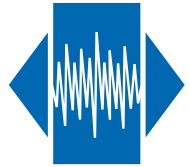




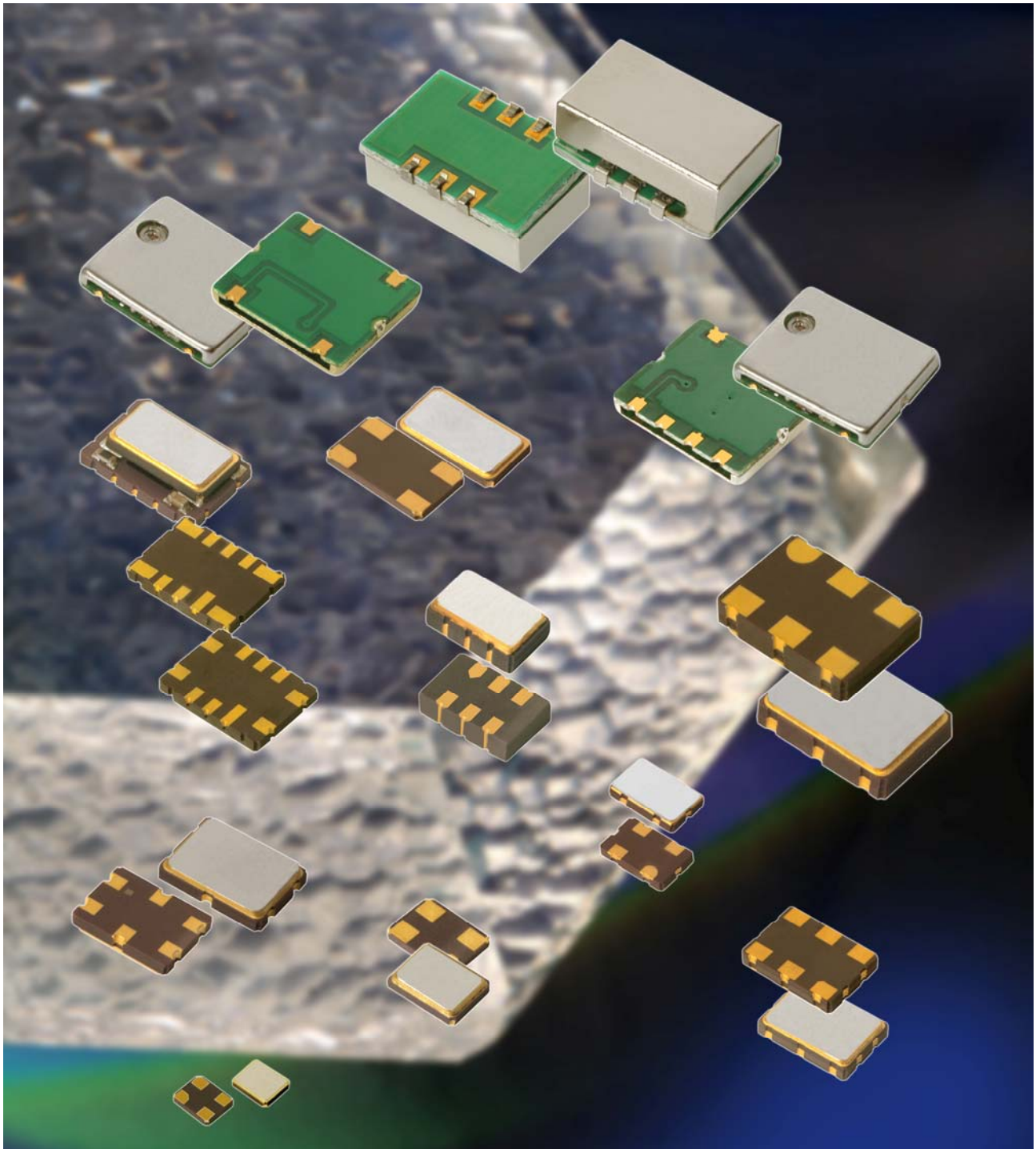
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MORE THAN FREQUENCY

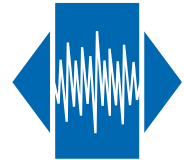
Voltage Controlled
Temperature Compensated Crystal Oscillators



VC-TCXO

Voltage Controlled
Temperature Compensated Crystal Oscillator

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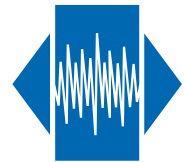
Surface-Mounted Type

