

VFTX120

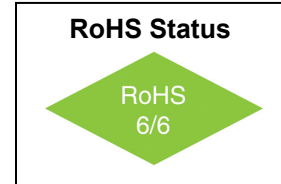
TCXO Low Noise

25.4x22mm SMD, SINE WAVE



Features

- 30MHz to 180MHz frequency range
- Ultra low jitter and phase noise: -135 dBc/Hz @ 1kHz
- Excellent frequency stability <1ppm
- Low power: <135mW typical



Applications

- SONET / SDH / ATM
- 10 Gigabit Ethernet
- Digital Wireless Reference

Description

The VFTX120 is a low noise TCXO capable of providing a sine wave output frequency up to 180MHz. The temperature stability is less than 1ppm over a temperature range of -40°C to + 85°C. Operating with a +3.3 volt power supply the device typically consumes 135 mW. The device contains an internal voltage regulator for improved stability and noise performance. The VFTX120 is available in a 25.4mm x 22mm surface mount package.

Replaces Part Number: VFT7H

Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		30		180	MHz	
Frequency Stability	$\Delta F/F$	Vs. Operating Temperature B: 0°C to +70°C G: -40°C to +85°C		0.5 0.8	1.0 1.0	ppm	
		Vs. Supply Voltage		± 0.1		ppm/V	
		Vs. Aging / Year Vs. Aging / 10 Years		± 1 ± 3		ppm	First Year 10 Years
Operating Temperature Range	T		0 -40		+70 +85	°C	Order Code B Order Code G
Output		SINE WAVE					
Supply Voltage	V_{CC}		3.15	3.30	3.45	V	Order Code E
Voltage Control	V_C		0		3.3	V	
Input Impedance			10			k Ω	
APR			± 5			ppm	
Deviation slope		Monotonic positive					
Linearity			-10		+10	%	
Modulation BW			10			Hz	3dB BW

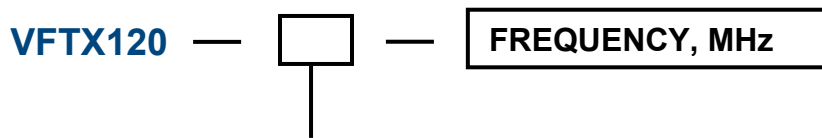
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Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Input Current	ICC				50	mA	
Load	AC-coupled 50 Ohms						
Output Power		Into 50 Ohms	8	10.5		dBm	
Start up time				2	10	ms	
Phase Jitter		12kHz to 20MHz		0.15	.4	ps	
SSB Phase Noise		100Hz 1kHz 10kHz 100kHz		-110 -135 -154 -160		dBc/Hz	@ 100 MHz
Setability		Ref. to f_0			0.1	ppm	
Setability Voltage			1.3		1.7	V	

How to Order



Temperature Range

Code	Specification
B	0°C to 70°C
G	-40°C to 85°C

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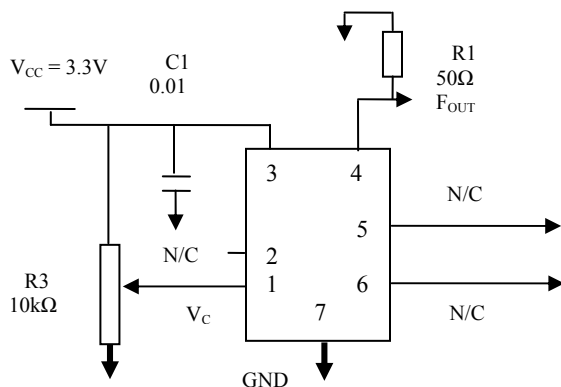
Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	V_{CC}		-0.5		4.6	V	
Storage Temperature	T_s		-55		+105	°C	
Control Voltage	V_C		-0.5		3.6	V	

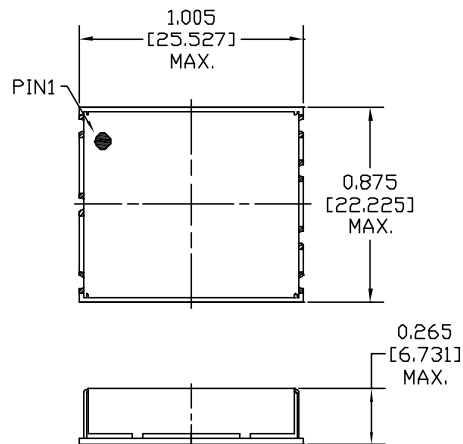
Environmental and Mechanical Conditions

Parameter	Conditions
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 5×10^{-8} atm.cc/s of helium (crystal only)
Markings	Epoxy ink or laser engraved

Connection Diagram



Mechanical Outline



Pin Assignments

Pin #	Connection
1	V_C
2	N/C
3	V_{CC}
4	F_{OUT}
5	N/C
6	N/C
7	GND

