

Phase Locked Oscillators

High Stability Internal Reference APL - 06 Series

- 400 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	400 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 3.4 GHz 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 3.4 GHz and GaAs FET active devices above 3.4 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 10.0 GHz

12 - +20dBm min. up to 6.0 GHz

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 30 GHz (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:

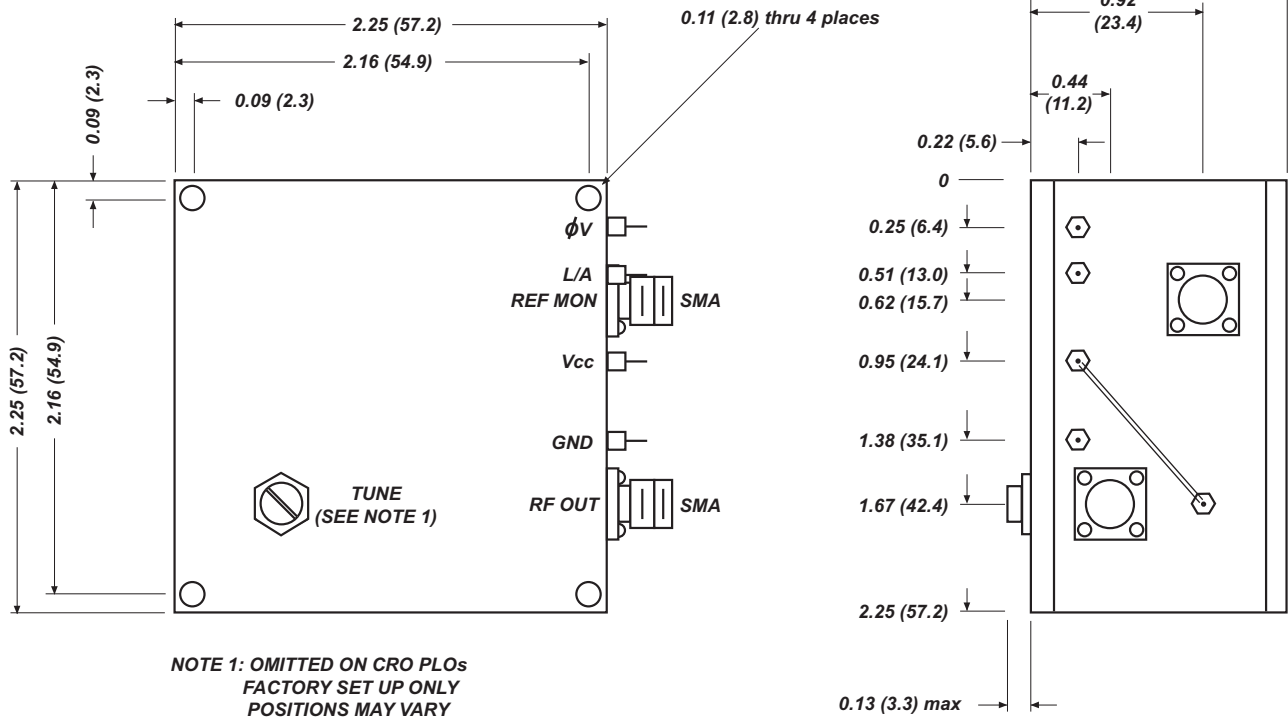
APL-06-13.050-00 13.05 GHz PLO with standard specifications

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

Oscillators

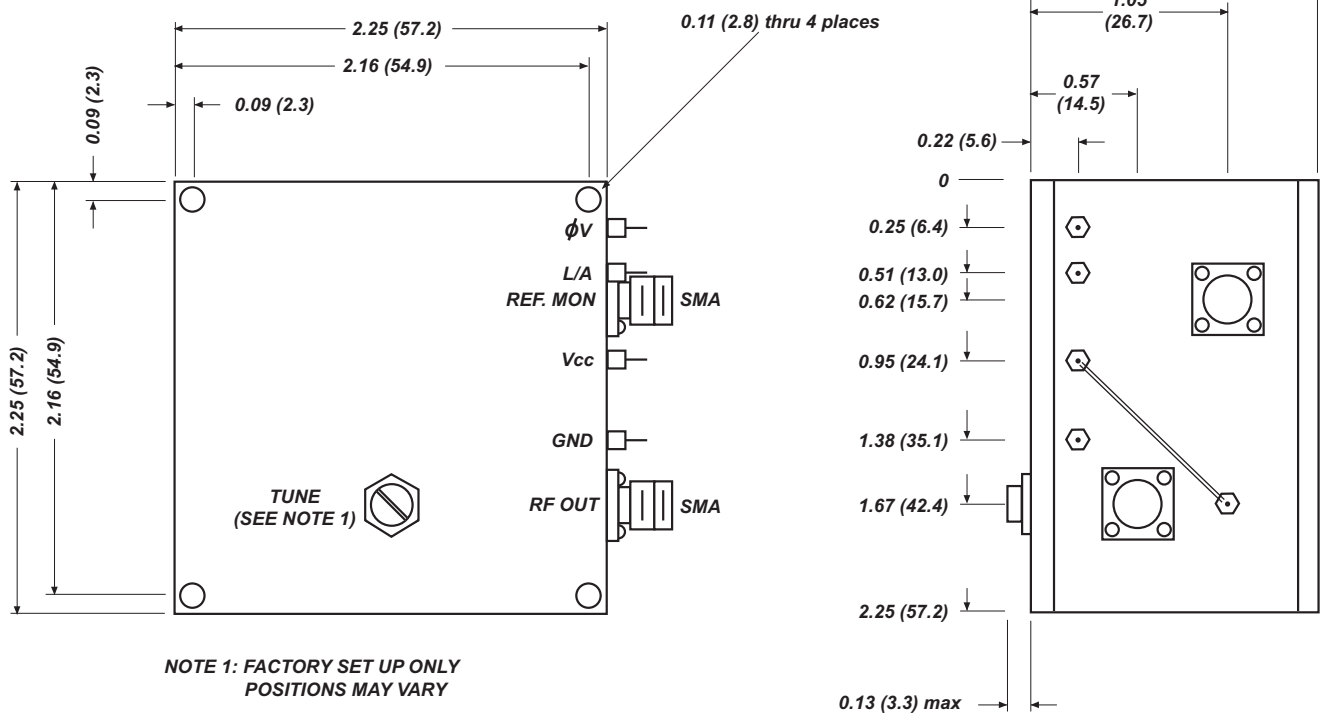
OUTLINE G

PLO WITH INTERNAL OCXO
USED ON: CRO - PLOs: 0.4 TO 3.4 GHz
DRO - PLOs: 6.0 TO 14.0 GHz



OUTLINE H

PLO WITH INTERNAL OCXO
USED ON: DRO - PLOs: 3.4 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.

Oscillators

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