



## CMOS SJ-A370 Series

Rev. N

### Description

The **SJ-A370 Series** of quartz crystal oscillators are designed to survive standard wave soldering operations without damage.

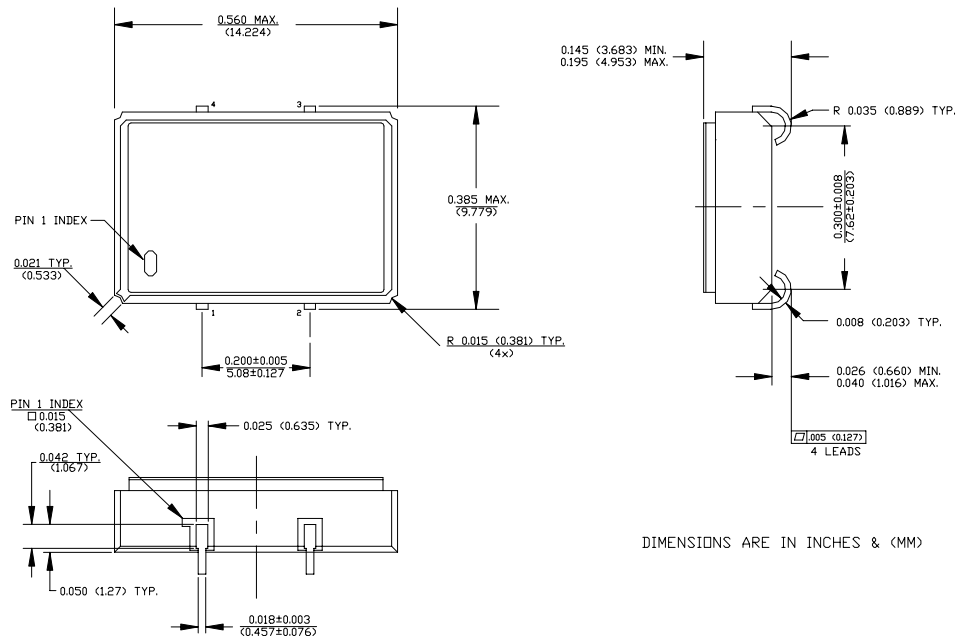
### Features

- Wide frequency range—2.25MHz to 70.0MHz
- User specified tolerance available
- Space-saving alternative to discrete component oscillators
- High shock resistance, to 3000g
- 3.3 volt operation
- Low Jitter
- Low power consumption
- COTS/Dual use
- TTL compatible (HCT) at specified supply voltage
- High Q Crystal actively tuned oscillator circuit
- Power supply decoupling internal
- No internal PLL avoids cascading PLL problems
- High frequencies due to proprietary design
- Metal lid electrically connected to ground to reduce EMI
- Gold plated leads
- RoHS Compliant, Lead Free Construction

### Electrical Connection

Pin Connection

1	N.C.
2	Ground
3	Output
4	V <sub>DD</sub>



SJ-A370 Series Continued  
CMOS

Rev. N

## Operating Conditions and Output Characteristics

### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	2.25MHz	-----	70.0MHz
Duty Cycle	-----	@ $V_{DD}/2$	45/55%	-----	55/45%
Logic 0	$V_{OL}$	@ 600 $\mu$ A	-----	-----	0.2V
Logic 1	$V_{OH}$	@ 600 $\mu$ A	$V_{DD}-0.2V$	-----	-----
Rise & Fall Time	tr,tf	10-90% $V_O$	-----	-----	8 ns
Jitter, RMS <sup>(2)</sup>	-----	<40MHz Fund	-----	-----	8 psec
		<40MHz OT & >40MHz	-----	-----	5 psec
Frequency Stability <sup>(1)</sup>	dF/F	Overall conditions including: voltage, calibration, temp., 10 yr aging, shock, vibration	-100ppm	-----	+100ppm

### General Characteristics

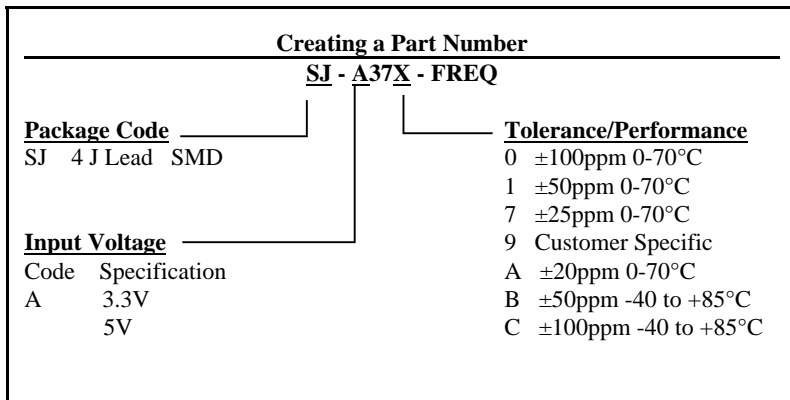
Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage	$V_{DD}$	3.3V $\pm$ 5%	3.135V	3.3V	3.465V
Supply Current	$I_{DD}$	No Load	0.0 mA	-----	40 mA
Output current	$I_O$	-----	0.0 mA	-----	$\pm$ 16.0 mA
Operating temperature	$T_A$	-----	0°C	-----	70°C
Storage temperature	$T_S$	-----	-55°C	-----	125°C
Power Dissipation	$P_D$	-----	-----	-----	138 mW
Load	-----	-----	-----	-----	15pf
Start-up Time	$t_s$	<20MHz	-----	-----	2 ms
		20MHz or greater	-----	-----	10 ms

### Environmental and Mechanical Characteristics

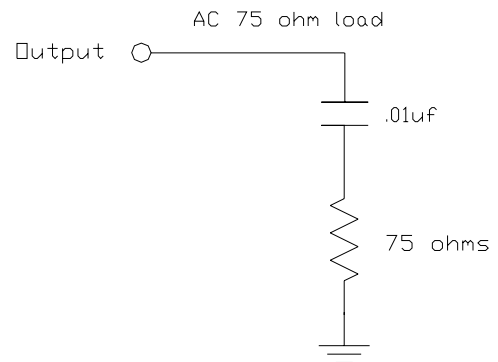
Mechanical Shock	Per MIL-STD-202, Method 213, Condition E
Thermal Shock	Per MIL-STD-883, Method 1011, Condition A
Vibration	0.060" double amplitude 10 Hz to 55 Hz, 35g's 55Hz to 2000 Hz
Hermetic Seal	Leak rate less than $1 \times 10^{-8}$ atm.cc/sec of helium

### Footnotes:

- Standard frequency stability ( $\pm$ 20, $\pm$ 25, $\pm$ 50ppm & others available)
- Jitter performance is frequency dependent. Please contact factory for full characterization.  
RMS jitter bandwidth of 12kHz to 20MHz.



### Test Load:



SJ-A370 Series Continued

Max Reflow Profile

