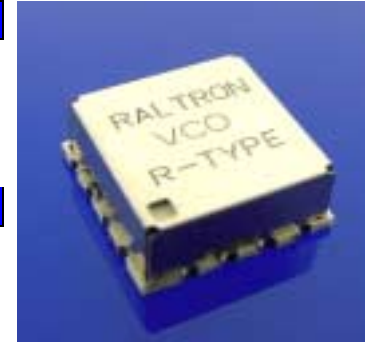


Features

- Frequency up to 4 GHz
- Low Profile available: 3.6 mm
- Low Phase Noise
- Custom options available

Applications

- Telecommunications
- High Performance Radio
- Base Stations
- Instrumentation

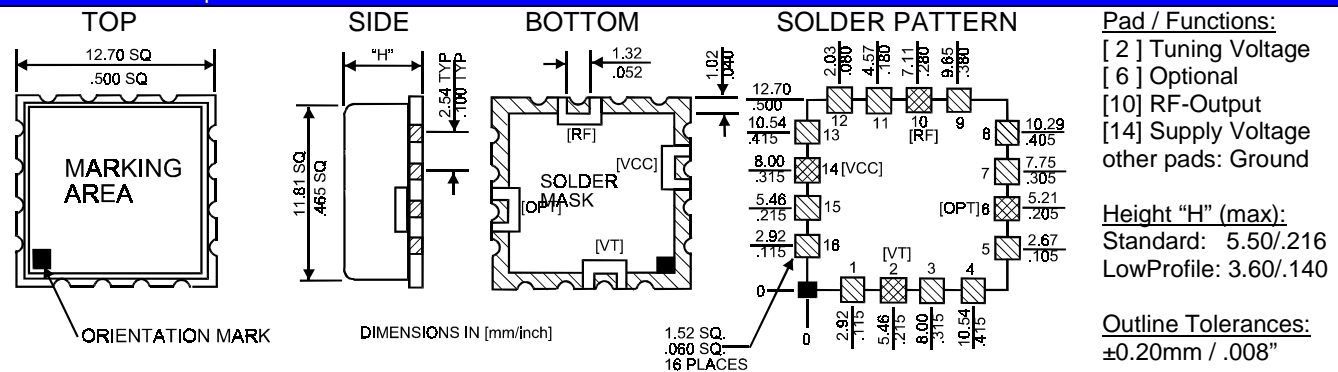


Description

The RQR-type is a VCO designed to meet the requirements for a variety of applications. Stationary or battery-operated, the unit is available in many different versions from LowNoise, HighPower, LinearTuning, LowProfile or WideBand. Components are selected for high-Q and tight tolerances.

Raltron's RQR-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



Electrical Specification

PARAMETER	COMMENTS, EXAMPLES	SYMBOL	MIN	TYP	MAX	UNIT
Max Frequency	Currently available in RQR-package	fo			4000	MHz
Tuning Ratio	Ratio of upper-to-lower freq (2 = "Octave-VCO")	f-up : f-low		1.1	2.0	-
Tuning Voltage	Battery operated 2V, Stationary: 5V or higher	Vt	0~2	0~5	0~25	V
Supply Voltage	Battery operated 3.3V to 5V, Stationary up to 12V	Vcc	3.3	5	12	V
Supply Current	Dependent on Frequency and Output Power	Icc	10	20	30	mA
Output Power	Output Power Tolerance is typ. ±3dB (min. ±1dB)	Pout	-3	+3	+10	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		5		MHz/V
Pulling	Dependent on Freq, Output Power and Circuit.	df/dZL		5		MHz

General Specification

- Load Impedance is 50 Ohms.
- Operating temperature range is typically -40°C...+85°C.
- The package is non-hermetic. Substrate is glass-reinforced laminate, the cover is folded nickel-silver.
- Bypass-capacitors (ceramic) from Vcc to Ground are recommended: 1nF||100pF.
- Customized specifications may deviate from this General Specification.
- Phase-noise performance depends on the individual specification. Phase Noise is strongly dependent on (a) frequency (b) supply voltage and (c) tuning range.
- The phase noise graph (to right) shows the characteristic of 4 typical RQR-VCOs. All samples are measured at 5V supply and have 3dBm output power. Variables are frequency and tuning range. Example: [4] = VCO from 720MHz to 1680MHz.

- [1] = LowNoise-VCO 800 MHz ±1% [2] = Standard-VCO 700 MHz ±4%
 [3] = Standard-VCO 3000 MHz ±5% [4] = WideBand-VCO 1200 MHz ± 40%

Phase Noise

