

CMOS SJ-1420 Series

Rev. G

Description

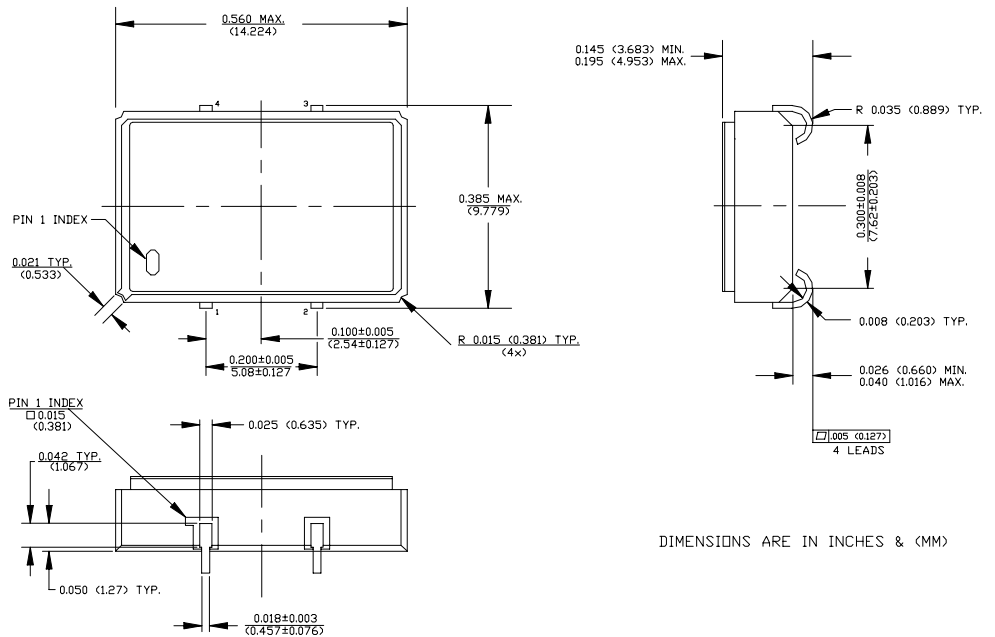
The **SJ-1420 Series** of quartz crystal oscillators provide enable/disable 3-state CMOS compatible signals for bus connected systems. Supplying Pin 1 of the SJ-1420 units with a logic "1" or open enables its pin 3 output. In the disabled mode, pin 3 presents a high impedance to the load. All units are 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

Electrical Connection

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



DIMENSIONS ARE IN INCHES & (MM)

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}	@ 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, 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 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 characterization.

Creating a Part Number	
SJ - A142X - FREQ	
Package Code	Tolerance/Performance
SJ 4 J Lead SMD	0 ±100ppm 0-70°C
	1 ±50ppm 0-70°C
	7 ±25ppm 0-70°C
Input Voltage	9 Customer Specific
Code Specification	A ±20ppm 0-70°C
A 3.3V	B ±50ppm -40 to +85°C
5V	C ±100ppm -40 to +85°C

Test Load:

