

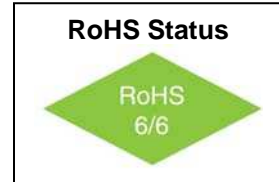
# VFTX332

## TCXO with Voltage Control Option 5x7mm, CMOS or Clipped Sine STRATUM III



### Features

- Frequency range of 10MHz to 26MHz
- Digital Temperature Compensation
- Fundamental mode crystal
- High Reliability
- Low power consumption



Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		10		26		See Chart Below
Frequency Stability	$\Delta F/F$	Vs. Operating Temperature -20°C to +70°C -40°C to +85°C			$\pm 0.28$ $\pm 0.50$	ppm	Referenced to +25°C frequency
		Overall including 20 years aging			$\pm 4.6$	ppm	
Operating Temperature Range	T		-20° -40°		+70° +85°	°C	Order Code D Order Code G
Storage Temp.			-55		+125	°C	
Supply Voltage	Vcc		4.75 3.13	5.00 3.30	5.25 3.47	V	Order Code D Order Code E
Supply Current	Ic				3.5 6.0	mA	Clipped Sine CMOS
Voltage Control	Vc	For 3.3V model For 5.0V model	0 0.5		3.3 4.5	V	
Vc Input Impedance			100K			$\Omega$	
Deviation range			$\pm 5$			ppm	VCTXCO version
Deviation slope		Monotonic positive					
Linearity			-10		+10	%	
Modulation BW			10			KHz	3dB BW
SSB Phase Noise		@ 100Hz @ 1 KHz @ 10 KHz		-120 -140 -148		dBc/Hz	Fo=12.8MHz
Phase Jitter		1 $\sigma$ over 12KHz ~ 20MHz			3.5	ps	Fo=12.8MHz
Start up					2	ms	
Clipped Sine Output Level		10K $\Omega$ // 10pF load	0.8			Vp-p	See load diagram
CMOS Output	Voh	High Level	15pF load	0.9 Vcc		-	
	Vol	Low Level		-		0.1 Vcc	
		Symmetry		45		55	%
	Tr/Tf	Rise/Fall Time				8	ns
Tri-State		Disable			0.3 Vcc		Output is high Impedance
		Enable	0.7 Vcc				
Initial Frequency Accuracy		+25°C, Nominal Vcc and load, Vc=1.65 or 2.50 volts	-0.5		0.5	ppm	At time of shipment



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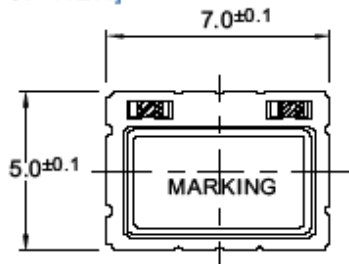
Available Frequencies	CMOS	10MHz, 12.8MHz, 13MHz, 16.384Mhz, 19.4MHz, 19.44MHz, 20MHz, 25M, 25.6M, 26MHz
	Clip Sine Wave	10MHz, 12.8MHz, 13MHz, 19.44MHz

### How to Order



Temperature Range		Supply Voltage		Deviation		Output	
Code	Specification	Code	Specification	Code	Specification	Code	Specification
D	-20°C to 70°C	E	3.3V	T	N/A (TCXO)	C	CMOS
G	-40°C to +85°C	D	5.0V	A	±5ppm (VCTCXO)	N	Clipped Sine Wave

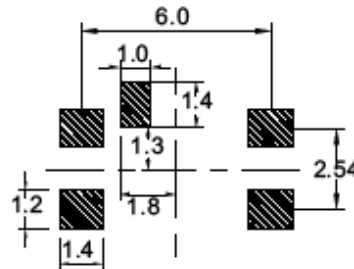
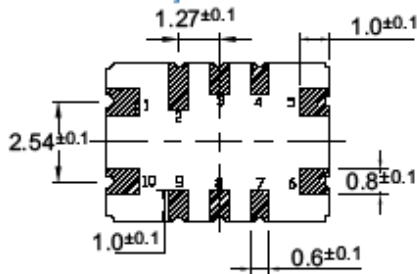
[TOP VIEW]



[SIDE VIEW]



[BOTTOM VIEW]



Recommended Soldering Pattern

PIN	Specification
1	Vcontrol or N/C
5	GND
6	Output
9	Tristate control
10	Vcc



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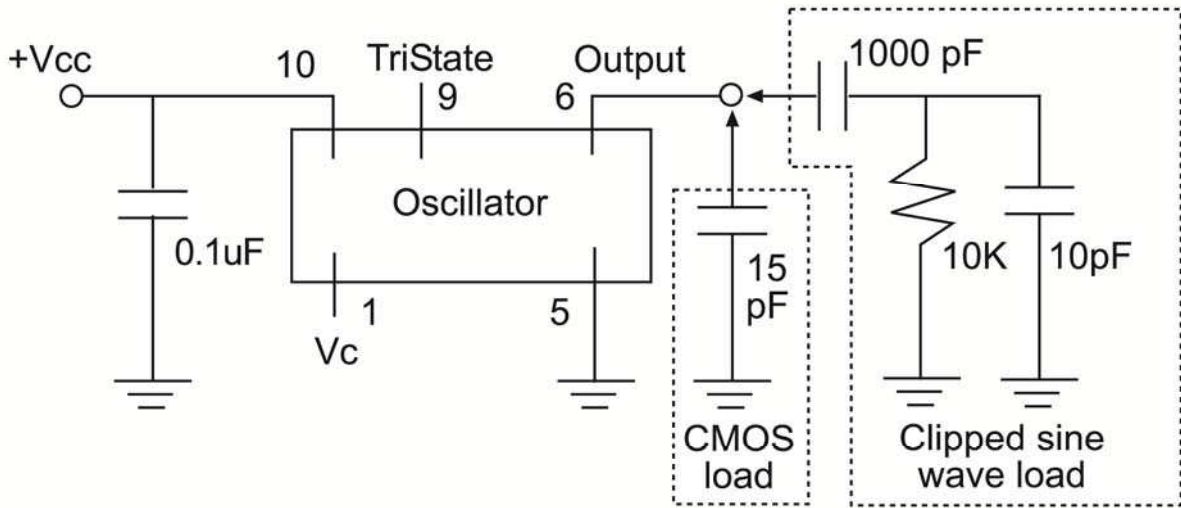
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Parameter	Test Condition	Reference Standard
Thermal Shock	-55°C to +125°C, 10minutes, 200 cycles	MIL-STD-883D 1011.9, cond. B
High Temp. & humidity	85°C, 85% humidity , 500 hours	JIS-C 7022B-5, Cond. C
Low Temp.	-40°C, ±3°C, 500 hours	JIS-C-5021
Mechanical Shock	1500g, half sinewave, 0.5ms, 3 axis, 3 times	MIL-STD-883D 2002.3, cond. B
Vibration	20Hz to 20KHz, 1.52mm, 20g, 3 axis 4 hours sinewave	MIL-STD-883D 2007.2, cond. B
IR reflow	245°C ±5°C, 5±0.5 seconds (maximum)	



### Load Diagram:

Include 0.1uF Vcc bypass capacitor. For clipped sine output, include 1000pf DC cut capacitor. For CMOS output, total circuit loading should be 15pf maximum.