Type	Package Size	Frequency Range	Supply Voltage	Pulling Range	Output Signal	Package Type
	[mm]	[MHz]	[V]	[ppm]		
VT7-252	2.5 x 2.0	16 MHz to 52 MHz	2.8 V	± 5 ~ ± 15 ppm	clipped sine wave	
VT7-302	3.2 x 2.5	10 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave HCMOS	
VT7-503	5.0 x 3.2	10 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave HCMOS	
VT7-503-SQ on request -55 to 95°C	5.0 x 3.2	10 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave HCMOS	
VT7-705-C	7.0 x 5.0	10 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave HCMOS	
VT7-705-T	7.0 x 5.0	5 MHz to 40 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave HCMOS	
VT7-705-S	7.0 x 5.0	10 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave HCMOS	
VT7-705-SQ on request -55 to 95°C	7.0 x 5.0	5 MHz to 52 MHz	2.8 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	clipped sine wave CMOS	
VT3-801F	11.4 x 9.6	9.6 MHz to 61.44 MHz	3.0 V 3.3 V 5.0 V	± 5 ~ ± 15 ppm	clipped sine wave	
VT3-801V	11.4 X 9.6	9.6 MHz to 61.44 MHz	3.0 V 3.3 V 5.0 V	± 20 ~ ± 40 ppm	clipped sine wave	
VT3-801HV	11.4 X 9.6	9.6 MHz to 61.44 MHz	3.0 V 3.3 V 5.0 V	± 20 ~ ± 40 ppm	HCMOS	
VT3-801HV-HP <i>NEW</i>	11.4 X 9.6	50 MHz to 200 MHz	3.0 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	HCMOS	
VT3-808DS <i>NEW</i>	11.4 x 9.6	50 MHz to 200 MHz	3.0 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	LVDS	
VT3-808PE <i>NEW</i>	11.4 x 9.6	50 MHz to 200 MHz	3.0 V 3.3 V 5.0 V	± 5 ~ ± 10 ppm	LVPECL	
VTO-P9-H	14.0 x 9.0	9.6 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 25 ppm	HCMOS	
VTO-SK	20.0 x 12.5	10 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 20 ppm	HCMOS sine wave	
VTO-SH	19.9 x 12.9	10 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 20 ppm	HCMOS sine wave	

VC-TCXO

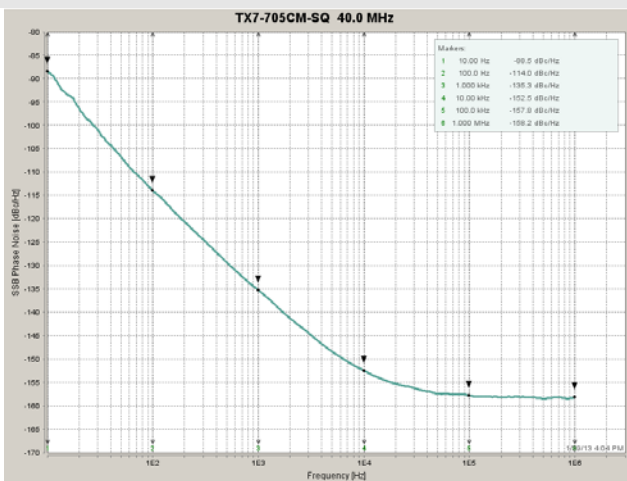
Voltage Controlled
Temperature Compensated Crystal Oscillator

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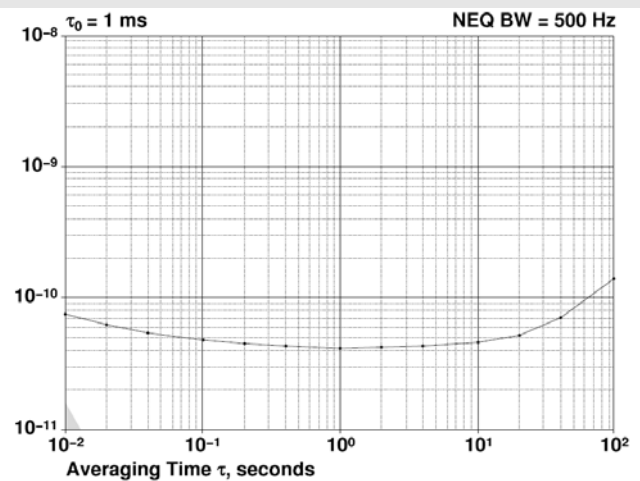


