

Features

- Frequency up to 5.5 GHz
- Coaxial Resonator Oscillator
- Low Phase Noise
- Custom options available

Applications

- Telecommunications
- High Performance Radio
- Base Stations
- Instrumentation

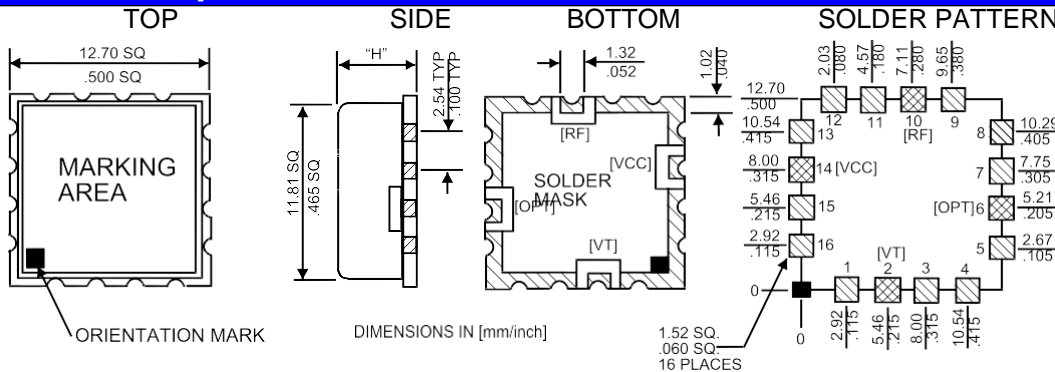


Description

The RQR-FREQ-LPH type is a VCO designed to meet the requirements for a variety of applications. The unit main characteristics are Ultra-Low Noise, Narrow Band and Linear Tuning. Components are selected for high-Q and tight tolerances.

Raltron's RQR-FREQ-LPH series is developed and manufactured in its ISO9000 certified facility in Miami. RF-simulation (CAE), automated test-equipment (Agilent VCO/PLL-Analyzer) and statistical process control (SPC) are integral part of R&D and manufacturing – which ensures minimal process variances and a high degree of repeatability.

Mechanical Specification



Pad / Functions:

- [2] Tuning Voltage
- [6] Optional RF-Output
- [14] Supply Voltage
- [10] Voltage other pads: Ground

Height "H"

(max): Standard: 6.0 / .24"

Outline Tolerances:

±0.20mm / .008"

Electrical Specification

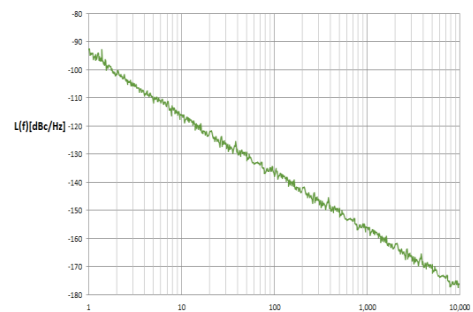
| PARAMETER | COMMENTS, EXAMPLES | SYMBOL | MIN | TYP | MAX | UNIT |
|----------------------|--|---------|-----|-----|------|-------|
| Max Frequency | Currently available in RQR-package | fo | | | 5500 | MHz |
| Tuning Voltage | | Vt | | 0~5 | 0~20 | V |
| Supply Voltage | Typical Voltage 8V, Stationary up to 12V | Vcc | 5 | 8 | 12 | V |
| Supply Current | Dependent on Frequency and Output Power | Icc | 10 | 30 | 45 | mA |
| Output Power | Tolerance is typ. ±3dBm (min. ±1dBm) | Pout | -3 | 0 | +3 | dBm |
| Harmonic Suppression | Dependent on Tuning Range and Freq | a(2fo) | | -15 | | dBc |
| Pushing | Dependent on Freq, Tuning R., typ 0.1%~0.5% fo | df/dVcc | | 1 | | MHz/V |
| Pulling | Dependent on Freq, Output Power and Circuit. | df/dZL | | 1 | | MHz |

General Specification

1. Load Impedance is 50 Ohms.
2. Operating temperature range is typically 0°C...+85°C.
3. The package is non-hermetic. Substrate is glass-reinforced laminate; the cover is folded nickel-silver.
4. Bypass-capacitors (ceramic) from Vcc to Ground are recommended: 1nF||100pF.
5. Customized specifications may deviate from this General Specification.
6. Phase-noise performance depends on the individual specification. Phase Noise is strongly dependent on (a) frequency (b) supply voltage and (c) tuning range.
7. The phase noise graph (to right) shows the characteristic of a typical RQRA-2500-LPH VCO.
8. The sample was measured at 8V supply and have 1dBm output power.

Phase Noise

SSB Phase Noise (see Note 7)



Ultra-Low Phase Noise-VCO 2500 MHz ±1%

Part Numbering System

| SERIES | REVISION | - | FREQUENCY MIN (MHz) | - | FREQUENCY MAX (MHz) | - | Low Phase Noise |
|--------|----------|---|---------------------|---|---------------------|---|-----------------|
| RQR | A | - | 1400 | - | 1500 | - | LPH |

EXAMPLE: RQRA-1400-1500-LPH

Voltage Controlled Oscillator, RQRA, "1400 MHz"- "1500 MHz"- Low Phase Noise