock Alarm	TTL high for locked
RF Output Connector	SMA Female
Ref. Monitor Connector	SMA Female

The APL - 06 series of fundamental frequency phase locked oscillators utilise coaxial resonators (CRO) to 3GHz and dielectric resonators (DRO) to 14 GHz in a phase locked loop with an internal high stability OCXO reference. Circuit design uses SMT devices including Si bipolar active devices up to 3 GHz and GaAs FET active devices above 3 GHz. The output contains a buffer amplifier for improved ruggedness, higher output power and a wider range of load VSWR. The PLOs also have an OCXO reference monitor output. DRO types have an external tuning screw for factory set up only.

Phase Noise (dBc/Hz) typical

Offset Frequency (Hz)	Output Frequency (GHz)					
	0.6	1.5	3	4	10	14
10	-63	-55	-49	-47	-39	-36
100	-93	-85	-79	-77	-69	-66
1K	-117	-109	-103	-101	-93	-90
10K	-125	-117	-111	-109	-101	-98
100K	-135	-125	-115	-115	-110	-105
1M	-140	-140	-135	-135	-120	-115

Options:

00 - Standard, based on 50 MHz internal OCXO.

Output Power

11 - +16dBm min. up to 10.0GHz
12 - +20dBm min. up to 6.0GHz

D.C. Supply

21 - Input Voltage +12V d.c.
22 - Regulated +11 to +16V d.c.
23 - +28V d.c.

Custom Options:

- Higher Output Frequency to 30GHz (multiplied)
- Higher Output Power to +30dBm (amplified)
- Lower Harmonics (filtered)
- Lock Alarm - Open Collector
- Custom Sizes
- Instrument or Rack Mount Housing with Power Supply

Model Numbers:

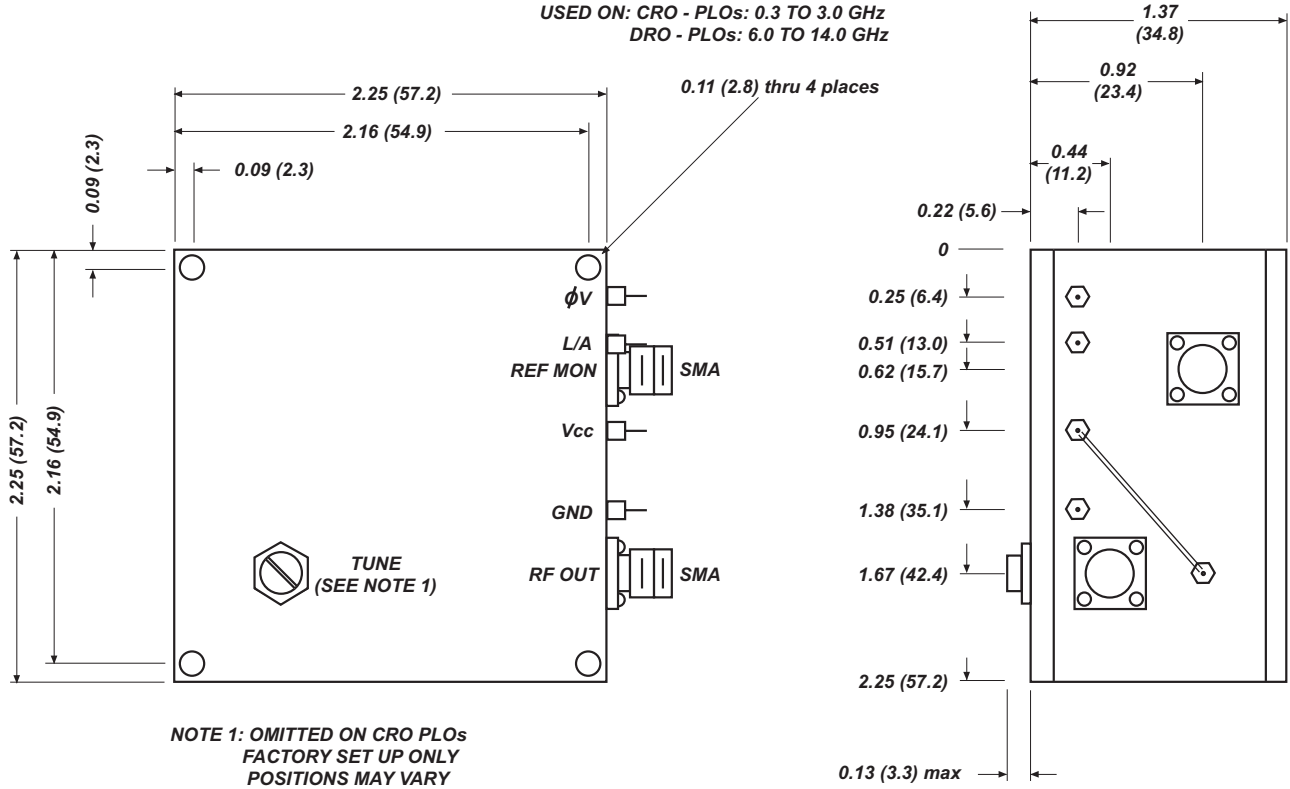
Examples:

