

TTL / CMOS • FULL-SIZE DIP • 5 Vdc or 3.3 Vdc

VOLTAGE-CONTROLLED CRYSTAL OSCILLATORS

ACVX1220 and ACVX1220L



FEATURES:

- 14-Pin DIP 5Vdc or 3.3 Vdc.
- Hermetically Sealed.
- Large Frequency Deviation Available.
- Tight Symmetry (45/55%) Available.

APPLICATIONS:

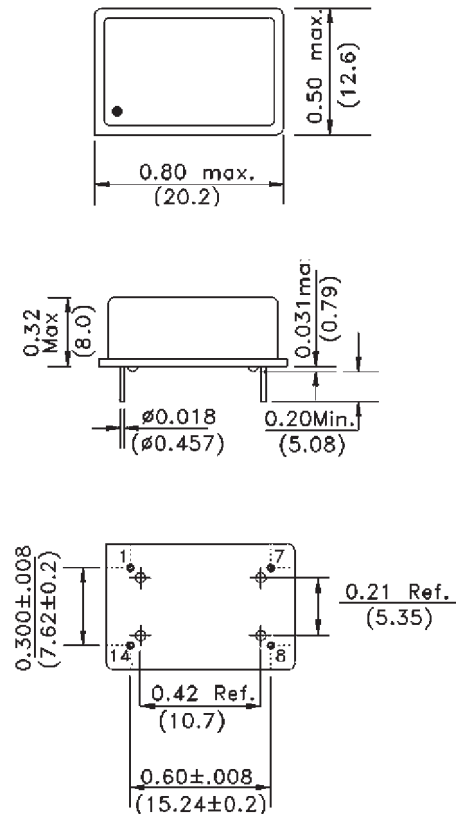
- Phase Locked Loops (PLLs)
- Reference Signal Tracking.
- Clock Recovery.
- Synthesizers.

STANDARD SPECIFICATIONS

PARAMETERS	ACVX 1220	ACVX 1220L
Frequency Range (F_0)	1 MHz - 160 MHz	1 MHz - 120 MHz
Operating Temperature (T_{OPR})	0°C to +70°C (See Options)	
Storage Temperature (T_{STO})	-40°C to +85°C	
Frequency Stability -vs- Temp. -vs- Aging -vs- Vdd	± 30 ppm max. (See Options) ± 5 ppm / year max. ± 5 ppm max.	
Supply Voltage (V_{DD})	5 Vdc ± 5%	3.3 Vdc ± 5%
Input Current (I_{DD})	25 mA max. for $F \leq 24$ MHz 60 mA max. for $F \leq 70$ MHz 30 mA max. for $F \leq 45$ MHz 90 mA max. for $F \leq 160$ MHz	
Duty Cycle or Symmetry	40 / 60% max. @ $1/2 V_{DD}$ (See Options)	
Rise and Fall Times (T_R / T_F)	10 ns max.	
Output Load	TTL / CMOS (15 pF or 5TTL gate)	
Output Voltage (V_{OH}) (V_{OL})	0.9 * V_{DD} min. 0.4 Vdc max.	
Transfer Function	Positive	
Voltage Control (V_C)	0.5 Vdc to 4.5 V	0.3 Vdc to 3 Vdc
Center Voltage	2.5 Vdc ± 0.5 V	1.5 Vdc ± 0.25 V
Frequency Deviation	± 100 ppm min. (See Options)	
Linearity	± 10% max.	
Start-up Time (T_{OSC})	10 ms max.	

Please Inquire factory for higher frequencies, other pulling specs., control voltage range or linearity.
For test circuit, waveforms, please see page 67.

Environmental and mechanical specifications on page 68, Group 1. Marking, see page 79.



TYPICAL PHASE NOISE

OFFSET FREQUENCY (Hz)	PHASE NOISE (dBc/Hz)
10	-70
100	-100
1 kHz	-125
10 kHz	-150
100 kHz	-160

ORDERING OPTIONS

ACVX1220X - Frequency - Temperature - Stability - Duty Cycle - Pulling - Value Added

Blank or L	-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	-N15 ± 150 ppm min -N20 ± 200 ppm min (**) -N25 ± 250 ppm min (**) -N30 ± 300 ppm min (**)	-G Gull Wing* -QXX (Trimmed Leads) *
XX.XXXXX MHz		(**) ACVX1220 only	* Found on Page 73.
-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	-S for 45/55% @ 1/2 Vdd -S1 for 45/55% @ 1.4 Vdc		

PIN No.	FUNCTION
1	Voltage Control Vc
7	GND / Case
8	Output
14	Vdd

ABRACON IS
ISO 9001 / QS 9000
CERTIFIED

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

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