

PJ-A3670 Series



Size, mm

9 x 14

I/O

6 J Lead

Supply Voltage

3.3V

VCXO Series (PECL)

PJ-A3670 Series *Rev J*

Frequency Range: 70.0 MHz to 200.0 MHz

Description

The PJ-A3670 Series of voltage controlled quartz crystal oscillators provide frequency control by applying a voltage to Pin 1. This unit supplies ECLiPS compatible outputs which are enabled when Pin 2 is set to a logic low or left open.

Features

- High Reliability - NEL HALT/HASS qualified for crystal oscillator start-up conditions
- Low jitter - Wavecrest jitter characterization available
- Frequency range—70.0 MHz to 200.0 MHz
- Will withstand vapor phase temperatures of 253°C for 4 minutes maximum
- Space-saving alternative to discrete component oscillators
- Wide Absolute Pull Range
- High shock resistance, to 3000g
- 3.3 Volt operation
- Metal lid electrically connected to ground to reduce EMI
- High Q crystal actively tuned oscillator circuit
- Power supply decoupling internal
- No internal PLL avoids cascading PLL problems
- High frequencies due to proprietary design
- Gold plated leads—Solder dipped leads available upon request
- RoHS Compliant, Lead Free Construction (unless solder dipped leads are supplied)

Creating a Part Number

PJ - A367X - FREQ

Package Code

PJ 6 J Lead 9x14 SMD

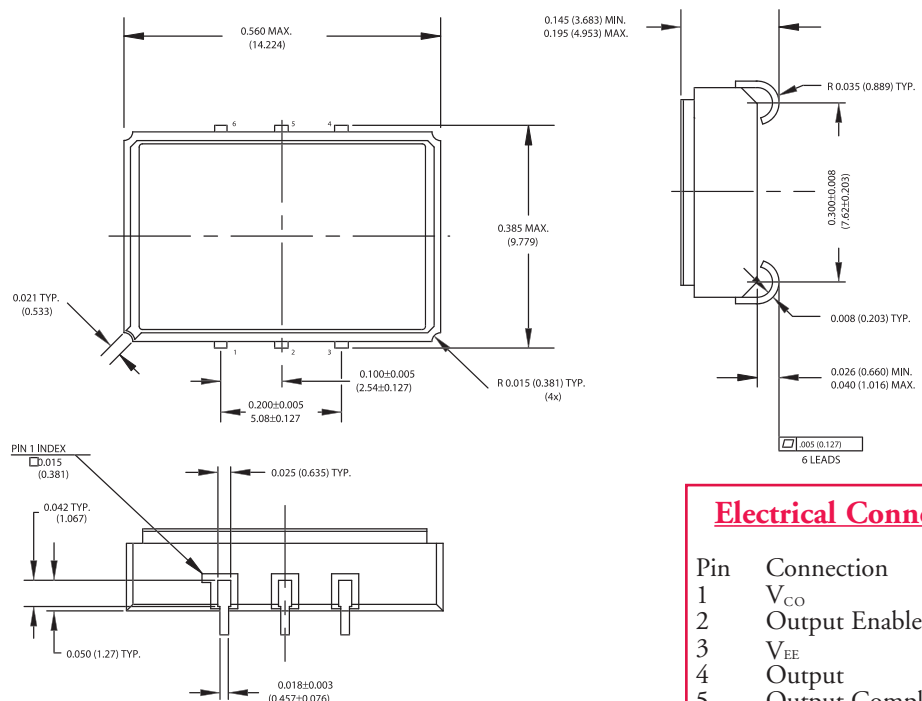
Input Voltage

Code Specification
A 3.3 V

APR/Performance

0 ±100 ppm 0-70°C
9 Customer Specific
C ±100 ppm -40 to +85°C

Drawing Specifications



Dimensions shown in inches and millimeters.

Electrical Connection

| Pin | Connection |
|-----|-------------------|
| 1 | V _{CO} |
| 2 | Output Enable |
| 3 | V _{EE} |
| 4 | Output |
| 5 | Output Complement |
| 6 | V _{CC} |



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Operating Conditions and Output Characteristics

Electrical Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max |
|----------------------------------|---------------------------------|-------------------------------|--|----------|--|
| Frequency | — | — | 70.0 MHz | — | 200.0 MHz |
| Duty Cycle | — | @V _o /2 | 45/55% | — | 55/45% |
| Logic 0 | V _{OL} | — | V _{CC} -1.810 V _{DC} | — | V _{CC} -1.620 V _{DC} |
| Logic 1 | V _{OH} | — | V _{CC} -1.200 V _{DC} | — | V _{CC} -0.880 V _{DC} |
| Rise & Fall Time | t _r , t _f | 20-80% V _o | — | — | 600 ps |
| Jitter, RMS ⁽¹⁾ | — | — | — | 3 psec | — |
| Absolute Pull Range | APR | V _{CO} =0.3 to 3.0 V | ±100 ppm | — | — |
| V _{CO} Input Impedance | — | 50 na dc current max | 100K ohm | — | — |
| V _{CO} Linearity | — | V _{CO} =0.3 to 3.0 V | — | — | 10% |
| Transfer Function ⁽²⁾ | — | V _{CO} =0.3 to 3.0 V | — | Positive | — |

General Characteristics

| Parameter | Symbol | Conditions | Min | Typical | Max |
|-----------------------|--|--------------------|---------|---------|----------|
| Supply Voltage | V _{CC} -V _{EE} | Nominal | 3.135 V | 3.3 V | 3.465 V |
| Supply Current | I _{CC} | — | — | — | 60 mA |
| Output Current | I _O | — | 0.0 mA | — | ±50.0 mA |
| Operating Temperature | T _A | — | 0°C | — | 70°C |
| Storage Temperature | T _S | — | -55°C | — | 125°C |
| Power Dissipation | P _D | — | — | — | 208 mW |
| Lead Temperature | T _L | Soldering, 10 sec. | — | — | 300°C |
| Load | 50 ohm to V _{CC} -2 V or Thevenin Equivalent, Bias Required | — | — | — | — |

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 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) Frequency increase with increase in control voltage and is monotonic.