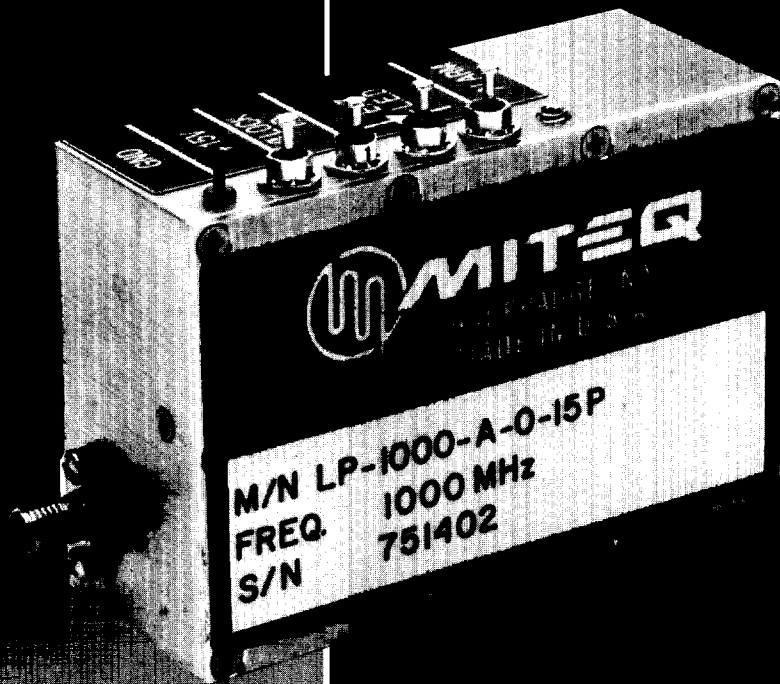


ULTRA-LOW PHASE NOISE PHASE-LOCKED COAXIAL RESONATOR OSCILLATORS, 800 MHz–2.2 GHz

• LP Series



FEATURES

- Quality backed with standard 3-year warranty
- 100% phase noise and temperature tested
- Compact size and low cost
- Standard temperature range: -20° to +70°C
- Low power consumption for complete unit with internal crystal reference

OPTIONS

- Higher output power
- Internal crystal reference up to ± 1 PPM stability
- 1–20 MHz reference input (dual loop design)
- Relay alarm option

MITEQ's LP series of phase-locked oscillators uses a low phase noise coaxial resonator design for output frequencies from 800 MHz to 2.2 GHz, locking to a reference input from 50 to 500 MHz. The high Q resonator allows these oscillators to offer phase noise performance equivalent to cavity designs in a compact package with greatly reduced weight. Additionally, the coaxial resonator design offers excellent stability with very low susceptibility to vibration and low power consumption. The LP is also available with an internal high-stability crystal reference in the same package outline, or with a 1–20 MHz input reference as a dual-loop design.

ELECTRICAL SPECIFICATIONS

Output frequency range..... .8-2.2 GHz
 Output power..... +13 dBm minimum
 DC supply* +15-28 V @ 250 mA
 Spurious outputs..... -75 dBc maximum
 Harmonics -20 dBc maximum
 Reference input 50-500 MHz
 Input level 0 ±3 dBm
 Input impedance 50 ohms
 Output power variation..... ±1.5 dB maximum
 Load VSWR 1.5:1 nominal

*Note:

- 1) Add 50 mA @ +V for internal crystal reference
- 2) Add 120 mA @ +V and 200 mA @ +5 V for external 1-20 MHz reference

MECHANICAL SPECIFICATIONS

Size..... Refer to outline drawing
 Weight5 pounds nominal
 RF connectors SMA female
 DC/status connectors Filtercons

ENVIRONMENTAL SPECIFICATIONS

Temperature
 Operating -20°C to +70°C
 Storage -45°C to +85°C
 Humidity 95% at +40°C
 noncondensing
 Shock 30 G, 10 ms
 Vibration 20-2000 Hz random
 to 4 G

OPTIONS

Internal crystal reference .. ±20(B), ±5(C), ±1(D) PPM
 Alarms Form C relay contacts

ORDERING INFORMATION

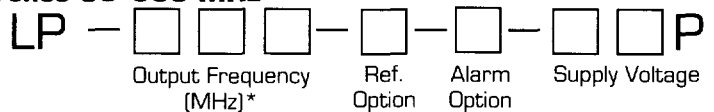
Reference options

- A. External reference
- B. ±20 PPM (-25° to +75°C)
- C. ±5 PPM (-25° to +75°C)
- D. ±1 PPM (0 to +60°C)

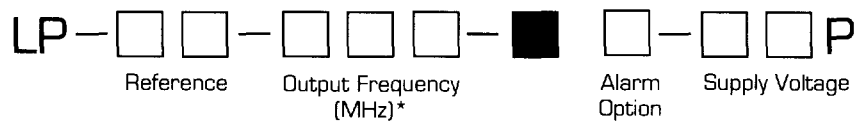
Alarm options

0. 0 V in lock, +V out of lock
1. Relay open in lock, closed out of lock
2. Relay closed in lock, open out of lock

Input reference 50-500 MHz

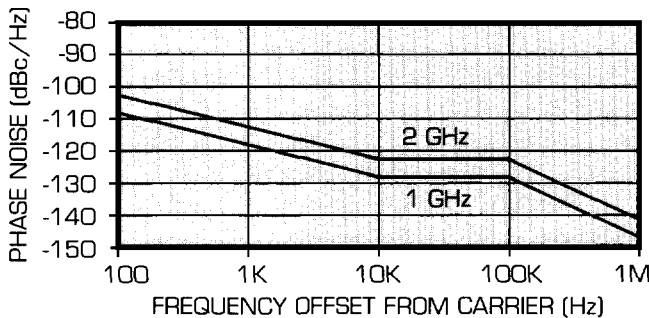


Input reference 1-20 MHz

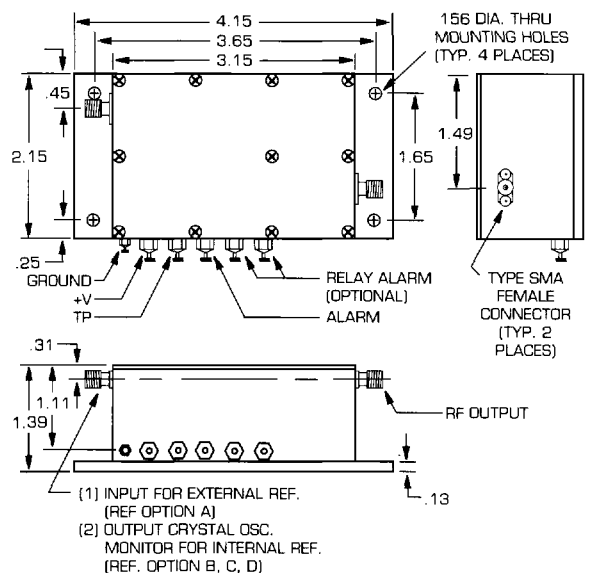


*Note: For units with internal reference, specify output frequency to 6 decimal places

TYPICAL PHASE NOISE



OUTLINE DRAWING



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