

VC20-3

VOLTAGE CONTROLLED CRYSTAL OSCILLATOR (VCXO)

The VC20-3 series provides a range of voltage controlled crystal oscillators operating at +3.3V supply with a HCMOS/TTL compatible output. The control voltage range of $\pm 100\text{ppm}$ minimum ensures an absolute pull range of at least $\pm 50\text{ppm}$ with a typical linearity of $\pm 3\%$.

ADVANTAGES

- Through hole
- Resistance Welded Hermetic Seal.
- Wide Operating Frequency
- Wide Frequency Adjustment Range

APPLICATIONS

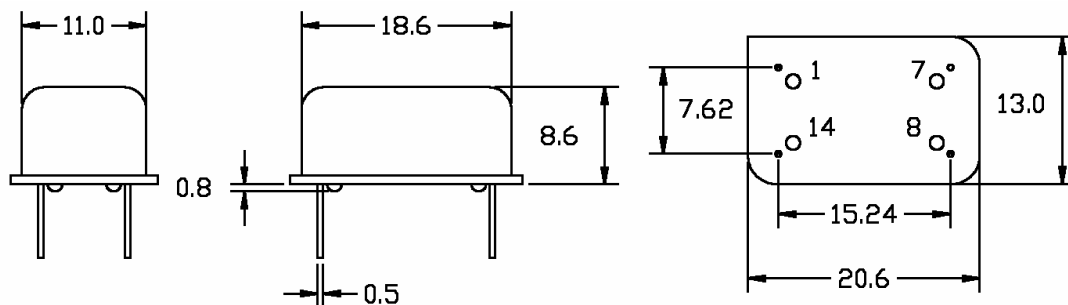
- Telecommunications
- Portable Instrumentation
- Synthesizers.
- Phase Locked Loops.



ELECTRICAL PERFORMANCE ($T_a = 25^\circ\text{C}$, $C_L = 10\text{k}\Omega // 10\text{pF}$ and $V_{CC} = +3.3\text{V}$)

PARAMETER	MINIMUM	MAXIMUM	UNITS
NOMINAL FREQUENCY (F_o)	4.0	100	MHz
CALIBRATION TOLERANCE (With +1.65V on pin 1)	-10	+10	ppm
FREQUENCY STABILITY			ppm
Over Temperature Range (See Note 2)	-30	+30	
Ageing (per year at $+25^\circ\text{C}$)	-2.0	+2.0	
Over Supply Voltage Variation ($V_{CC} = +3.3\text{V} \pm 5.0\%$)	-5.0	+5.0	
OPERATING TEMPERATURE RANGE (See Note 2)	-40	+85	$^\circ\text{C}$
STORAGE TEMPERATURE RANGE	-55	+105	$^\circ\text{C}$
SUPPLY VOLTAGE (V_{CC}) (See Note 2)	+3.135	+3.465	V
SUPPLY CURRENT (Dependant upon nominal frequency)	5.0	25.0	mA
OUTPUT WAVEFORM HCMOS/TTL			
Logic Levels	0.1 V_{CC}	0.9 V_{CC}	V
Duty Cycle (@ $V_{CC}/2$)	40	60	%
Fall and rise times	3	10	ns
Voltage Control Range +1.65V $\pm 1.5\text{V}$ (Positive polarity)	± 100	± 200	ppm
Linearity		± 10	%
Input Impedance	50,000		Ω
Modulation Bandwidth	10		kHz

Parameter	Standard Observed
Mechanical Shock	MIL-STD-202 Method 213, Condition C
Vibration	MIL-STD-202 Method 201, 204, and 214
Hermeticity	MIL-STD-202, Method 112
Solderability	IPC/EIA-STD-002A



Pin Connections:

- 1 Vcont.
- 7 Ground
- 8 Output
- 14 Vcc

NOTES 1) To order, state part number and nominal frequency e.g. VC20-3 32.768MHz
2) Other temperature ranges, stabilities and supply voltages are readily available upon request.