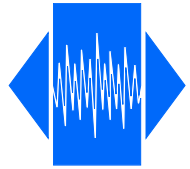


QuartzCom
the communications company

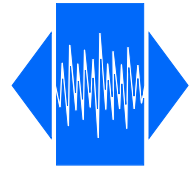


TCXO

MORE THAN FREQUENCY

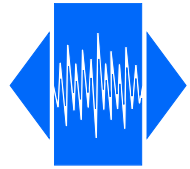
Temperature Compensated Crystal Oscillators





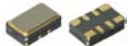




Surface-Mounted Type

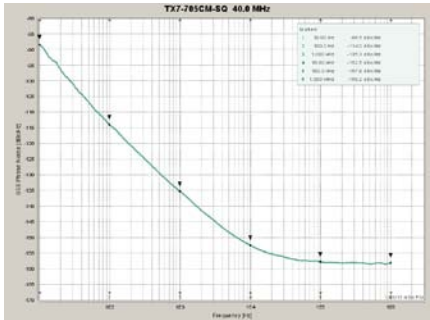
Type	Package Size	Frequency Range	Supply Voltage	Electronic Frequency Control	Output Signal	Package Type
	[mm]	[MHz]	[V]	[ppm]		
VTX20	2.0 x 1.6	16369 MHz to 50 MHz	1.8 V 2.5 V 3.3 V	±10 ppm	clipped sine wave	
VTX25	2.5 x 2.0	10 MHz to 52 MHz	1.8 V 2.5 V 3.3 V	±10 ppm	clipped sine wave	
TX25-H	2.5 x 2.0	10 MHz to 60 MHz	1.8 V 2.5 V 3.3 V	Non	CMOS	
VTX32	3.2 x 2.5	10 MHz to 52 MHz	1.8 V 2.5 V 3.3 V	±10 ppm	clipped sine wave	
VTX5S	5.0 x 3.2	5 MHz to 100 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX5SH Ultra high precision	5.0 x 3.2	5 MHz to 100 MHz	2.5 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX5S-STR3	5.0 x 3.2	5 MHz to 40 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX7Q-LG Low G-sensitivity	7.0 x 5.0	5 MHz to 100 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX7R-LG Low G-sensitivity	7.0 x 5.0	5 MHz to 100 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX7R-STR3 STRATUM III	7.0 x 5.0	5 MHz to 50 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX7S	7.0 x 5.0	5 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX7T	7.0 x 5.0	5 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	±10 ppm	clipped sine wave CMOS	
VTX11M	11.4 x 9.6	50 MHz to 150 MHz	3.3 V 5.0 V	±10 ppm	Sine wave HCMOS	
VTX11F	11.4 x 9.6	10 MHz to 160 MHz	3.3 V 5.0 V	±10 ppm	Sine wave HCMOS	
VTX14M-LG Low G-sensitivity	11.4 x 9.6	40 MHz to 200 MHz	3.3 V 5.0 V	±10 ppm	Sine wave HCMOS	
VTX14M High Precision	11.4 x 9.6	40 MHz to 200 MHz	3.3 V 5.0 V	±10 ppm	Sine wave HCMOS	
VTX14M High Precision	11.4 x 9.6	10 MHz to 160 MHz	3.3 V 5.0 V	±10 ppm	Sine wave HCMOS	

