

VCXO Series (PECL)
SD-A3670 Series

PRELIMINARY

Description

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

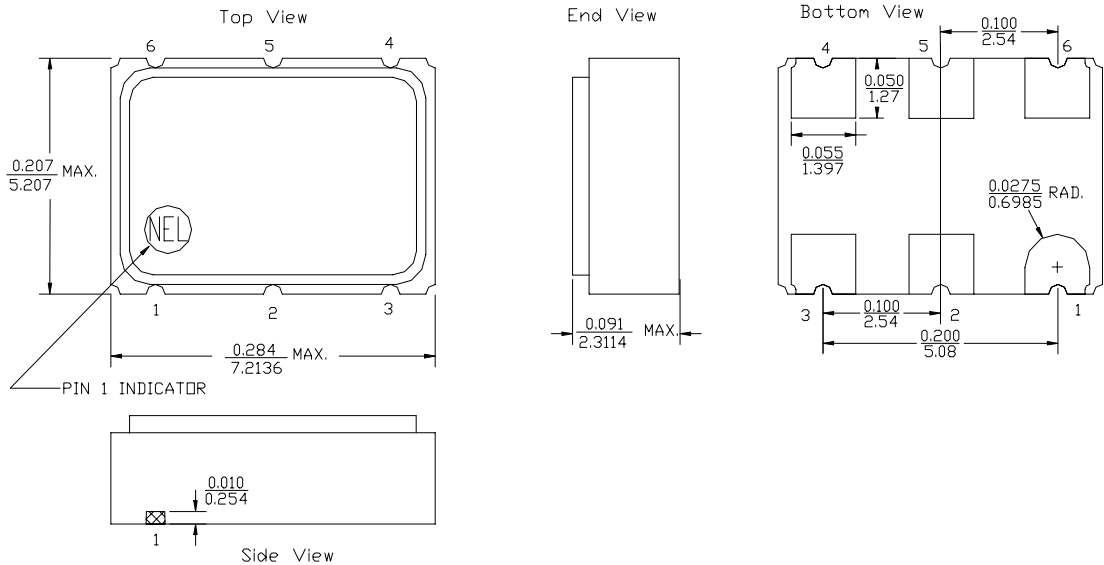
Features

- Frequency range—80.0MHz to 162.0MHz
- User specified tolerance available
- Will withstand vapor phase temperatures of 253°C for 4 minutes maximum
- Space-saving alternative to discrete component oscillators
- High shock resistance, to 1000g
- 3.3 volt operation
- Metal lid electrically connected to ground to reduce EMI
- Low Jitter - Wavecrest jitter characterization available
- High Reliability - NEL HALT/HASS qualified for crystal oscillator start-up conditions
- 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 pads

Electrical Connection

Pad Connection

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



SD-A3670 Series Continued
VCXO (PECL)

Rev. C

Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	----	----	80.0MHz	----	162.0MHz
Duty Cycle	----	@ V _O /2	45/55%	----	55/45%
Logic 0	V _{OL}	----	V _{CC} -1.810Vdc	----	V _{CC} -1.620Vdc
Logic 1	V _{OH}	----	V _{CC} -1.200Vdc	----	V _{CC} -0.880Vdc
Rise & Fall Time	tr,tf	20-80%V _O	----	----	1.25 ns
Jitter, RMS ⁽²⁾	----	----	----	3 psec	----
Pullability	----	0.3 to 3.0V	±75ppm	----	----
V _{CO} input impedance	----	50na dc current max	100K ohm	----	----
V _{CO} linearity	----	----	----	----	25%
Frequency Stability ⁽¹⁾	dF/F	Overall conditions including: voltage, calibration, temp., 10 yr aging, shock, vibration	-100ppm	----	+100ppm

General Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage	V _{CC} -V _{EE}	Nominal	3.135V	3.3V	3.465V
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} -2V 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 55Hz 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) Standard frequency stability (±20,±25,±50ppm & others available)
- 2) Jitter performance is frequency dependent. Please contact factory for full Wavecrest characterization.

Creating a Part Number	
SD - A367X - FREQ	
Package Code SD 6 Pad 5x7mm SMD	Tolerance/Performance 0 ±100ppm 0-70°C 1 ±50ppm 0-70°C 7 ±25ppm 0-70°C 9 Customer Specific A ±20ppm 0-70°C B ±50ppm -40 to +85°C C ±100ppm -40 to +85°C
Input Voltage Code Specification A 3.3V 5V	



**FREQUENCY
CONTROLS, INC.**