APL-06-13.050-00 13.05GHz PLO with standard specifications

APL-06-9.750-11-23 9.75GHz PLO with +16dBm and +28V.

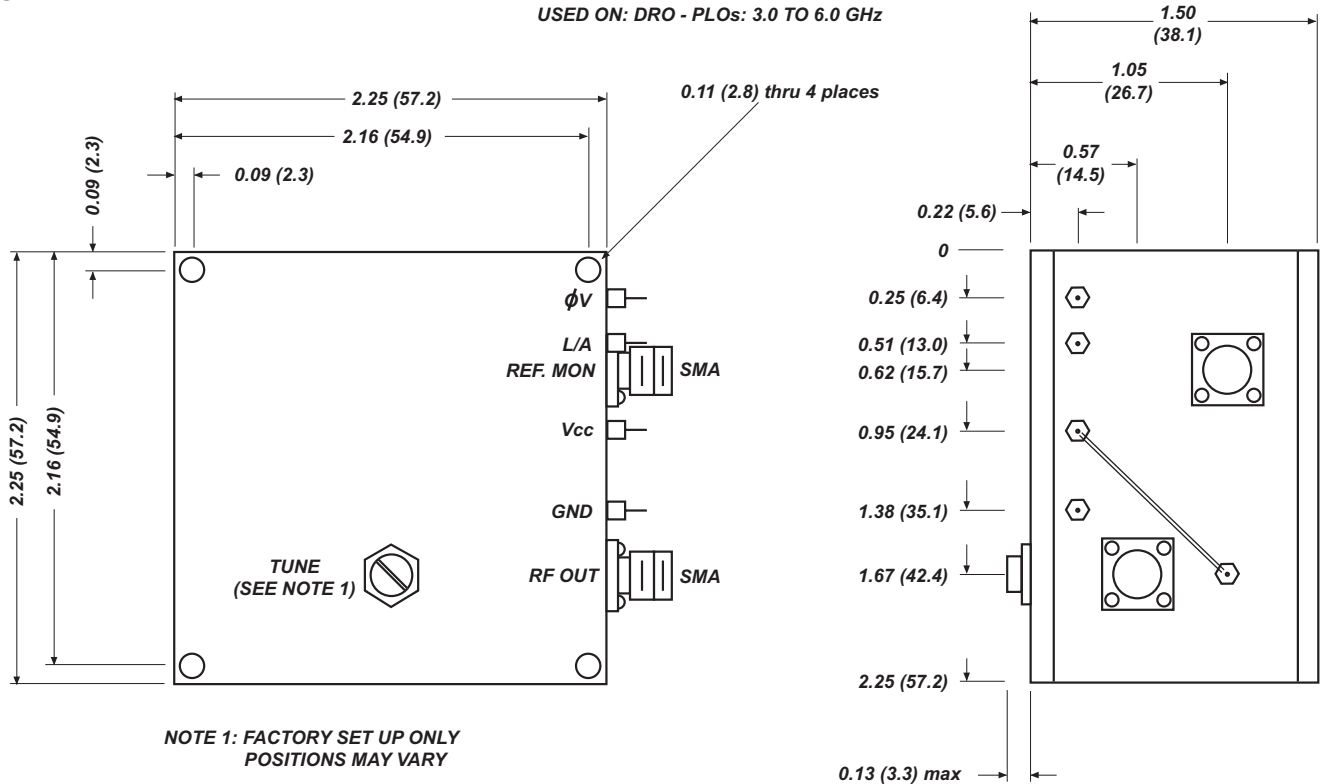
OUTLINE G

PLO WITH INTERNAL OCXO
 USED ON: CRO - PLOs: 0.3 TO 3.0 GHz
 DRO - PLOs: 6.0 TO 14.0 GHz



OUTLINE H

PLO WITH INTERNAL OCXO
 USED ON: DRO - PLOs: 3.0 TO 6.0 GHz



All dimensions are inches (mm)

We reserve the right to change standard product specifications without notice but will be pleased to consider control drawings for quotation.