



20.2 x 12.6 x 5.08 mm

# 3.3Vdc • HCMOS/ TTL COMPATIBLE FULL-SIZE AND HALF-SIZE DIP CRYSTAL CLOCK OSCILLATORS ACOL and ACHL

## FEATURES:

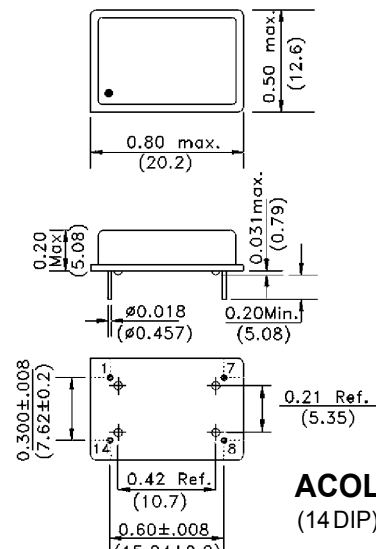
- Tristate Enable/Disable option.
- HCMOS and TTL compatible.
- Low power
- Low voltage 3.3Vdc.
- Tight symmetry option.

## APPLICATIONS:

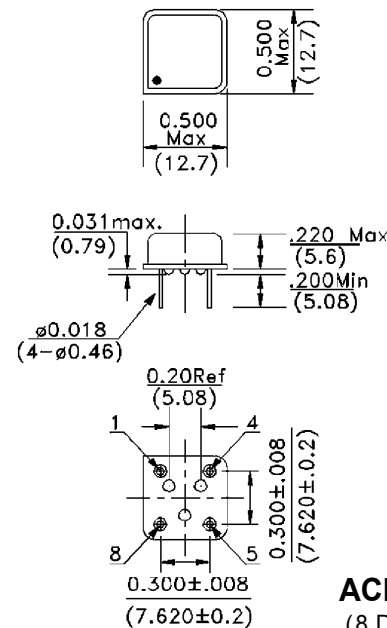
- Clock signal sources for digital chips and microprocessors.
- Low power applications.

## STANDARD SPECIFICATIONS

PARAMETERS	SPECIFICATIONS
Package Type	<b>ACOL (14 DIP) and ACHL (8 DIP)</b>
Frequency Range (F <sub>0</sub> )	<b>32.768 kHz - 200 MHz</b>
Operating Temperature (T <sub>OPR</sub> )	0°C to +70°C (See Options)
Storage Temperature (T <sub>STO</sub> )	-55°C to +125°C
Frequency Stability (ΔF/ F <sub>0</sub> )	±100ppm max. (See Options)
Supply Voltage (V <sub>dd</sub> )	3.3Vdc ±10%
Input Current (I <sub>dd</sub> )	20mA max. for F ≤ 20 MHz 25mA max. for F ≤ 70 MHz 50mA max. for F ≤ 200 MHz
Duty Cycle or Symmetry	40 / 60% max. (typical 45/55%) (See Options)
Rise and Fall Times (T <sub>R</sub> / T <sub>F</sub> )	10ns max.
Output Load	5TTL or 15pF
Output Voltage	0.9*V <sub>dd</sub> min. (V <sub>OH</sub> ); 0.1*V <sub>dd</sub> max. (V <sub>OL</sub> )
Start-up Time (T <sub>OSC</sub> )	10ms max.
Tristate Function (V <sub>IH</sub> )	"1" or Open: Oscillation ≥ 2.2V
(Option "-A" ONLY) (V <sub>IL</sub> )	"0": Output disabled in high impedance (HiZ) < 0.8V
Output Disable / Enable Time	100ns max. (for Option "-A" ONLY)



Dimensions: Inches (mm)



\* Pin 1 has internal pull-up resistor which allows Pin 1 to be left floating (enable high) opt. A. Test circuit, waveforms, see appendix B. Recommended handling, see appendix F. Environmental and mechanical specifications, see appendix C. Group 1. Marking, see appendix G. Value added, see appendix D. Application notes, see appendix A.

## ORDERING OPTIONS

**ACXL - Frequency - Temperature - Overall Frequency Stability - Duty Cycle - Tristate - Value Added - Packaging**

O or H  
XX.XXXXX MHz or kHz  
-D for -10°C to +60°C  
-E for -20°C to +70°C  
-F for -30°C to +70°C  
-N for -30°C to +85°C  
-L for -40°C to +85°C

-Y for ± 10 ppm max\*\*  
-J for ± 20 ppm max  
-R for ± 25 ppm max  
-K for ± 30 ppm max  
-H for ± 35 ppm max  
-C for ± 50 ppm max

-S for 45/55% @ 1/2 V<sub>dd</sub>  
-T for 47.5/52.5% @ 1/2 V<sub>dd</sub>  
-S1 for 45/55% @ 1.4 V<sub>dc</sub>

-G Gull Wing\*  
-G2 Gull Wing \* (ACHL Only)  
-QXX (Trimmed Leads) \*

-T for Tape and reel  
-TY for Tray packing

- A for Tristate E/D

\*\* Standard Operating Temperature Only  
Frequency 50 MHz max

PIN # ACOL	PIN # ACHL	FUNCTION
1	1	NC or E/D
7	4	GND / Case
8	5	Output
14	8	V <sub>dd</sub>

NOTE: Left blank if standard • All specifications and markings subject to change without notice



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