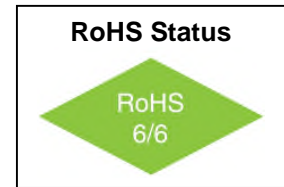


**VFTX1412C**  
**VCTCXO**  
**14x12 mm SMD, LVCMOS**

**Features**

- Output Frequency to 165 MHz
- Ultra low jitter and phase noise
- Meets Wander generation TDEV / MTIE for ITU-T G.8262 EEC options 1 & 2



**Description**

The VFTX1412C is a low noise TCXO which provides an output frequency up to 165 MHz. The temperature stability is less than 1ppm over a temperature range of -40 °C to + 85 °C. The VFTX1412C is available in a 14 mm x 12 mm surface mount package.

**Electrical Specifications \***

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
<b>Output Frequency</b>	Fout		10		165	MHz	
<b>Frequency Stability</b>	$\Delta F/F$	Vs. Operating Temperature -40°C to +85°C		.4	1.0	ppm	
		Vs. Supply Voltage Vs. Aging / Year Vs. Aging / 10 Years		$\pm 0.1$ $\pm 1$ $\pm 3$		ppm/V ppm ppm	First Year 10 Years
<b>Operating Temperature</b>	Ta		-40		+85	°C	
<b>Supply Voltage</b>	Vcc		3.15	3.3	3.45	V	
<b>Input Current</b>	Icc				50	mA	
<b>Initial Accuracy</b>		@ 25 deg C Vc - Floating		100	300	ppB	
<b>Voltage Control</b>	Vc		0		3.3	V	
<b>Input Impedance</b>			10			k $\Omega$	
<b>APR</b>			$\pm 5$			ppm	
<b>Deviation slope</b>		Monotonic positive					
<b>Linearity</b>			-10		+10	%	
<b>Modulation BW</b>			7			Hz	3dB BW
<b>Output Voltage Levels</b>	V <sub>OH</sub>	Load = 10K $\Omega$ // 8pf	.9 Vcc		Vcc	V	
	V <sub>OL</sub>		0		.1 Vcc	V	

\*V<sub>CC</sub> = 3.3V ; Ta = +25°C unless otherwise specified.

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**Electrical Specifications \***

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
SSB Phase Noise		100Hz		-112		dBc/Hz	@ 100 MHz
		1KHz		-135			
		10KHz		-152			
		100KHz		-160			
		1MHz		-165			
Duty Cycle			45		55	%	
Start-up Time				2	3	s	

**Absolute Maximum Ratings**

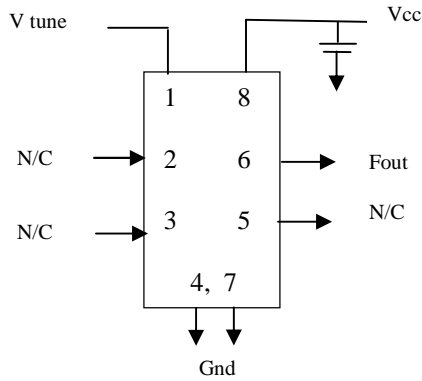
Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	V <sub>CC</sub>		-0.5		4.6	V	
Storage Temperature	T <sub>S</sub>		-40		+85	°C	

**Environmental and Mechanical**

Parameter	Specification
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	Per MIL-STD-883, Method 2007, Condition A
Soldering Conditions	260°C for 10s max
Hermetic Seal	Leak rate less than 5x10 <sup>-8</sup> atm.cc/s of helium (crystal only)
Termination	Gold flash
Marking	Epoxy ink or laser engraved

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**Connection Diagram**



**Mechanical Outline**

**Pin Assignments**

Pin #	Connection
1	V tune
2	N / C
3	N / C
4	Gnd
5	N / C
6	Fout
7	Gnd
8	Vcc

