RVX1490U

This high performance VCXO delivers ultra-low phase noise and jitter in a 14 x 9 x 3.2 mm package. The typical phase noise performance at 100MHz carrier frequency is -164 dBc/Hz @10 kHz offset and -170 dBc/Hz @1MHz offset. The oscillator uses 3rd overtone technology and has no sub-harmonics.

The RVX1490U is an ideal solution where excellent oscillator phase noise and jitter is critical to system performance.

Features

- Ultra-low phase noise floor: -170 dBc/Hz
- Frequency: 100 and 122.88 MHz
- High Q crystal technology
- Output: Sinewave and LVCMOS

Applications

- 5G RRUs and 5G small cells
- Microwave & millimeter wave systems
- Test & measurement equipment
- Coherent optical modules

14 x 9 x 3.2 mm

Standard Specifications

Parameter	Min.	Typ.	Max.	Unit	Test Condition / Description
Frequency		100, 122.88		MHz	Please contact your local Rakon sales office for other frequency options
Operating temperature range	-40		85	°C	
Overall frequency stability			±18	ppm	Including initial tolerance, frequency over temperature (FvsT), reflow change, supply variation, load variation and 10 years ageing at 25°C
Supply voltage (V_{DD})		3.3		V	±5% VDD
Supply current			40 40	mA	Sinewave LVCMOS
Control voltage (Vc)	0	1.65	3.3	V	Positive slope
Absolute Pull Range (APR)	±5			ppm	Reference to frequency at Vc = 1.65V
Linearity			±10	%	Over the control voltage range
Input impedance	1			MΩ	
Oscillator output – Sinewave Output power Output load Harmonics		 9 50	 12 -40	 dBm Ω dBc	50Ω loading ±10%
Oscillator output – LVCMOS					
Output voltage low (VOL) Output voltage high (VOH) Rise and fall time	90% VDD		10% VDD 1	V V ns	90%/10%, 15pF load
Duty cycle	45		55	%	At 50% VDD

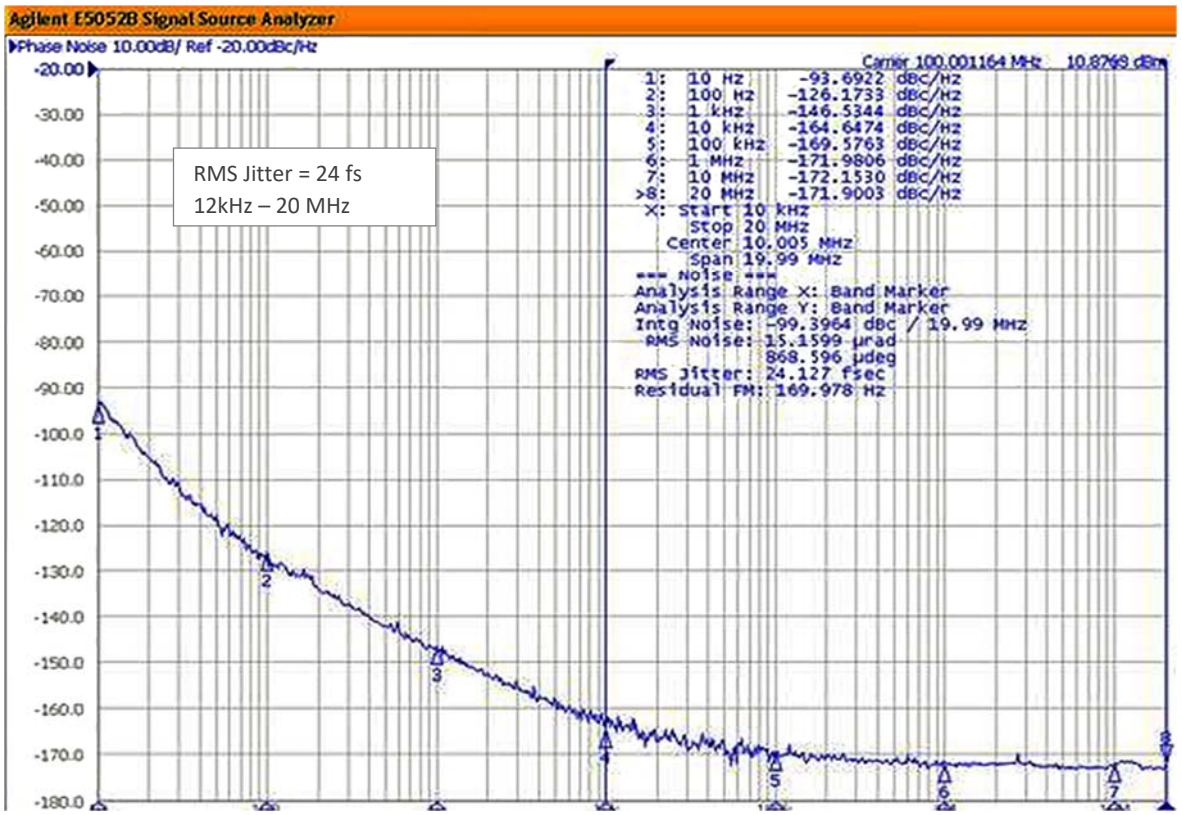
SSB Phase Noise and RMS Phase Jitter

Offset / Carrier Frequency	Typ. @100 MHz	Typ. @122.88 MHz	Max.	Unit	Test Condition / Description
10 Hz	-87	-85		dBc/Hz	
100 Hz	-123	-121		dBc/Hz	
1 kHz	-143	-141		dBc/Hz	
10 kHz	-160	-158		dBc/Hz	
100 kHz	-167	-165		dBc/Hz	
1 MHz	-171	-169		dBc/Hz	

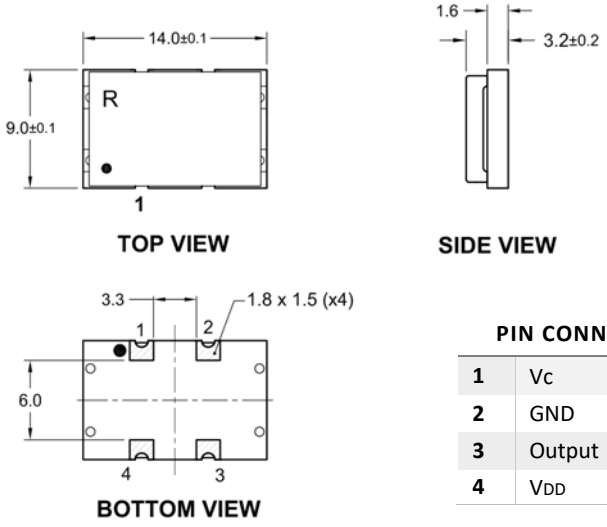
RMS			35	fs	Integrated from 12kHz to 20MHz

SSB Phase Noise and RMS Phase Jitter (Typical value at 25°C)

100.00 MHz VCXO with LVCMOS Output

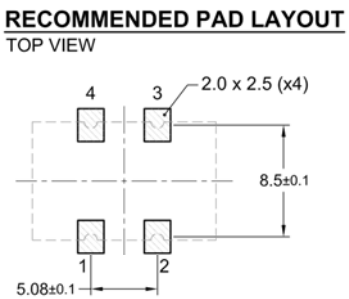


Model Outline and Recommended Pad Layout



PIN CONNECTIONS

1	Vc
2	GND
3	Output
4	V_{DD}



UNIT: mm