

Description



The PLDRO (Phase Locked Dielectric Resonator Oscillator) provides the ultra-low phase noise and an excellent frequency stability when it is phase-locked to a clean and stable crystal reference signal. The PLDRO provides ideal signal for commercial and military systems that require ultra-low phase noise, low spurious, and high frequency stability.

Our PLDRO series are available in four series products: Single Loop PLDRO, Dual Loop PLDRO, Variable Frequency PLDRO, and Fractional-N PLDRO.

The Dual Loop PLDRO is a phase locked dielectric resonator oscillator whose output frequency is generated by a dual phase locked loop. This PLDRO series provides an output frequency whose phase is locked to an integer or fractional multiple of the external reference using PLCRO (Phase Locked Coaxial Resonator Oscillator) and frequency divider.

Features

- Integer or Fractional Multiple of the External Reference
- Ultra Low Phase Noise
- Low Spurious
- Phase-Locked Alarm
- Low Current Consumption
- Compact Housing
- Rugged Construction

Options

- Output Power: 17 dBm (typ.)
- Supply Voltage: 6 VDC
- Operating Temperature: -20 °C to 70 °C/-40 °C to 70 °C
- Field Replaceable SMA-Jack
- Laser Marking

Applications

- Radar Systems
- VSAT/Satellite Communication Systems
- Test Equipment
- Microwave Transmitters & Receivers
- Cable TV Links (CATV)
- LMDS
- Missile Guidance
- Local Area Networks (LAN)

