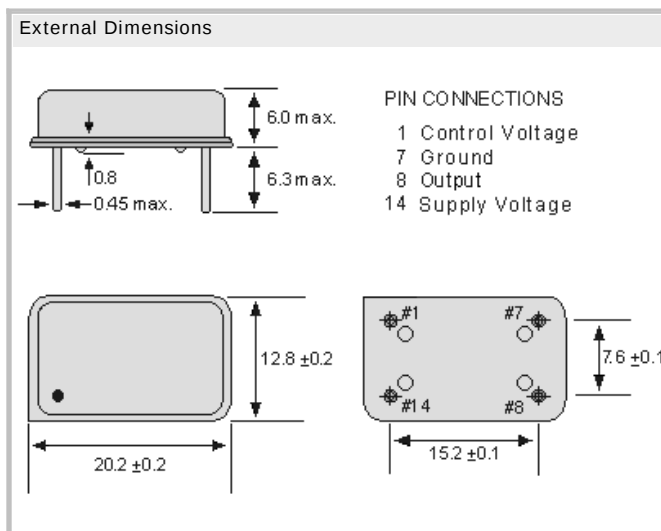


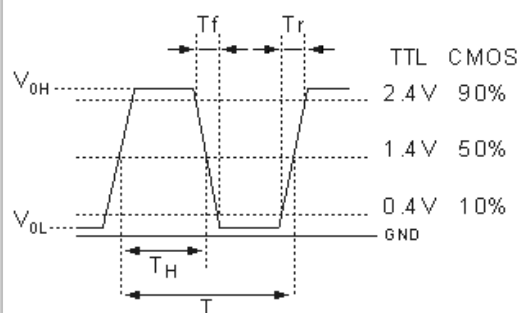


VCXO-12T3.3 DIL 14 3.3V
Voltage Controlled Crystal Oscillator

- compact metal package
- Output Wave Form CMOS/TTL
- packed in antistatic tubes
- RoHS conform; Lead-free product
- Vibration: MIL-STD-202F method 204, 35G, 50 to 2000 Hz
- Shock: MIL-STD-202F method 213B, test cond. E, 1000GG 1/2 sine wave
- Available in many standard and special frequencies



CMOS/TTL Output Wave Form



Specifications

Holder Type:	VCXO-12T3.3 3.3V (Voltage code is " 3.3 ")
Frequency:	20.480000 MHz
Initial Freq. Accuracy (at 25 °C):	To tune to the nominal frequency with V _c = 1.65V ± 0.2V
Frequency Stability at 25°C:	± 100 ppm
Storage Temperature:	-50°C to +105°C
Current Consumption:	10mA typical, 45 mA max.
Frequency Deviation:	± 50 ppm
Operating Temperature Range:	± 100 ppm over ± 0°C to +70°C (inclusive of 25°C tolerance, ± 10% input voltage variation, load change, aging, shock and vibration)
Power Supply Voltage (V _{dd}):	+3.3V DC ± 10%
Output Load CL:	2 TTL gates max. / CMOS 15 pF
Output "1" Level (V _{OH}):	2.4V (min.) TTL / 2.97V (min.) CMOS
Output "0" Level (V _{OL}):	0.4V (max.) TTL / 0.33V (max.) CMOS
Output Symmetry (Duty Cycle):	40/60%
Modulation Bandwidth (at -3 dB):	10KHz min, V _{control} at 1.65V or at 2.5V
Voltage Control:	1.65V DC Center / 0.3V to 3.0V Range
Linearity:	6% typical; 10% max.
Rise/Fall Time TTL:	6ns (max.) 4ns (typ.) Measured between 0.4V and 2.4V
Rise/Fall Time CMOS:	6ns (max.) 4ns (typ.) Measured between 20% and 80% V _{dd} of the wave form (CL = 15pF)
Integrated Phase Jitter:	1 ps max. (12 kHz to 20 MHz)
Period Jitter:	RMS 2.0 ps (typ.) / Peak to Peak 14 ps max.
Phase Noise (27MHz at 3.3V):	-40dBc/Hz at 10Hz offset -147dBc/Hz at 10kHz offset -104dBc/Hz at 100Hz offset -152dBc/Hz at 100kHz offset -132dBc/Hz at 1kHz offset -150dBc/Hz at 1MHz offset
Start Up Time:	10 ms (max.), 5ms (typ.)
Aging:	± 3 ppm per year (max.)
Input Impedance:	1 M Ohm typical
Reflow Condition:	10 sec. max. at 260°C

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