

## Description



Fractional-N PLDRO using  
External Reference



Fractional-N PLDRO with  
Internal OCXO

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 Fractional-N PLDRO is an innovative phase locked dielectric resonator oscillator that solves the reference frequency dependence of the output frequency. This PLDRO series can generate any frequency in 1 KHz steps within 5 GHz to 28 GHz and has the same phase noise performance as Single Loop PLDRO.

## Features

- Can generate any frequency in 1 KHz steps within 5 GHz to 28 GHz
- Ultra Low Phase Noise
- Low Spurious
- Phase-Locked Alarm
- Compact Housing
- Rugged Construction

## Options

- Output Power: 17 dBm (typ.)
- Operating Temperature: -20 °C to +70 °C
- 0.1 KHz Frequency Resolution
- 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			
Frequency Step		1 KHz			
Output Power		15 dBm (typ.)			
Phase Noise (dBc/Hz)	Frequency	6 GHz	8 GHz	13 GHz	26 GHz
	Offset				
	100 Hz	-92	-90	-84	-78
	1 KHz	-113	-112	-107	-101
	10 KHz	-121	-120	-115	-108
	100 KHz	-123	-122	-117	-110
External Reference	Frequency	50 MHz or 100 MHz			
	Input Power	0 ± 2 dBm			
Internal Reference	Frequency	50 MHz or 100 MHz			
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			
	Reference (REF IN or RF_OUT)	SMA-Jack			
	Supply Voltage (Vin)	EMI Feed-thru			
	Phase Voltage (Vp)	EMI Feed-thru			
	Phase Lock-Detect (LD) <b>Note 1</b>	EMI Feed-thru			
	GND	Turret Thread Mount Terminal			
Housing Size (W x L x H)	Dual Bed Housing	2.25"[57.15] x 2.25"[57.15] x 1.06"[27]			
	Extended Dual Bed Housing	2.25"[57.15] x 3.15"[80] x 1.30"[33]			
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



## Ordering Information

**w**PLDRO-**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

**F**PLDRO-**RI**50-**9936.951**-**P13**-**DB**

- . Product Category: Fractional-N PLDRO
- . Reference Frequency: Internal, 50 MHz
- . Output Frequency: 9,936.951 MHz
- . Output power: 13 dBm
- . Extended Dual Bed Housing

**F**PLDRO-**RE**100-**7092.35**-**P15**-**DB**

- . Product Category: Fractional-N PLDRO
- . Reference Frequency: External, 100 MHz
- . Output Frequency: 7,092.35 MHz
- . Output power: 15 dBm
- . Dual Bed Housing

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