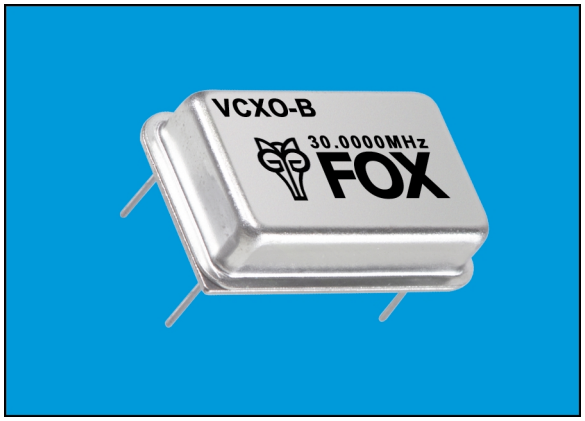
VOLTAGE CONTROLLED CRYSTAL OSCILLATOR

VCXO-B



The VCXO-B series is a tight stability, voltage controlled crystal oscillator. The frequency can be altered pulled a minimum ±200PPM by applying a voltage between 0.5V & 4.5V to pin 1. This oscillator is designed especially to be used in phase lock loop applications requiring maximum frequency capture range. **For SMD package see page 66 for the F5000.**

FEATURES

- HCMOS/TTL Output
- Pullability
- Tight Stabilities
- Low Power Consumption
- Rugged Resistance Weld
- -40 ~ +85ºC Option (R version)

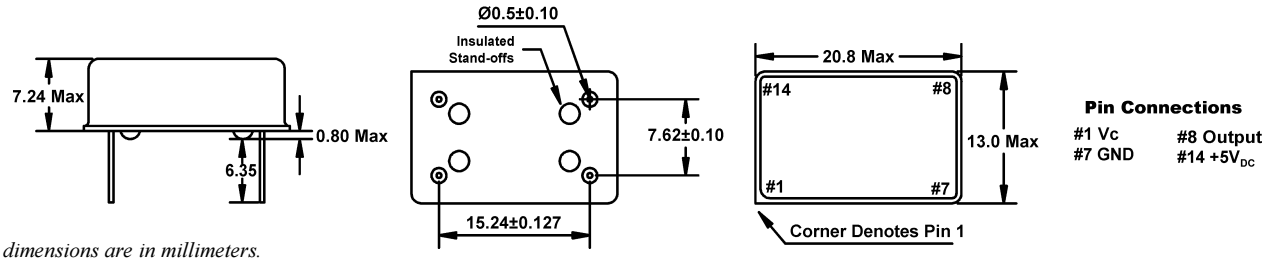
• MODEL NUMBER SELECTION

Model Number	Stability (MAX)*	Pullability(MIN) Vc = 2.5 ±2V
VCXO-B1	±100	±200
VCXO-B2	±50	±200
VCXO-B3	±50	±100
VCXO-B4	±25	±100
VCXO-B5	±20	±50

• ELECTRICAL CHARACTERISTICS (V_{DD} = 5.0V, C_L = 15pF)

PARAMETERS	FREQUENCY RANGE	CONDITIONS	MIN	MAX	UNITS
Frequency Range (Fo)			1.000	45.000	MHz
Temperature Range	1.000 ~ 45.000				
Operating (TOPR)			-10	+70	ºC
Storage (TSTG)			-30	+85	
Supply Voltage (VDD)	1.000 ~ 45.000		+4.75	+5.25	V
Control Voltage (Vc)	1.000 ~ 45.000		+0.5	+4.5	V
Input Current (IDD)	1.000 ~ 24.000			15	mA
	24.000+ ~ 30.000			20	
	30.000+ ~ 45.000			30	
Output Symmetry	1.000 ~ 45.000	2.5V	40	60	%
Rise Time (TR)	1.000 ~ 30.000	1.0V ~ 4.0V		10	nS
	30.000+ ~ 45.000			5	
Fall Time (TF)	1.000 ~ 30.000	4.0V ~ 1.0V		10	
	30.000+ ~ 45.000			5	
Output Voltage (VOL)	1.000 ~ 45.000	IOL = MAX		0.5	V
(VOH)		IOH = MAX	4.5		
Output Current (IOL)	1.000 ~ 30.000	VOL = 0.5 V		3.2	mA
	30.000+ ~ 45.000			12.8	
(IOH)	1.000 ~ 30.000	VOH = 4.5V		-0.1	
	30.000+ ~ 45.000			-1.0	
Output Load	1.000 ~ 30.000	TTL Load		8	LSTTL
	30.000+ ~ 45.000	TTL Load		8	TTL
	1.000 ~ 45.000	HCMOS Load		15	pF
Start-up Time (TS)	1.000 ~ 45.000			10	mS
Phase Noise	1.000 ~ 45.000	Fo + 1 kHz	-125		dBc/Hz
		Fo + 10 kHz	-130		
Frequency					
Stability vs Voltage	1.000 ~ 45.000	VDD = 5.0V ±0.25V	-1.0	+1.0	PPM
Linearity			-10	+10	%
Modulation Bandwidth				20	kHz

* Inclusive of 25ºC tolerance, operating temperature range, input voltage change, load change, aging, shock, vibration and Vc = 2.5V.
See page 44 for mechanical specifications, test circuits, and output waveform.
All specifications subject to change without notice. Rev. 03/02/00



All dimensions are in millimeters.