Specifications

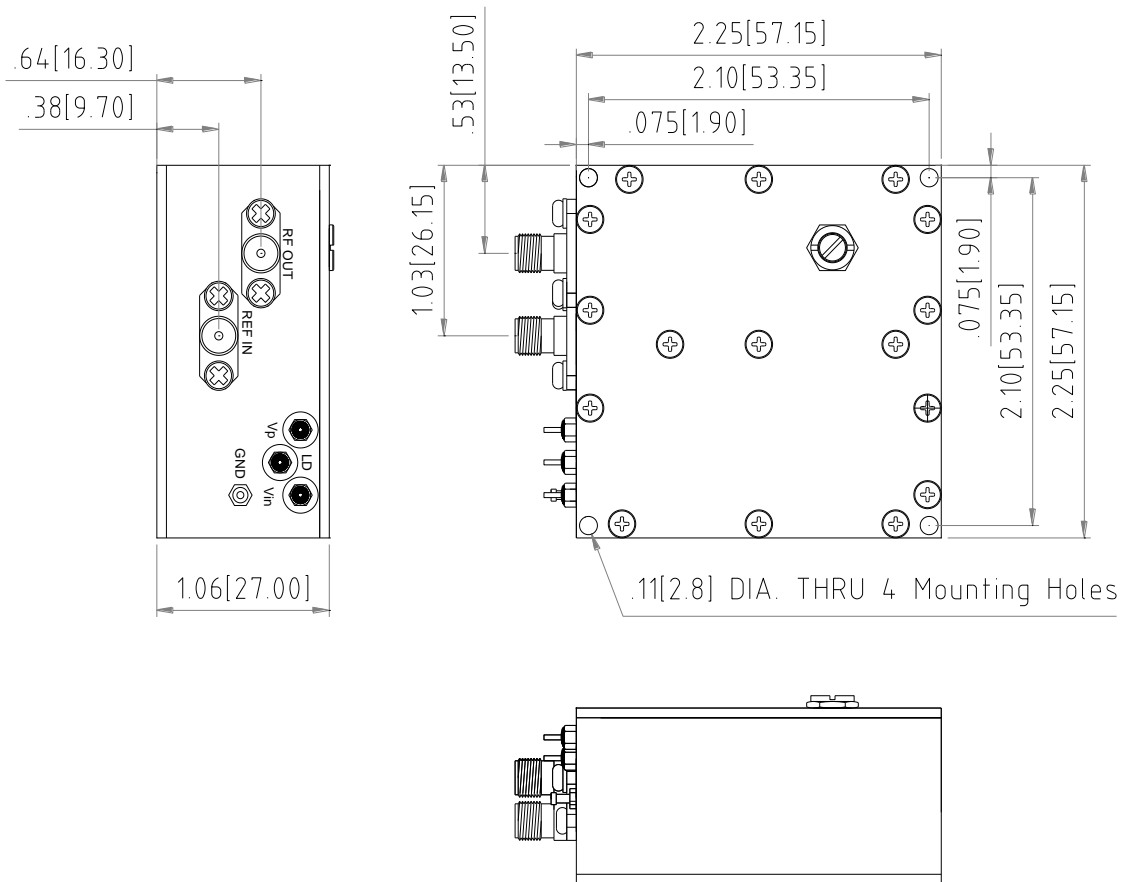
| Parameters | | Specifications | | | | |
|---------------------------------|--------------------------------------|---|-------|-------|--------|--------|
| Output Frequency | | 5 GHz to 28 GHz | | | | |
| Output Power | | 15 dBm (typ.) | | | | |
| Phase Noise (dBc/Hz) | Offset | Frequency | 6 GHz | 8 GHz | 13 GHz | 26 GHz |
| | 100 Hz | | -92 | -90 | -84 | -78 |
| | 1 KHz | | -112 | -111 | -106 | -100 |
| | 10 KHz | | -118 | -117 | -112 | -105 |
| | 100 KHz | | -120 | -119 | -114 | -107 |
| | 1 MHz | | -136 | -131 | -125 | -122 |
| External Reference | Frequency | 10 MHz to 100 MHz | | | | |
| | Input Power | 0 ± 2 dBm | | | | |
| Harmonics | | -30 dBc (typ.), -20 dBc (max.) | | | | |
| Sub-harmonics (N*Fout/2, N odd) | | -25 dBc (typ.), -15 dBc (max.) | | | | |
| Frequency Stability | | Same as the Reference | | | | |
| Spurious | | -80 dBc (typ.), -70 dBc (max.) | | | | |
| Pulling (3:1 VSWR) (max.) | | Will not break lock | | | | |
| Output Impedance | | 50 Ω | | | | |
| Supply Voltage | | 12 ± 0.5 VDC | | | | |
| Current Consumption | | Consult Factory | | | | |
| Connectors | RF Output (RF OUT) | SMA-Jack | | | | |
| | External Reference Input (REF IN) | SMA-Jack | | | | |
| | Supply Voltage (Vin) | EMI Feed-thru | | | | |
| | Phase Voltage (Vp) | EMI Feed-thru | | | | |
| | Phase Lock-Detect (LD) Note 1 | EMI Feed-thru | | | | |
| | GND | Turret Thread Mount Terminal | | | | |
| Housing Size (W x L x H) | | 2.25"[57.15] x 2.25"[57.15] x 1.06"[27] | | | | |
| Environmental Conditions | Operating Temperature | 0 °C to 60 °C | | | | |
| | Storage Temperature | -20 °C to 70 °C | | | | |

Note 1 Phase Lock-Detect (LD)

- 3.3 V when phase locked
- 0 V when phase unlocked

Outline Drawing

Dimensions shown in brackets [] are in millimeters.



Dual Bed Housing

Ordering Information

wPLDRO-**R**xxxx-**y**...**y**-**P**zz-**aa**

- **w**: Product Categories
 - . S (Single Loop PLDRO)
 - . D (Dual Loop PLDRO)
 - . F (Fractional-N PLDRO)
- **xxxx**: Reference Frequencies (MHz)
 - . Ixxx: Internal, xxxMHz
 - . Exxx: External, xxxMHz
- **y...y**: Output Frequency (MHz)
- **zz**: Output Power (dBm)
- **aa**: Housing types
 - . SB (Single Bed Housing)
 - . DB (Dual Bed Housing)
 - . HS (Hermetically Sealed Housing)
 - . NP (Number of Ports)

Examples

DPLDRO-**RE**10-**7742.5**-**P**15-**DB**

- . Product Category: Dual Loop PLDRO
- . Reference Frequency: External, 10 MHz
- . Output Frequency: 7,742.5 MHz
- . Output power: 15 dBm
- . Dual Bed Housing

DPLDRO-**RE**10-**13125**-**P**17-**DB**

- . Product Category: Dual Loop PLDRO
- . Reference Frequency: External, 10 MHz
- . Output Frequency: 13,125 MHz
- . Output power: 17 dBm
- . Dual Bed Housing

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