

Variable Frequency PLDRO



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 variable frequency PLDRO series is an innovative signal generator capable of providing both the ultra low phase noise performance of the PLDRO and the excellent frequency resolution of a direct digital synthesizer. This PLDRO series covers 5 GHz to 29 GHz and output frequency can be varied in steps of 10 KHz or less within a specified bandwidth.

Features

- Available from 5 GHz to 29 GHz
- Frequency changeable in steps of 10 KHz or less within the specified bandwidth
- 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
- 100 Hz Frequency Steps
- 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 | Available Range | 5 GHz to 29 GHz | | | |
| | Operating Bandwidth | Consult Factory | | | |
| | Resolution | 1 KHz (min.), 10 KHz (typ.) | | | |
| 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 | -112 | -111 | -106 | -100 |
| | 10 KHz | -118 | -117 | -112 | -105 |
| | 100 KHz | -120 | -119 | -114 | -107 |
| External Reference | Frequency | 100 MHz | | | |
| | Power | 0 ± 2 dBm | | | |
| Harmonics | | -30 dBc (typ.), -20 dBc (max.) | | | |
| Sub-harmonics | | -25 dBc (typ.), -15 dBc (max.) | | | |
| Frequency Stability | | Same as the Reference | | | |
| Spurious | External Reference | -80 dBc (typ.), -70 dBc (max.) | | | |
| | Mixer Intermodulation | -70 dBc (typ.), -60 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 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 | | | |
| | 3.3 V UART TX Data (TXD) | EMI Feed-thru | | | |
| | 3.3 V UART RX Data (RXD) | EMI Feed-thru | | | |
| | GND | Turret Thread Mount Terminal | | | |
| Housing Size (W x L x H) | | 2.25"[57.15] x 3.15"[80] x 1.157"[29.4] | | | |
| 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

VPLDRO-RE100-**w...w**-**Bxx**-**Ryy**-**Pzz**

- **w**: Center Frequency (MHz)
- **xx**: Bandwidth (MHz)
- **yy**: Resolution (KHz)
- **zz**: Output Power (dBm)

Examples

VPLDRO-RE100-**8337**-**B5**-**R1**-**P13**

- . Product Category: Variable Frequency PLDRO
- . External Reference: 100 MHz
- . Center Frequency: 8337 MHz
- . Bandwidth: 5 MHz
- . Resolution: 1 KHz
- . Output Power: 13 dBm

VPLDRO-RE100-**27213**-**B10**-**R10**-**P13**

- . Product Category: Variable Frequency PLDRO
- . External Reference: 100 MHz
- . Center Frequency: 27213 MHz
- . Bandwidth: 10 MHz
- . Resolution: 10 KHz
- . Output Power: 13 dBm

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