

CMOS SJ-370 Series

Rev. G

Description

The **SJ-370 Series** of quartz crystal oscillators are designed to survive standard wave soldering operations without damage.

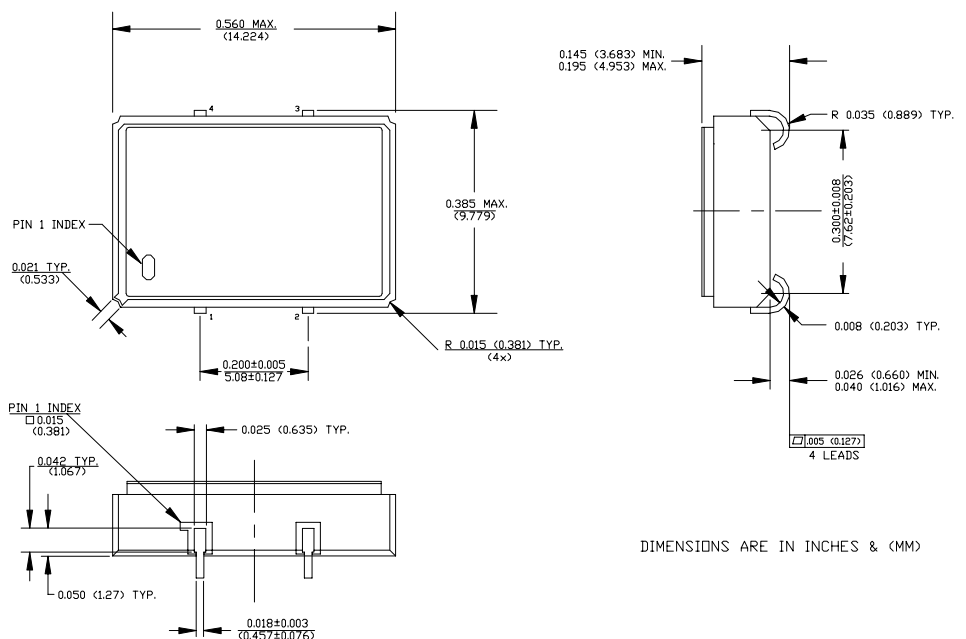
Features

- Wide frequency range—2.25MHz to 80.0MHz
- 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 3000g
- Metal lid electrically connected to ground to reduce EMI
- Low Jitter
- TTL compatible (HCT) at specified supply voltage
- High Q Crystal actively tuned oscillator circuit
- Low power consumption
- Power supply decoupling internal
- No internal PLL avoids cascading PLL problems
- High frequencies due to proprietary design
- Gold plated leads
- RoHS Compliant, Lead Free Construction

Electrical Connection

Pin Connection

Pin	Connection
1	N.C.
2	Ground
3	Output
4	V _{DD}



SJ-370 Series Continued
CMOS

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Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	----	----	2.25MHz	----	80.0MHz
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	$t_{r,tf}$	10-90% V_O	----	----	8 ns
Jitter, RMS ⁽²⁾	----	<40MHz Fund	----	----	8.0 psec
		<40MHz OT & >40MHz	----	----	5.0 psec
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_{DD}	----	4.75V	5.0V	5.25V
Supply Current	I_{DD}	No Load	0.0 mA	----	40 mA
Output current	I_O	----	0.0 mA	----	± 16.0 mA
Operating temperature	T_A	----	0°C	----	70°C
Storage temperature	T_S	----	-55°C	----	125°C
Power Dissipation	P_D	----	----	----	210 mW
Lead temperature	T_L	Soldering, 10 sec.	----	----	300°C
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-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 1×10^{-8} atm.cc/sec of helium

Footnotes:

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

Creating a Part Number	
SJ - A37X - FREQ	
Package Code	Tolerance/Performance
SJ 4 J Lead SMD	0 ± 100 ppm 0-70°C
	1 ± 50 ppm 0-70°C
	7 ± 25 ppm 0-70°C
Input Voltage	9 Customer Specific
Code Specification	A ± 20 ppm 0-70°C
A 3.3V	B ± 50 ppm -40 to +85°C
5V	C ± 100 ppm -40 to +85°C

Test Load:

