Applications

- Frequency up to 2 GHz
- Low Phase Noise
- Modulation Input available
- **Base Stations**
- Analog and Digital Radio
- Instrumentation

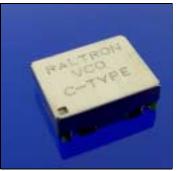
Description

Features

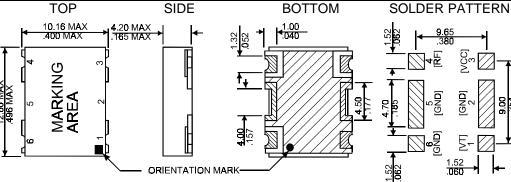
The RQC-type is a general purpose VCO. Components are selected for high-Q and tight tolerances.

Raltron's RQC-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 ensure minimal process variances and a high degree of repeatability.



Mechanical Specification TOP SIDE 10.16 MAX 4.20 MAX 165 MAX



COMMENTS

Pad / Functions:

- [1] Tuning Voltage
- [3] Supply Voltage
- [4] RF-Output
- [2,5] Ground
- [6] Modulation or Gnd

Height "H" (max): 4.20mm / .165"

Outline Tolerances: ±0.20mm / .008"

Electrical Specification						
PARAMETER	COMMENTS, EXAMPLES	SYMBOL	MIN	TYP	MAX	UNIT
Max Frequency	Currently available in RQR-package	fo			2000	MHz
Tuning Ratio	Ratio of upper-to-lower freq (2 = "Octave-VCO")	f-up : f-low		1.1	1.5	-
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)		-20		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		3		MHz

General Specification

- 1. Load Impedance is 50 Ohms.
- 2. Operating temperature range is typically -40°C...+85°C.
- 3. The package is non-hermetic. Substrate is glass-reinforced laminate, 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 2 typical RQC-VCOs. Samples are measured at 5V supply and have 3dBm output power and ±1% tuning range.

Phase Noise

