

# VFVX120

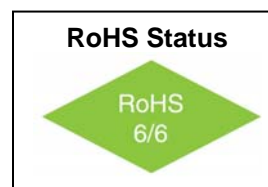
## VCXO Low Jitter

### 9x14mm SMD, PECL / LVPECL



#### Features

- 19 MHz to 200 MHz Frequency Range
- Ultra Low Jitter and Phase Noise
- Absolute Pull Range of  $\pm 50$ ppm



#### Applications

- Optical Networking, SONET / SDH
- 10 Gigabit Ethernet
- Broadband Access

#### Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F		19		200	MHz	
Frequency Stability	$\Delta F/F$	Vs. Operating Temperature B: 0°C to +70°C C: -10°C to +60°C G: -40°C to +85°C			$\pm 20$ $\pm 20$ $\pm 30$	ppm	
		Vs. Supply Voltage Vs. Aging / Year		$\pm 3$ $\pm 1$		ppm/V ppm	First Year
Operating Temperature Range	T		0° -10° -40°		+70° +60° +85°	°C	Order Code B Order Code C Order Code G
Output		Signal	PECL / LVPECL				
Supply Voltage	V <sub>cc</sub>		4.75 3.15	5.00 3.30	5.25 3.45	V	Order Code D Order Code E
Voltage Control	V <sub>c</sub>		0 0		5.0 3.3	V	V <sub>cc</sub> = 5.0V V <sub>cc</sub> = 3.3V
Input Impedance		$F_m < 10\text{Khz}$	$>50\text{K}\Omega$				
K <sub>vco</sub>		@25°C		$\pm 35$		ppm/V	
APR		Overall	$\pm 35$	$\pm 50$		ppm	
Deviation slope		Monotonic positive					
Linearity			-10		+10	%	
Modulation BW			$>10\text{KHz}$				3dB BW
Supply Current	I <sub>cc</sub>	No Load			50	mA	@155MHz



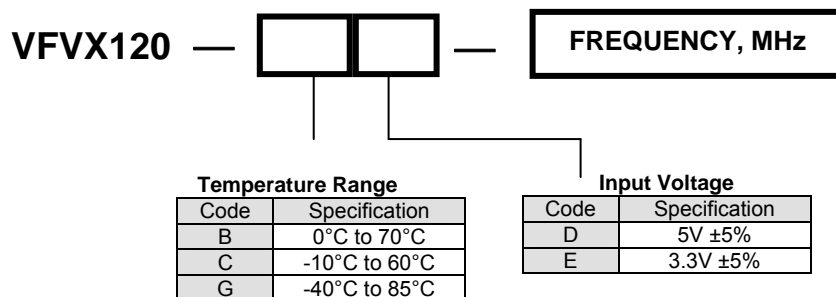
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**Electrical Specifications**

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Load	50 Ohm to Vcc-2V or Thevenin Equivalent Bias Required						
Duty Cycle		@ 50%	45	50	55	%	
Rise / Fall Time	Tr/Tf	20% to 80%			0.6	ns	
Logic "1" Level	Voh		Vcc-0.96		Vcc-0.81	V	
Logic "0" Level	Vol		Vcc-1.85		Vcc-1.65	V	
Start up time				2	10	ms	
Phase Jitter		1 $\sigma$		0.2	0.5	ps	
SSB Phase Noise		100Hz 1KHz 10KHz 100KHz		-90 -115 -135 -145		dBc/Hz	@ 155.52MHz
Subharmonics				-50	-40	dBc	
Enable / Disable Function	Input HIGH (>2.5V): DISABLED Input LOW (<0.5V) or floating: ACTIVE						
Enable / Disable Time	Te/Td				100	ns	

**How to Order**



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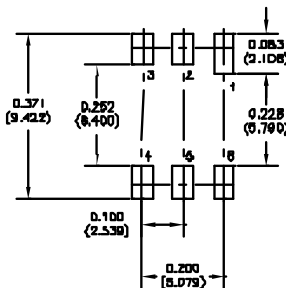
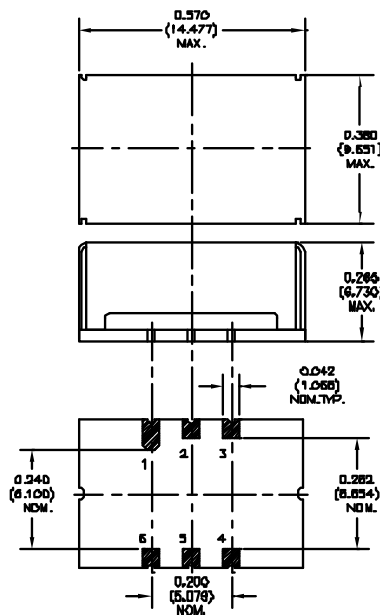


#### Absolute Maximum Ratings

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Supply Break Down Voltage	V <sub>cc</sub>		-0.5		6.0	V	
Storage Temperature	T <sub>s</sub>		-55		+85	°C	
Control Voltage	V <sub>c</sub>		-1		7	V	

#### 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)



Pin #	Connection
1	V <sub>c</sub>
2	Negative Enable
3	Case, GND
4	Output
5	Comp. Output
6	V <sub>cc</sub>