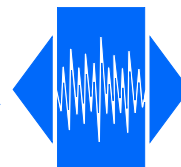


STRATUM III

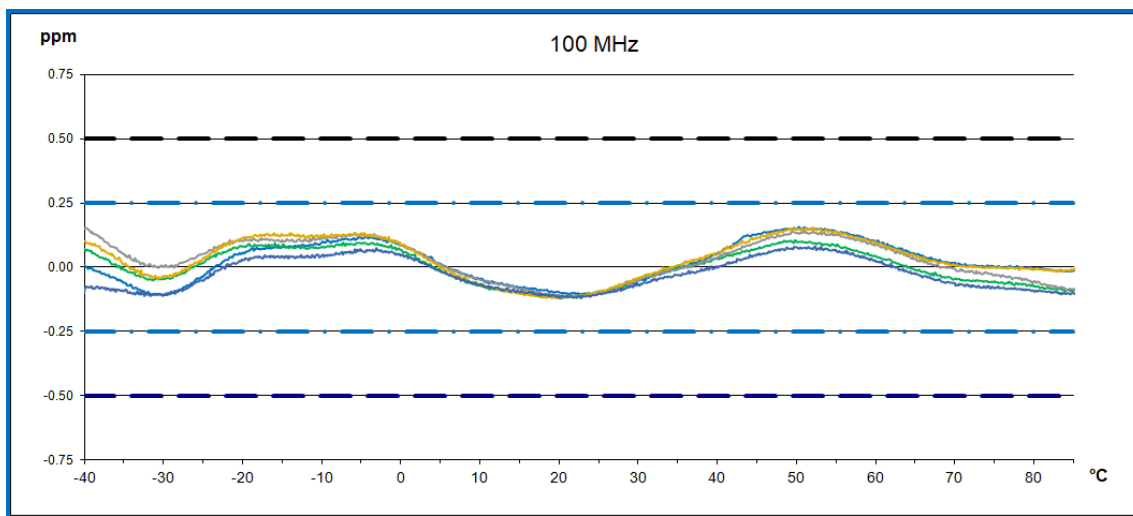
Applications	<ul style="list-style-type: none"> • SONET / SDH • Synchronous Equipment Timing Source • Synchronous Ethernet • IEEE 1588 version 2
---------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Type	Package Size	Frequency Range	Supply Voltage	Electronic Frequency Control	Output Signal	Standard Frequency	Package Type
	[mm]	[MHz]	[V]	[ppm]		[MHz]	
VTX5S-STR3	5.3 x 3.2	5 MHz to 40 MHz	2.8 V 3.3 V 5.0 V	±5 ppm	clipped sine wave CMOS	19.44 MHz 20.00 MHz 25.00 MHz 40.00 MHz	
VTX7R-STR3	7.0 x 5.0	5 MHz to 40 MHz	2.8 V 3.3 V 5.0 V	±5 ppm	clipped sine wave CMOS	19.20 MHz 20.00 MHz 25.00 MHz 40.00 MHz	
VTX11M-STR3	11.4 x 9.6	10 MHz to 100 MHz	3.3 V 5.0 V	±5 ppm	Sine wave HCMOS	12.80 MHz 19.44 MHz 20.00 MHz 25.00 MHz	
VTX14M-STR3	11.4 x 9.6	10 MHz to 100 MHz	3.3 V 5.0 V	±5 ppm	Sine wave HCMOS	19.44 MHz 20.00 MHz 40.00 MHz 100.00 MHz	
VTXM14-ST3	DIL 14/4 pin	10 MHz to 40 MHz	3.3 V 5.0 V	±5 ppm	Sine wave HCMOS	10.00 MHz 20.00 MHz 40.00 MHz	

Frequency stability	ITU-T G.813 option 1	Phase Noise @ 40 MHz
all inclusive: vs temperature, tolerance @ +25 °C, ageing over 20 years, supply & load change	±4.6 ppm	- 87 dBc/Hz @ 10 Hz - 113 dBc/Hz @ 100 Hz - 135 dBc/Hz @ 1 kHz - 152 dBc/Hz @ 10 kHz - 157 dBc/Hz @ 100 kHz
versus operating temperature	±0.28 ppm	
holdover stability over 24 hours	±0.37 ppm	
calibration @ +25 °C	±0.5 ppm	
ageing over 20 years	±3.0 ppm	
operating temperature range	-20 ~ +70 °C commercial application -40 ~ +85 °C industrial application	
storage temperature range	-55 ~ +125 °C	
packaging units for SMD type	tape & reel 500 or 1k pieces	



Frequency stability vs. temperature



Ordering code (example)

(0)14M-(1)(2)-(3)(4)-(5)-100.000MHz Example: *VT14M-S33-NNu50-V10-100.000MHz*

(0) Oscillator type	(1) Output signal	(2) Supply voltage	(5) Pulling range (VT only)
TX = TCXO VT = VC-TCXO	H = (LV)HCMOS S = Sine wave	33 = 3.3 V 50 = 5.0 V	V05 = 1.5 ± 1.0 V ±5 ppm V10 = 1.5 ± 1.0 V ±10 ppm
(3) Operating temperature	(4) Frequency stability		X05 = 2.5 ± 2.0 V ±5 ppm X10 = 2.5 ± 2.0 V ±10 ppm Z = special spec
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	u10 = ± 0.10 ppm u25 = ± 0.25 ppm u50 = ± 0.50 ppm 1u0 = ± 1.00 ppm 1u5 = ± 1.50 ppm		

Frequency stability vs. temperature

ppm	≤± 0.10	≤± 0.25	≤± 0.50	≤± 1.00	≤± 1.50
-20 to +70 °C	Δ	O	O	O	O
-40 to +85 °C	Δ	O	O	O	O
-40 to +95 °C	X	Δ	Δ	Δ	O
-40 to +105 °C	X	Δ	Δ	Δ	Δ
-55 to +85 °C	X	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