

Rev. B



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.

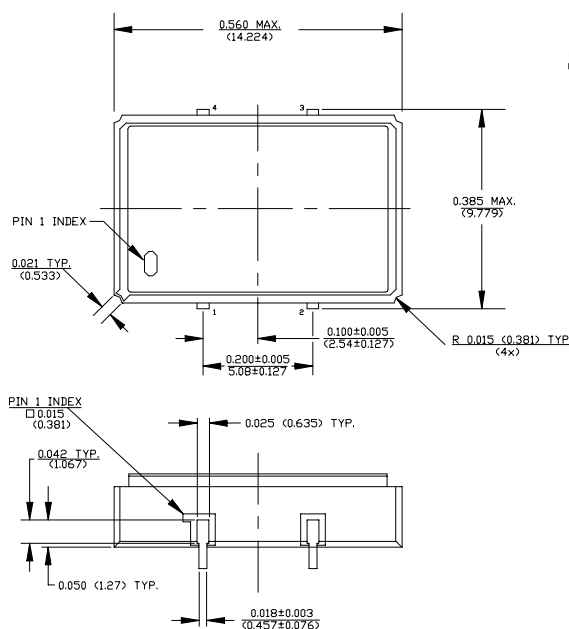
Features

- 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

Electrical Connection

Pin Connection

- | | |
|---|-----------------|
| 1 | Enable Input |
| 2 | Grd & Case |
| 3 | Output |
| 4 | V _{CC} |



DIMENSIONS ARE IN INCHES & (MM)



**FREQUENCY
CONTROLS, INC.**

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SJ-1520 Continued
TTL

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Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	0.5MHz	-----	85.0MHz
Duty Cycle	-----	@ $V_{CC}/2$	40/60%	-----	60/40%
Logic 0	V_{OL}	@ 16mA	-----	-----	0.4V
Logic 1	V_{OH}	@ 0.4mA	2.4V	-----	-----
Rise & Fall Time	$t_{r,tf}$	@ 0.4 to 2.4V	-----	-----	-----
		<40MHz	-----	-----	8 ns
		40MHz or greater	-----	-----	5 ns
T_{pz}	-----	-----	-----	-----	25 ns
Jitter, RMS ⁽²⁾	-----	<40MHz OT & >40MHz	-----	-----	5 psec
		<40MHz Fund	-----	-----	8 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_{CC}	-----	4.75V	5.0V	5.25V
Supply Current	I_{CC}	No Load	0.0 mA	-----	50 mA
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	-----	-----	-----	263 mW
Lead temperature	T_L	Soldering, 10 sec.	-----	-----	300°C
Load	----	-----	-----	-----	10TTL gate
Start-up time	t_s	<20MHz	-----	-----	2 ms
		20MHz or greater	-----	-----	10 ms

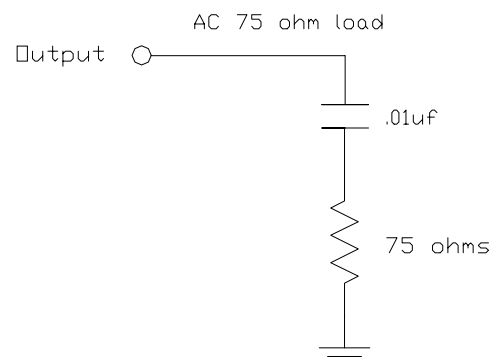
Environmental and Mechanical Characteristics

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 1×10^{-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.

Test Load:



Creating a Part Number

SJ - X152X - FREQ

Package Code

SJ 4 J Lead SMD

Input Voltage

Code	Specification
A	3.3V
	5V

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



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