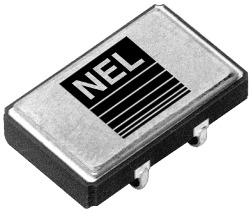
CRYSTAL CLOCK OSCILLATORS

Data Sheet 9940A

Rev. J



CMOS

SJ-A1430 Series

Description

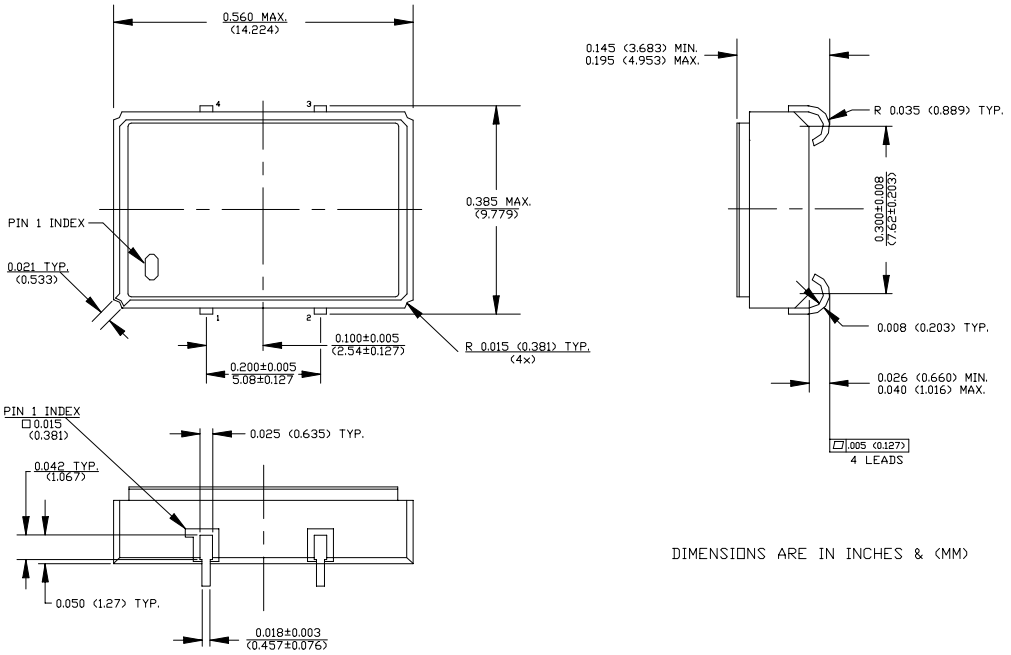
The **SJ-A1430 Series** of quartz crystal oscillators provide enable/disable 3-state CMOS compatible signals for bus connected systems. Supplying Pin 1 of the SJ-A1430 units with a logic “1" or open enables its pin 3 output. In the disabled mode, pin 3 presents a high impedance to the load.

Features

- Wide frequency range– 80.0MHz to 125.0MHz
- 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
- 3.3 Volt operation
- 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}



NEL FREQUENCY CONTROLS, INC.

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SJ-A1430 Series Continued
CMOS

Rev. J

Operating Conditions and Output Characteristics

Electrical Characteristics

Parameter	Symbol	Conditions	Min	Typical	Max
Frequency	-----	-----	80.0MHz	-----	125.0MHz
Duty Cycle	-----	@ V_{DD} /2	40/60%	-----	60/40%
Logic 0	V_{OL}	@ 600µA	-----	-----	0.2V
Logic 1	V_{OH}	@ 600µA	V_{DD}-0.2V	-----	-----
Rise & Fall Time	tr,tf	10-90%	-----	1 ns	3 ns
Tpz	-----	-----	-----	-----	5 ms
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}	-----	3.135V	3.3V	3.465V
Supply Current	I_{DD}	No Load	0.0 mA	-----	60mA
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	-----	-----	-----	208 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 - A143X - FREQ

Package Code
SJ 4 J Lead SMD

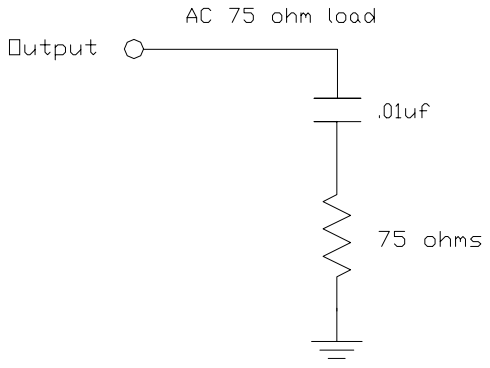
Input Voltage

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

Test Load:



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