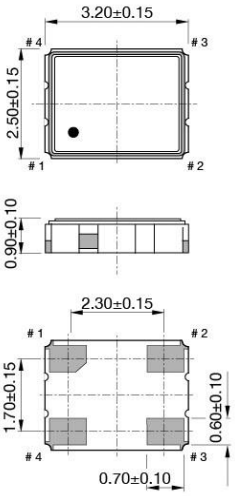
VTX32

Miniature size, high reliable
analogue temperature compensated CSW (VC)TCXO

Generic specification

Frequency range	**10.000 ~ 52.000 MHz**		
Standard frequencies	10, 12.8, 13, 16.367667, 19.2, 19.44, 20, 25, 26, 27, 30, 30.72, 32, 38.4, 40 and 50 MHz		
Frequency stability:			
vs. temperature referenced to (FMAX+FMIN)/2	≤ ±0.50 ppm	over -40 to +85 °C	(*)
vs. supply voltage changes referenced to frequency at nominal supply	≤ ±0.1 ppm	±5 %	
vs. load changes referenced to frequency at nominal load	≤ ±0.1 ppm	±5 %	
vs. aging @ +40 °C	≤ ±1.0 ppm	1st year	
G-sensitivity	< 1.8 ppb/g	per axis	
Frequency tolerance ex. factory	≤ ±1.0 ppm	@ +25 °C	
Supply voltage	+1.8 V, +2.5 V, +3.0 V or +3.3 V		(*)
Output signal	Clipped sine wave		
Output level	> 0.8 Vp-p		
Output load	10 kΩ // 10 pF		
Current consumption, depending on frequency	1.5 ~ 3 mA		
Electronic Frequency Control (EFC)	ΔF ≥ ±5 ppm	positive slope	(*)
Control voltage (Vc)	+0.9 V ±0.6 V for 1.8 V	+1.50 V ±1.0 V for 3.3 V	(*)
EFC input impedance	> 100 kΩ		
Phase noise (typical value for 20 MHz)	-87 dBc/Hz -115 dBc/Hz -135 dBc/Hz -148 dBc/Hz -155 dBc/Hz	@ 10 Hz @ 100 Hz @ 1 kHz @ 10 kHz @ 100 kHz	
Operating temperature range	-40 ~ +85 °C		(*)
Storage temperature range	-55 ~ +105 °C		
Reflow Profiles as per IPC/JEDEC J-STD-020C	≤ 260 °C over 10 sec. Max.		
Moisture sensitivity	Level 1 (unlimited)		

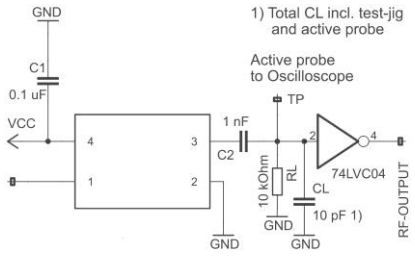
(*) See available options on page #2 **Note: Unless otherwise specified conditions are @+25 °C**



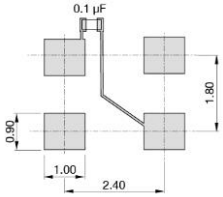
Pin function

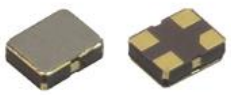
# 1	Vc (EFC) for VC-TCXO GND or NC for TCXO
# 2	GND
# 3	Output
# 4	Vcc

Test circuit



Soldering pattern





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Designed in Switzerland

QuartzCom AG reserves the right to make spec changes to this product

VTX32

Miniature size, high reliable
analogue temperature compensated CSW (VC)TCXO

Generic specification

Ordering code

(0)32-C(2)-(3)(4)-(5)-20.000MHz *Example:* ***TX32-C33-LN1u0-20.000MHz***

(0) Oscillator type	**(2) Supply voltage**	**(5) Pulling range** (VT only)
TX = TCXO	18 = 1.8 V	**Vcc = 1.8 V**
VT = VC-TCXO	25 = 2.5 V	S05 = 0.9 ± 0.6 V ±5 ppm
	28 = 2.8 V	S10 = 0.9 ± 0.6 V ±10 ppm
	30 = 3.0 V	
	33 = 3.3 V	**Vcc = 2.5 V**
		U05 = 1.4 ± 1.0 V ±5 ppm
(3) Operating temperature	**(4) Frequency stability**	U10 = 1.4 ± 1.0 V ±10 ppm
JK = -20 to +70 °C	u50 = ± 0.50 ppm	**Vcc = 2.8, 3.0, 3.3 V**
LN = -30 to +85 °C	1u0 = ± 1.00 ppm	V05 = 1.5 ± 1.0 V ±5 ppm
NN = -40 to +85 °C	1u5 = ± 1.50 ppm	V10 = 1.5 ± 1.0 V ±10 ppm
	2u0 = ± 2.00 ppm	
	2u5 = ± 2.50 ppm	Z = special spec

Frequency stability vs. temperature

ppm	≤± 0.50	≤± 1.00	≤± 1.50	≤± 2.0	≤± 2.50
-20 to +70 °C	O	O	O	O	O
-30 to +85 °C	Δ	O	O	O	O
-40 to +85 °C	Δ	O	O	O	O

Δ Ask factory
O Available
X Not available

Environmental conditions

Test	IEC 60068 Part…	IEC 60679-1 Clause	MIL-STD-202G Method	MIL-STD-810F Method	MIL-PRF-55310D Clause	Test conditions (IEC)
Sealing tests (if applicable)	2-17	5.6.2	112E		3.6.1.2	Gross leak: Test Qc, Fine leak: Test Qk
Solderability Resistance to soldering heat	2-20 2-58	5.6.3	208H 210F		3.6.52 3.6.48	Test Ta method 1, Test Td_1 method 2, Test Td_2 method 2
Shock *	2-27	5.6.8	213B	516.4	3.6.40	Test Ea, 3 x per axis 100 g, 6 ms half-sine pulse
Vibration, sinusoidal*	2-6	5.6.7.1	201A 204D	516.4-4	3.6.38.1 3.6.38.2	Test Fc, 30 min per axis, 1 oct/min 10 Hz – 55 Hz 0,75 mm; 55 Hz – 2 kHz, 10 g
Vibration, random*	2-64	5.6.7.3	214A	514.5	3.6.38.3 3.6.38.4	Test Fdb
Endurance tests - ageing - extended ageing		 5.7.1 5.7.2	108A		4.8.35	 30 days @ 85 °C 1000 h, 2000 h, 8000 h @ 85 °C

Other environmental conditions on request

2011/65/EU RoHS compliant

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