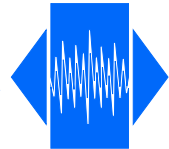


VTX 14L-LG

Low G-sensitive, vibration and shock resistant
Temperature compensated (VC)TCXO

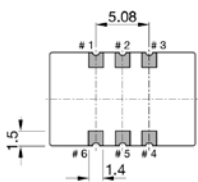
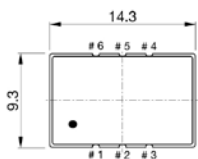
QuartzCom
the communications company



Frequency range	10.000 to 100.000 MHz		
Standard frequencies (fundamental)	10, ,13, 20, 25, 27, 30, 40, 50, 70, 80, 100 MHz		
Frequency stability:			
vs. temperature referenced to (F _{MAX} +F _{MIN})/2	≤ ±0.5 ppm	over -40 to +85 °C	(*)
vs. supply voltage changes referenced to frequency at nominal supply	≤ ±0.05 ppm	±5 %	
vs. load changes referenced to frequency at nominal load	≤ ±0.05 ppm	±10 %	
vs. aging @ +40 °C	≤ ±1.0 ppm	1 st year	
G-sensitivity	< 0.5 ppb/g	per axis	(*)
Short term stability ADEV	< 1*10 ⁻¹⁰	τ = 1.0 s	
Frequency tolerance ex factory	0 ~ +1.0 ppm	@ +25 °C	
Supply voltage	+3.0 V, +3.3 V or 5.0 V		(*)
Current consumption	< 25 mA		
Output signal	Sine wave	(LV)HCMOS (45/55%)	(*)
Output level	+3 to +6 dBm	V _{OH} > 0.9*V _{CC} / V _{OL} < 0.1*V _{CC}	
Output load	50 Ω	15 pF max.	
Electronic Frequency Control (EFC)	ΔF = ±5 to ±10 ppm	positive slope	(*)
Control voltage (Vc)	+1.50 V ±1.0 V for 3.3 V	+2.50 V ±2.0 V for 5.0 V	(*)
EFC input impedance	> 100 kΩ		
Phase noise (typical value for 100 MHz)	-75 dBc/Hz	@ 10 Hz	
	-100 dBc/Hz	@ 100 Hz	
	-125 dBc/Hz	@ 1 kHz	
	-145 dBc/Hz	@ 10 kHz	
	-155 dBc/Hz	@ 100 kHz	
Sub-harmonics	No		
Operating temperature range	-40 ~ +85 °C		(*)
Reflow profiles as per IPC/JEDEC J-STD-020C	≤ 245 °C over 10 s max.		

(*) See available options on page #2

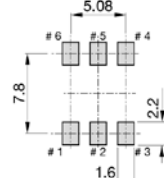
Note: Unless otherwise specified conditions are @+25 °C



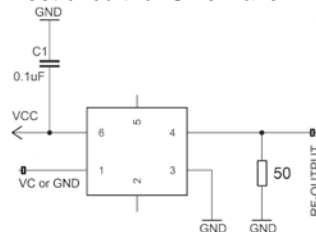
Pin function

- # 1 Vc (EFC) for VC-TCXO
GND or NC for TCXO
- # 2 NC or GND
- # 3 GND
- # 4 RF output
- # 5 NC or GND
- # 6 Vcc

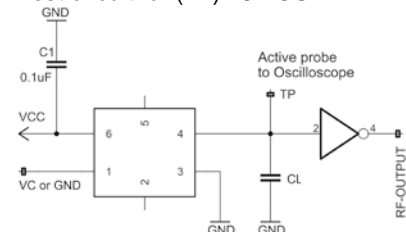
Solder pattern



Test circuit for Sine wave



Test circuit for (LV)HCMOS



VTX 14L-LG

Low G-sensitive, vibration and shock resistant
Temperature compensated (VC)TCXO



Ordering code

(0)14L-(1)(2)-(3)(4)-(5)(6)-100.000MHz Example: *VT14L-S33-NNu50-V05GC-100.000MHz*

(0) Oscillator type TX = TCXO VT = VC-TCXO	(1) Output signal H = (LV)HCMOS S = Sine wave	(2) Supply voltage 30 = 3.0 V 33 = 3.3 V 50 = 5.0 V	(5) Pulling range (VT only) V05 = 1.5 ± 1.0 V ±5 ppm V10 = 1.5 ± 1.0 V ±10 ppm
(3) Operating temperature JK = -20 to +70 °C NN = -40 to +85 °C NP = -40 to +95 °C NR = -40 to +105 °C QN = -55 to +85 °C	(4) Frequency stability u25 = ± 0.25 ppm u50 = ± 0.50 ppm 1u0 = ± 1.00 ppm 1u5 = ± 1.50 ppm	(6) G-sensitivity per axis GB = 0.25 ppb/g GC = 0.50 ppb/g GD = 1.00 ppb/g GE = 1.50 ppb/g GZ = special spec	X05 = 2.5 ± 2.0 V ±5 ppm X10 = 2.5 ± 2.0 V ±10 ppm Z = special spec

Frequency stability vs. temperature

ppm	≤± 0.25	≤± 0.50	≤± 1.00	≤± 1.50
-20 to +70 °C	O	O	O	O
-40 to +85 °C	Δ	Δ	O	O
-40 to +95 °C	Δ	Δ	Δ	O
-40 to +105 °C	Δ	Δ	Δ	Δ
-55 to +85 °C	X	Δ	Δ	Δ

Δ Ask factory
O Available
X Not available

Absolute max. ratings

Supply voltage (Vcc)	6.0 V
Storage temperature range	-55 ~ +105 °C
Control voltage (Vc)	0 / Vcc

G-Sensitivity performance

Noise shape vibration from 20-2'000 Hz
with 0.1 g²/Hz (G_{RMS} = 14.11g) for the axis

The table shows the averaged values of the G-Sensitivity in the range 20 Hz to 1000 Hz.
At 1500 Hz appear resonances, which are caused by the mounting structure on the shaker.

Osc.#	X-axis	Y-axis	Z-axis	Gamma Γ
	[ppb/g]	[ppb/g]	[ppb/g]	[ppb/g]
#1	0.056	0.105	0.159	0.199
#2	0.052	0.137	0.052	0.156
#3	0.051	0.057	0.181	0.197
#4	0.108	0.091	0.17	0.221

Definitions of vibration axes

