



CMOS TCXO PJ-XA20X Series

Rev. H

Description

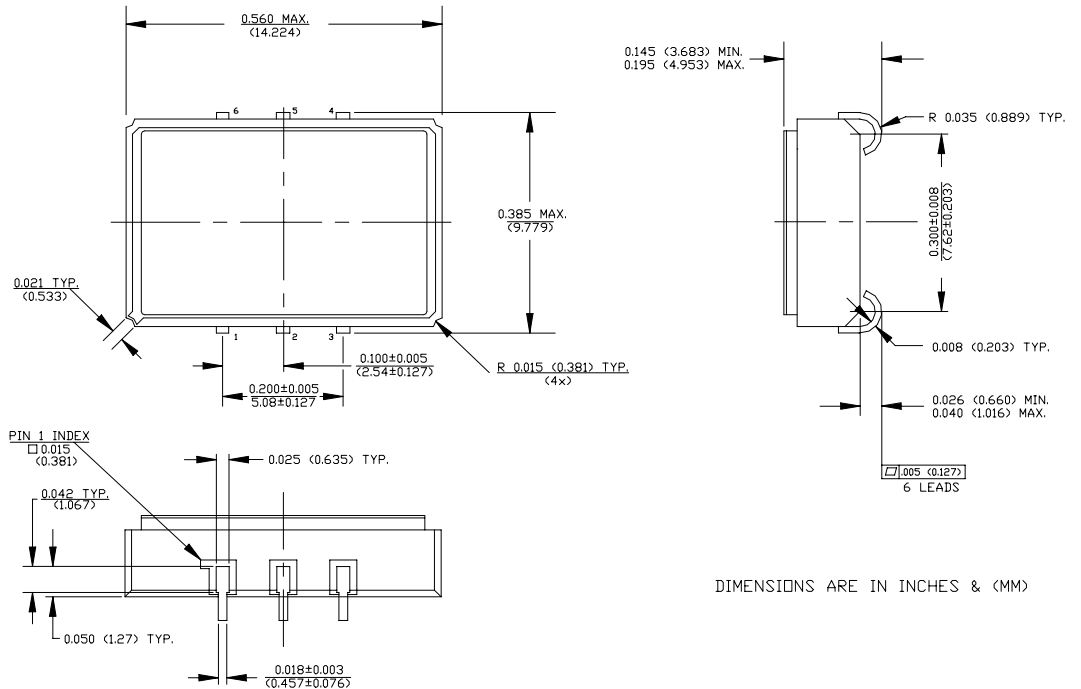
The **PJ-XA20X Series** of temperature compensated quartz crystal oscillators provide CMOS compatible signals.

Features

- Frequency range 10.0MHz to 52.0MHz
- User specified tolerance see page 2
- Space-saving alternative to discrete component oscillators
- High shock resistance, to 3000g
- Metal lid electrically connected to ground to reduce EMI
- Double Sealed Case
- COTS/Dual use
- High Reliability - NEL HALT/HASS qualified for crystal oscillator start-up conditions
- Low Jitter - Wavecrest jitter characterization available
- High Q Crystal actively tuned oscillator circuit
- Power supply decoupling internal
- No internal PLL avoids cascading PLL problems
- Low power consumption
- Gold plated leads
- RoHS Compliant, Lead Free Construction

Electrical Connection

Pin	Connection
1	V _{CT} or NC see page 2
2	NC
3	Ground
4	Output
5	NC
6	V _{CC}



DIMENSIONS ARE IN INCHES & (MM)

PJ-XA20X Series Continued

Rev. H

Operating Conditions and Output Characteristics (5)

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	10.000MHz	-----	52.000MHz
Duty Cycle	-----	@ VDD/2	45/55%	-----	55/45%
Logic 0	VOL	@ 600µA	-----	-----	0.2V
Logic 1	VOH	@ 600µA	VDD-0.2V	-----	-----
Rise & Fall Time	tr,tf	10-90%	-----	-----	2 ns
Jitter RMS ⁽¹⁾	-----	-----	-----	-----	3 psec
Frequency Stability ⁽³⁾	dF/F	Overall conditions including: Voltage, calibration, temp., shock, vibration	-2.5ppm	-----	+2.5ppm
Aging	-----	-----	-----	-----	±1ppm/yr
Trim Range ⁽⁴⁾	-----	V _{CT} =0 to 5.0Volts	-3ppm	-----	+3ppm

General Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage ⁽²⁾	V _{DD}	3.3V ±5%	3.135V	3.3V	3.465V
		5V ±5%	4.75v	5.0v	5.25v
Supply Current	I _{DD}	No Load	0.0 mA	4mA	8mA
Output current	I _O	-----	0.0 mA	-----	±25.0 mA
Operating temperature	T _A	-----	-40°C	-----	85°C
Storage temperature	T _S	-----	-55°C	-----	125°C
Power Dissipation	P _D	-----	-----	-----	42 mW
Load	-----	-----	-----	-----	15pf
Start-up time	t _S	-----	-----	-----	20 ms

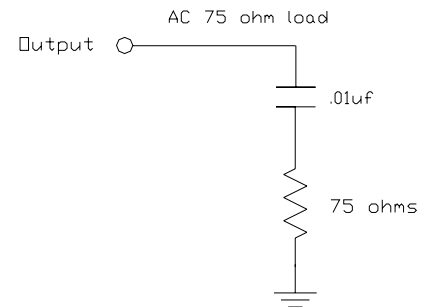
Environmental and Mechanical Characteristics

Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	0.060" double amplitude 10 Hz to 55 Hz, 35g's 55Hz to 2000 Hz
Hermetic Seal	Leak rate less than 1 x 10 ⁻⁸ atm.cc/sec of helium

Footnotes:

- 1) Jitter performance is frequency dependent. Please contact factory for full Wavecrest characterization. RMS jitter bandwidth of 12kHz to 20MHz
- 2) Internal high frequency power source decoupling.
- 3) Contact factory for other available frequency stability tolerances
- 4) Optional Trim adjustment
- 6) All parameters, unless otherwise specified, are at nominal conditions, ie: T=25°C, Nominal Vcc & Nominal load.

Test Load:



Creating a Part Number	
PJ - XA2XX - FREQ	
Package Code	APR Performance
PJ 6 J Lead 9x14 mm SMD	9 Customer Specific
	D ±10ppm -40°C to 85°C
	E ±2.5ppm -40°C to 85°C
	F ±1ppm 0°C to 70°C
Input Voltage	Trim Adjustment
Code Specification	0 Pin 1 = NC
0 5.0V	1 Pin 1 = V _{CT}
A 3.3V	

PJ-XA20X Series Continued

Max Reflow Profile

