



CMOS SJ-1420 Series

Description

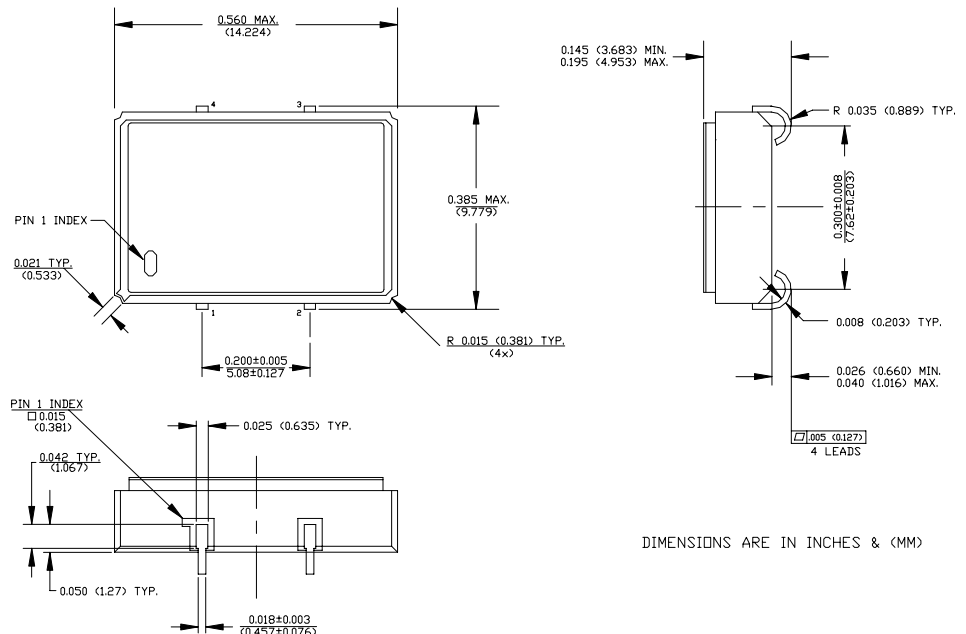
The **SJ-1420 Series** of quartz crystal oscillators provide enable/disable 3-state CMOS compatible signals for bus connected systems. Supplying Pin 1 of the SJ-1420 units with a logic "1" or open enables its pin 3 output. In the disabled mode, pin 3 presents a high impedance to the load. All units are designed to survive standard wave soldering operations without damage.

Features

- Wide frequency range— 40.1MHz to 80MHz
- User specified tolerance available
- Space-saving alternative to discrete component oscillators
- High shock resistance, to 3000g
- Metal lid electrically connected to ground to reduce EMI
- COTS/Dual use
- Low Jitter
- 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

Electrical Connection

Pin	Connection
1	Enable Input
2	Grd & Case
3	Output
4	V _{DD}



SJ-1420 Series Continued
CMOS

Rev. M

Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	40.1MHz	-----	80.0MHz
Duty Cycle	-----	@ V _{DD} /2	45/55%	-----	55/45%
Logic 0	V _{OL}	@ 600μA	-----	-----	0.2V
Logic 1	V _{OH}	@ 600μA	V _{DD} -0.2V	-----	-----
Rise & Fall Time	tr,tf	10-90%	-----	-----	8 ns
TPz	-----	-----	-----	-----	25 ns
Enable/Disable					
Logic High Voltage	-----	-----	3.5V	-----	-----
Enable/Disable					
Logic Low Voltage	-----	-----	-----	-----	1.5V
Jitter, Integrated	J	Integrated from phase noise, 12kHz to 20MHz, RMS	-----	0.1 ps	-----
Jitter, Wavecrest Characterized ⁽²⁾	-----	Random Period Accum, pk-to-pk	-----	2.3ps 26ps	-----
Phase Noise	f(Δf)	@ 10Hz @ 100Hz @ 1kHz @ 10kHz @ 100kHz @ >1Mhz	-----	-70 dBc/Hz -105 dBc/Hz -130 dBc/Hz -145 dBc/Hz -150 dBc/Hz -150 dBc/Hz	-----
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}	5.0V±5%	4.75V	5.0V	5.25V
Supply Current	I _{CC}	No Load	0.0 mA	-----	40mA
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
Load	-----	-----	-----	-----	15pf
Start-up time	t _S	-----	-----	2 ms	10 ms

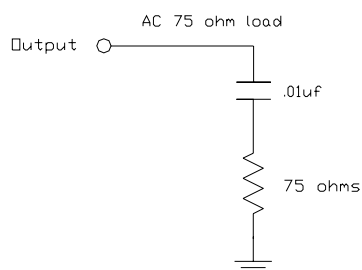
Environmental and Mechanical Characteristics

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 x 10 ⁻⁸ atm.cc/sec of helium

Footnotes:

- Standard frequency stability (±20,±25,±50ppm & others available)
- Jitter performance is frequency dependent. Please contact factory for full characterization.

Test Load:



Creating a Part Number

SJ - A142X - FREQ

Package Code
SJ 4 J Lead 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.**

SJ-1420 Series Continued

Max Reflow Profile