Parameters		
Frequency stability		
versus operating temperature (standard -40 ~ +85 °C)	±0.5 ~ ±1.0 ppm ±0.3 ppm ±0.1 ppm	standard on request on request
ageing over 20 years	±3.0 ppm	
G-sensitivity (Γ vector)	0.5 ppb/g	
calibration (preset)	±0.5 ppm	@ +25 °C
supply voltage	2.7 V, 3.0 V, 3.3 V and 5.0 V	
output signal	clipped sine wave or CMOS	
operating temperature range	-20 ~ +70 °C -40 ~ +85 °C -55 ~ +95 °C -60 ~ +100 °C	commercial application industrial application avionic application on request
storage temperature range	-60 ~ +125 °C	
packaging units for SMD type	tape & reel	500 or 1k pieces

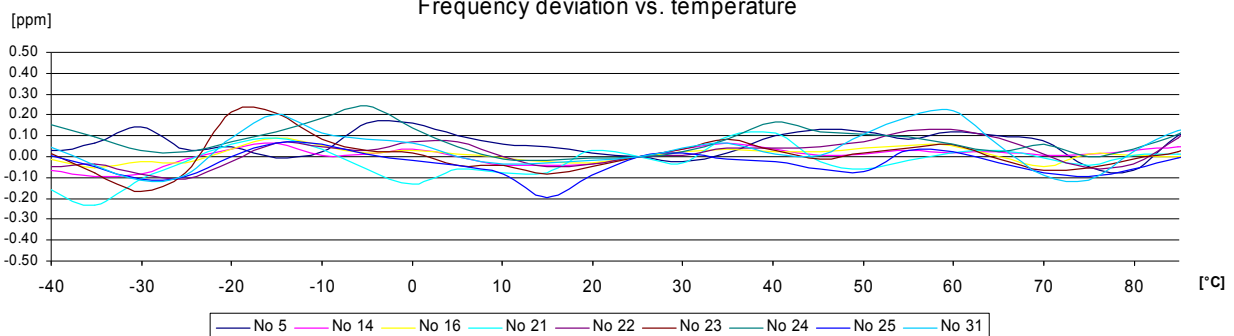
Phase noise



ADEV (Allan deviation)



Frequency deviation vs. temperature



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VC-TCXO

Voltage Controlled
Temperature Compensated Crystal Oscillator



Through Hole Type

Type	Package Size	Frequency Range	Supply Voltage	Pulling Range	Output Signal	Package Type
	[mm]	[MHz]	[V]	[ppm]		
VT5-SP	DIL 14 / 4 pin	9.6 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 30 ppm internal trimmer	sine wave	
VT5-AP					clipped sine wave	
VT5-HP	DIL 14 / 4 pin	1.5 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 30 ppm internal trimmer	HCMOS	
VT6-H	DIL 14 / 4 pin	10 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 30 ppm	sine wave HCMOS	
VTE-A	20 x 20 height = 10	10 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 30 ppm internal trimmer	clipped sine wave	
VTE-S	20 x 20 height = 10	10 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 30 ppm internal trimmer	sine wave	
VTE-H	20 x 20 height = 10	1.5 MHz to 200 MHz	3.3 V 5.0 V	± 5 ~ ± 30 ppm internal trimmer	HCMOS	

Parameters		Phase Noise @ 50.0 MHz
all inclusive frequency stability stability, tolerance, ageing, supply & load change	±2.0 ppm ~ ±5.0 ppm	
frequency stability versus operating temperature	±0.5 ppm ~ ±2.5 ppm standard ±0.1 ppm high precision	
operating temperature range	-20 ~ +70 °C commercial application -40 ~ +85 °C industrial application	
storage temperature range	-55 ~ +125 °C	
packaging units	tube 25 pieces tray 50 pieces	

Required specification for quotation request	Units	Example		
Type		VT7-503		
nominal frequency	MHz	16.384 MHz		
frequency stability vs. temperature range	ppm	±1.0 ppm		
operating temperature range	°C	-30 to +85 °C		
supply voltage	V	3.0 V		
output signal:	clipped sine wave, sine wave, HCMOS / TTL	V	clipped sine wave	
output load:	clipped sine wave	10 kΩ // 10 pF	kΩ/pF	10 kΩ // 10 pF
	sine wave	50 Ω	Ω	
	HCMOS / TTL	15pF	pF	
special output load on request				
frequency control range	ppm	> ±8 ppm		
voltage control (Vc)	V	+1.5 V ±1.0 V		
phase noise	dBc/Hz	< -140 dBc/Hz @ 10 kHz		