

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

VOLTAGE-CONTROLLED CRYSTAL OSCILLATORS

ACVX1220 and ACVX1220L



20.2 x 12.6 x 8.0 mm

FEATURES:

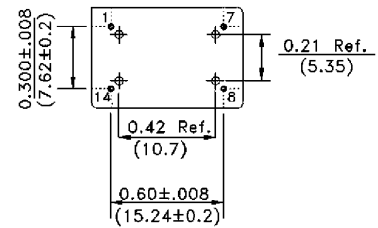
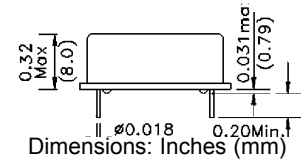
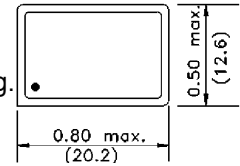
- 14-Pin DIP 5Vdc or 3.3Vdc. • Large frequency deviation available. • Hermetically sealed.
- Tight symmetry (45/55%) available.

APPLICATIONS:

- Phase locked loops (PLLs). • Clock recovery. • Synthesizers. • Reference signal tracking.

STANDARD SPECIFICATIONS

PARAMETERS	ACVX 1220	ACVX 1220 L
Frequency Range (F _O)	1MHz - 160MHz	1MHz - 120MHz
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- V _{dd}	±30ppm max. (See Options) ±5ppm / year max. ±5ppm max.	
Supply Voltage (V _{dd})	5Vdc ±5%	3.3Vdc ±5%
Input Current (I _{dd})	20mA max. for 1.0MHz ≤ F < 20MHz	15mA max.
	30mA max. for 20MHz ≤ F < 40MHz	25mA max.
	40mA max. for 40MHz ≤ F < 60MHz	35mA max.
	50mA max. for 60MHz ≤ F < 100MHz	45mA max.
	70mA max. for 100MHz ≤ F ≤ 160MHz	65mA max.
Duty Cycle or Symmetry	40 / 60% max. @ 1/2V _{dd} (See Options)	
Rise and Fall Times (T _R / T _F)	10ns max. for F ≤ 24MHz 5ns max. F > 24MHz	10ns max.
Output Load	TTL / CMOS (15pF or 10TTL gate)	
Output Voltage (V _{OH}) (V _{OL})	0.9 * V _{dd} min. 0.4V _{dc} max.	
Transfer Function	Positive	
Voltage Control (V _c)	0.5Vdc to 4.5V	0.3Vdc to 3Vdc
Center Voltage	2.5Vdc ±0.5V	1.5Vdc ±0.25V
Frequency Deviation	±100ppm min. (See Options)	
Linearity	±10% max.	
Start-up Time (T _{osc})	10ms max.	
Period jitter: Absolute	±100ps max. ≤ 60MHz ; ±200ps max. > 60MHz	
Period jitter: One sigma	±25ps max. ≤ 60MHz ; ±50ps max. > 60MHz	



PIN No.	FUNCTION
1	Voltage Control V _c
7	GND / Case
8	Output
14	V _{dd}

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

TYPICAL PHASE NOISE @ 20 MHz

Please call us for higher frequencies, other pulling specs., control voltage range or linearity. Test circuit, waveforms, see appendix B. Environmental and mechanical specifications, see appendix C. Group 1. Marking, see appendix G. Value added, see appendix D. Recommended handling, see appendix F. Application notes, see appendix A.

**ACVX 1220 only



ORDERING OPTIONS

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

Blank or L

XX.XXXXX MHz

-I for -0°C to +50°C
-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 ± 10ppm max.
-J for ± 20ppm max.
-R for ± 25ppm max.
-K for ± 30ppm max.
-H for ± 35ppm max.
-C for ± 50ppm max.

-N15 ± 150ppm min.
-N20 ± 200ppm min.
-N25 ± 250ppm min.**
-N30 ± 300ppm min.**

-S for 45/55% @ 1/2V_{dd}
-S1 for 45/55% @ 1.4V_{dc}

-G Gull Wing.
-GHT Gull Wing Reflow capable.
-QXX (Trimmed Leads)
-TY Tray packing

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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