



## CMOS SJ-1450 Series

Rev. L

### Description

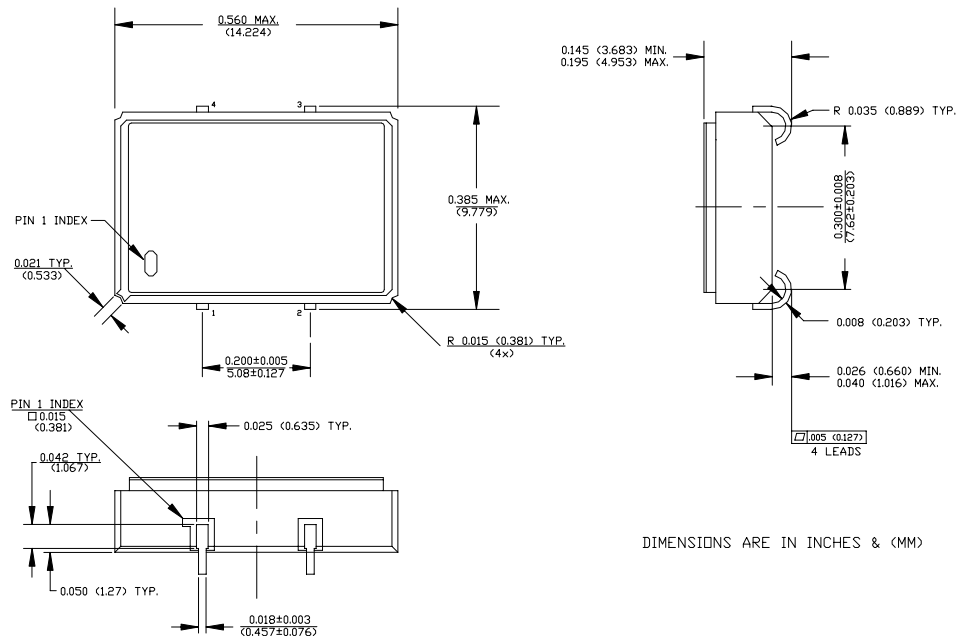
The **SJ-1450 Series** of quartz crystal oscillators provide enable/disable 3-state CMOS compatible signals for bus connected systems. Supplying Pin 1 of the SJ-1450 units with a logic "1" or open enables its pin 3 output. In the disabled mode, pin 3 presents a high impedance to the load. All units are designed to survive wave soldering operations without damage.

### Features

- Wide frequency range— 4.0MHz to 40.0MHz
- 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
- TTL compatible (HCT) at specified supply voltage
- RoHS Compliant, Lead Free Construction

### Electrical Connection

Pin	Connection
1	Enable/Disable Input
2	Ground
3	Output
4	V <sub>DD</sub>



**SJ-1450 Series** Continued  
CMOS

**Rev. L**

## Operating Conditions and Output Characteristics

### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	4.0MHz	-----	40.0MHz
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%	-----	-----	3 ns
Tpz	-----	-----	-----	-----	25 ns
Jitter, RMS <sup>(2)</sup>	-----	-----	-----	-----	8 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	$V_{DD}$	5.0V $\pm$ 5%	4.75V	5.0V	5.25V
Supply Current	$I_{DD}$	No Load	0.0 mA	-----	30mA
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	$P_D$	-----	-----	-----	158 mW
Load	-----	-----	-----	-----	15pf
Start-up time	$t_s$	-----	-----	2 ms	10 ms

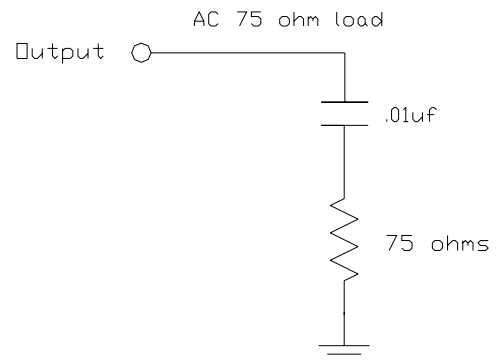
### Environmental and Mechanical Characteristics

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 $1 \times 10^{-8}$ 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:



#### Creating a Part Number

**SJ - A145X - FREQ**

**Package Code**  
SJ 4 J Lead SMD

**Input Voltage**  
Code Specification  
A 3.3V  
5V

**Tolerance/Performance**  
0  $\pm$ 100ppm 0-70°C  
1  $\pm$ 50ppm 0-70°C  
7  $\pm$ 25ppm 0-70°C  
9 Customer Specific  
A  $\pm$ 20ppm 0-70°C  
B  $\pm$ 50ppm -40 to +85°C  
C  $\pm$ 100ppm -40 to +85°C

SJ-1450 Series Continued

Max Reflow Profile

