

PJ-0A20X Series



Size, mm

9 x 14

I/O

6J Lead

Supply Voltage

5.0 V / 3.3 V

CMOS TCXO

PJ-0A20X Series *Rev C*

Frequency Range: 10.0 MHz to 52.0 MHz

Description

The **PJ-0A20X Series** of temperature compensated quartz crystal oscillators provide CMOS compatible signals.

Features

- Frequency range—10.0MHz to 52.0MHz
- User specified tolerance
- Will withstand SMD reflow temperatures of 253°C for 4 minutes maximum
- Space-saving alternative to discrete component oscillators
- High shock resistance, to 3000g
- Metal lid electrically connected to ground to reduce EMI
- Double Sealed Case
- 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

Creating a Part Number

PJ-0A2XX-FREQ

Package Code

PJ 6 J Lead 9x14 mm SMD

Input Voltage

Code	Specification
0	5.0 V
A	3.3 V

Performance

9	Customer Specific
D	±10 ppm -40°C to 85°C
E	±2.5 ppm -40°C to 85°C
F	±1 ppm 0°C to 70°C

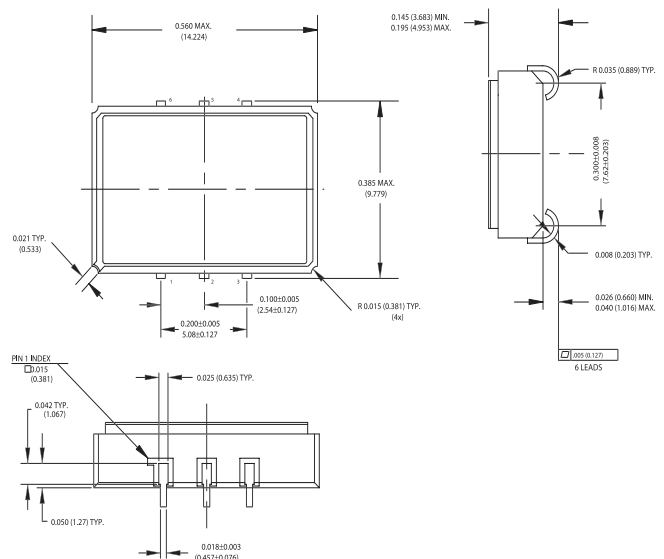
Trim Adjustment

0	Pin1=NC
1	Pin1=V _{CT}

Drawing Specifications

Electrical Connections

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



Dimension shown in inches and (mm).



FREQUENCY CONTROLS, INC.

For the most up to date specifications on each NEL product, log on to our website—www.nelfc.com

CMOS TCXO

PJ-0A20X Series Rev C

Frequency Range: 10.0 MHz to 52.0 MHz

Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	—	—	10.000 MHz	—	52.000 MHz
Duty Cycle	—	@ $V_{DD}/2$	45/55%	—	55/45%
Logic 0	V_{OL}	@ 600 μ A	—	—	0.2V
Logic 1	V_{OH}	@ 600 μ A	$V_{DD}-0.2V$	—	—
Rise & Fall Time	t_r, t_f	10-90%	—	—	2 ns
Jitter RMS ⁽¹⁾	—	—	—	—	3 psec
Frequency Stability ⁽³⁾	dF/F	Overall conditions including: voltage, calibration, temp., shock, vibration	-2.5 ppm	—	+2.5 ppm
Aging	—	—	—	—	± 1 ppm/yr
Trim Range ⁽⁴⁾	—	$V_{CT}=0$ to 5.0 Volts	-3 ppm	—	+3 ppm

General Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage ⁽²⁾	V_{DD}	5V $\pm 5\%$	4.75 V	5.0 V	5.25 V
Supply Current	I_{DD}	No Load	0.0 mA	4mA	8 mA
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
Lead Temperature	T_L	Soldering, 10 sec.	—	—	300°C
Load	—	—	—	—	15 pf
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-833, Method 1011, Condition A
Vibration	0.060" double amplitude 10 Hz to 55 Hz, 35g's 55 Hz to 2000 Hz
Soldering Condition	300°C for 10 seconds
Hermetic Seal	Leak rate less than 1×10^{-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.

Test Load

