

### TTL SJ-1520 Series

### Description

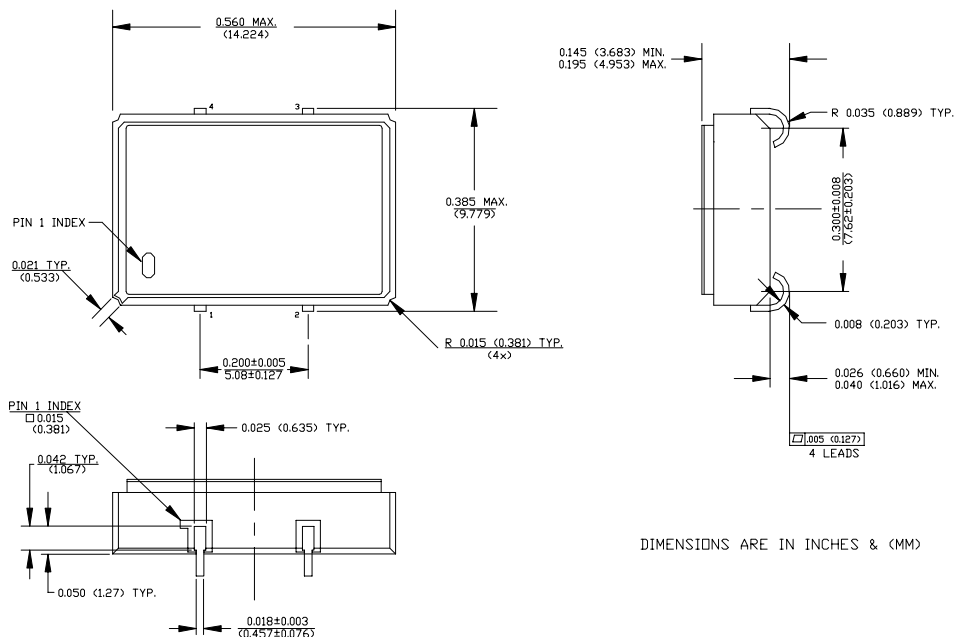
The **SJ-1520 Series** of quartz crystal oscillators provide enable/disable 3-state TTL compatible signals for bus connected systems. Supplying Pin 1 of the SJ-1520 units with a logic "1" enables its output on Pin 3. In the disabled mode, Pin 3 presents a high impedance to the load.

### Features

- Wide frequency range— 0.5MHz to 85.0MHz
- 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
- 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 <sub>CC</sub>



**SJ-1520** Continued  
TTL

**Rev. D**

## Operating Conditions and Output Characteristics

### Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	----	----	0.5MHz	----	85.0MHz
Duty Cycle	----	@ V <sub>CC</sub> /2	40/60%	----	60/40%
Logic 0	V <sub>OL</sub>	@ 16mA	----	----	0.4V
Logic 1	V <sub>OH</sub>	@ 0.4mA	2.4V	----	----
Rise & Fall Time	tr,tf	@ 0.4 to 2.4V	----	----	8 ns
		<40MHz	----	----	5 ns
		40MHz or greater	----	----	25 ns
Tapz	----	----	----	----	5 psec
Jitter, RMS <sup>(2)</sup>	----	<40MHz OT & >40MHz	----	----	8 psec
		<40MHz Fund	----	----	+100ppm
Frequency Stability <sup>(1)</sup>	dF/F	Overall conditions including: voltage, calibration, temp., 10 yr aging, shock, vibration	-100ppm	----	

### General Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Supply Voltage	V <sub>CC</sub>	----	4.75V	5.0V	5.25V
Supply Current	I <sub>CC</sub>	No Load	0.0 mA	----	50 mA
Output current	I <sub>O</sub>	----	0.0 mA	----	±16.0 mA
Operating temperature	T <sub>A</sub>	----	0°C	----	70°C
Storage temperature	T <sub>S</sub>	----	-55°C	----	125°C
Power Dissipation	P <sub>D</sub>	----	----	----	263 mW
Lead temperature	T <sub>L</sub>	Soldering, 10 sec.	----	----	300°C
Load	----	----	----	----	10TTL gate
Start-up time	t <sub>s</sub>	<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 x 10 <sup>-8</sup> 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. RMS jitter bandwidth of 12kHz to 20MHz.

Creating a Part Number	
<b>SJ - X152X - FREQ</b>	
<b>Package Code</b>	<b>Tolerance/Performance</b>
SJ 4 J Lead SMD	0 ±100ppm 0-70°C
	1 ±50ppm 0-70°C
	7 ±25ppm 0-70°C
<b>Input Voltage</b>	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:

