

CMOS SJ-1420 Series

Rev. J

Description

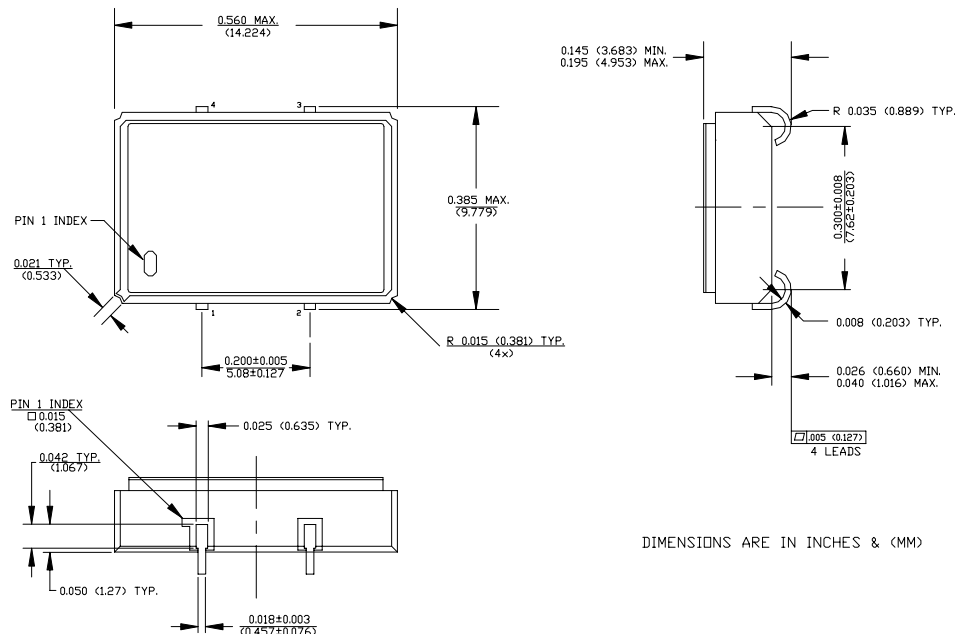
The **SJ-1420 Series** of quartz crystal oscillators provide enable/disable 3-state CMOS compatible signals for bus connected systems. Supplying Pin 1 of the SJ-1420 units with a logic "1" or open enables its pin 3 output. In the disabled mode, pin 3 presents a high impedance to the load. All units are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

Features

- Wide frequency range— 40.1MHz to 80MHz
- User specified tolerance available
- 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
- 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
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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}	@ 600 μ A	----	----	0.2V
Logic 1	V_{OH}	@ 600 μ A	$V_{DD}-0.2V$	----	----
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, RMS ⁽²⁾	----	----	----	----	5 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_{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
Lead temperature	T_L	Soldering, 10 sec.	----	----	300°C
Load	----	----	----	----	15pf
Start-up time	t_s	----	----	2 ms	10 ms

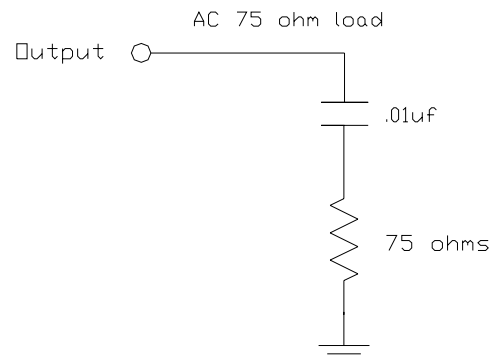
Environmental and Mechanical Characteristics

Mechanical Shock Per MIL-STD-202, Method 213, Condition E
 Thermal Shock Per MIL-STD-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:

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

Test Load:



Creating a Part Number	
SJ - A142X - 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
	9 Customer Specific
Input Voltage	A ± 20 ppm 0-70°C
Code Specification	B ± 50 ppm -40 to +85°C
A 3.3V	C ± 100 ppm -40 to +85°C
5V	