

Atlantic Microwave Phase Locked Oscillators

APL Series

The APL 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 crystal 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 a reference monitor output. DRO types have an external tuning screw for factory set up only.

- 400 MHz to 14 GHz
- Fundamental Frequency (CRO or DRO)
- Internal or External Reference
- Small Size
- Low Phase Noise
- Low Microphonics
- Low Current
- Custom Design



Fundamental
Frequency (CRO or
DRO)



High Output, +13dBm
min.

General Specifications	
Output Frequency	400 MHz to 14.0 GHz
Frequency Stability	+/-0.5ppm max. over temp range (Internal Reference)
External Reference	10MHz @0+/-3dBm
Output Power	+13dBm min.
Output Power Stability	+/-2dB max
Harmonics	-25dBc max.
Ref. Related Spurious	-60dBc typ.
Divided Ref. Related Spurious	-50dBc (400 MHz - 3.4 GHz)
Other Spurious	-80dBc max.
Load VSWR	2.5:1 max.
Input Voltage	+5.5 +/-0.5Vdc
Input Current	500mA
Operating Temperature	0+60C
Storage Temperature	-40+85C
Lock Alarm	TTL high for locked
RF Output Connector	SMA female
Ref. Input Connector	SMA female

Phase Noise (dBc/Hz) (typical)								
Offset Frequency (Hz)	Output Frequency (GHz)							
	3.0	4.0	8.0	10.0	13.0	18.0	22.0	25.0
100	-70	-60	-80	-75	-73	-70	-75	-75
1K	-85	-80	-105	-100	-103	-95	-90	-100
10K	-105	-110	-115	-115	-112	-105	-105	-100
100K	-120	-120	-120	-115	-120	-105	-105	-110
1M	-140	-120	-135	-130	-130	-135	-125	-125

Note 3: Phase noise specifications are dependent upon the frequency and type of the internal reference. For a more detailed specification at your desired output frequency and stability, please contact the factory.

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.

Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

