

# VFXO202

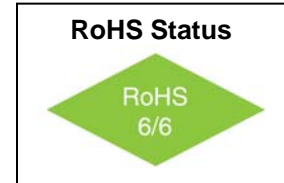
## XO – Ultra Low Power

### 5.0x3.2mm SMD, CMOS



#### Features

- 1.0MHz to 220MHz Frequency Range
- 3.3V, 2.5V, or 1.8V Supply Voltage
- Tight symmetry
- Low jitter
- Low power consumption



#### Applications

- Portable Communications
- Test & Measurement
- Gigabit Ethernet

#### Electrical Specifications

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Frequency Range	F	3.3V 2.5V 1.8V	1.0		220 220 165	MHz	
Frequency Stability	$\Delta F/F$	Over all conditions of :- Operating Temperature; Supply Voltage; 1 Year Aging; shock & vibration			$\pm 100$ $\pm 50$ $\pm 25$ $\pm 20$	ppm	Order Code A Order Code B Order Code C Order Code D
Operating Temperature	T		0° -20° -40°		+70° +70° +85°	°C	Order Code B Order Code D Order Code G
Output			CMOS 15pF				
Supply Voltage	Vcc		3.14 2.38 1.71	3.30 2.50 1.80	3.47 2.63 1.89	V	Order Code E Order Code G Order Code H
Supply Current	Icc MAX	3.3V 2.5V 1.8V			77 61 33	mA	Max Current across entire temp range
TRISTATE		Output Active or Enable  Output in High Impedance State (Disable)	0.7 V <sub>DD</sub>			V	



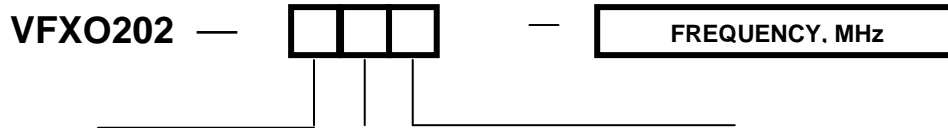
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**Electrical Specifications**

Parameter	Symbol	Condition	Min	Typ	Max	Unit	Note
Duty Cycle			45	50	55	%	
Rise / Fall Time	Tr/Tf	10% to 90% of V <sub>DD</sub>			5	ns	
Logic "1" Level	Voh		90% V <sub>DD</sub>		-	V	
Logic "0" Level	Vol		-		10% V <sub>DD</sub>	V	
RMS Jitter	1 $\sigma$	12KHz to 20MHz			1	ps	
Storage Temperature	Ts		-55		+125°	°C	

**How to Order**



Code	Output
A	±100ppm
B	± 50ppm
C	± 25ppm
D	± 20ppm

Code	Output
B	0°C ~ 70°C
D	-20°C ~70°C
G	-40°C ~ 85°C

Code	Output
E	3.3V
G	2.5V
H	1.8V

**Available Frequency Stabilities over Operating Temperature Ranges**

Code	Temperature Range	±100ppm	±50ppm	±25ppm	±20ppm
B	0°C to 70°C	*	*	*	*
D	-20°C to 70°C	*	*	*	
G	-40°C to 85°C	*	*	*	

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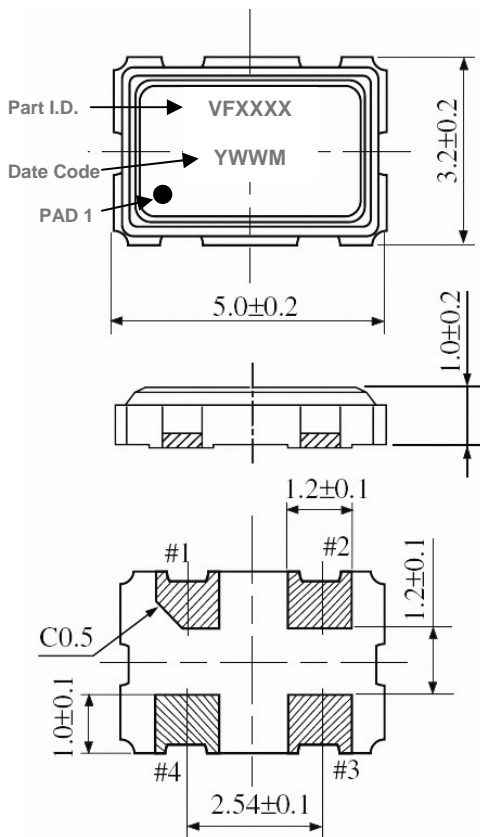
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#### Environmental and Mechanical

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 $5 \times 10^{-8}$ atm.cc/s of helium

#### Outline Drawing



Pin #	Connection
1	TRISTATE
2	GND
3	Output
4	V <sub>DD</sub>

