

# NEL CRYSTAL CLOCK OSCILLATORS

## SPECIFICATION HS/SM/HA/SA-370 CMOS Compatible

### Pin Connection

HS/SM	Connection
1	N.C.
7	Grd & case
8	Output
14	V <sub>DD</sub>

### HA/SA Connection

1	N.C.
4	Grd & case
5	Output
8	V <sub>DD</sub>

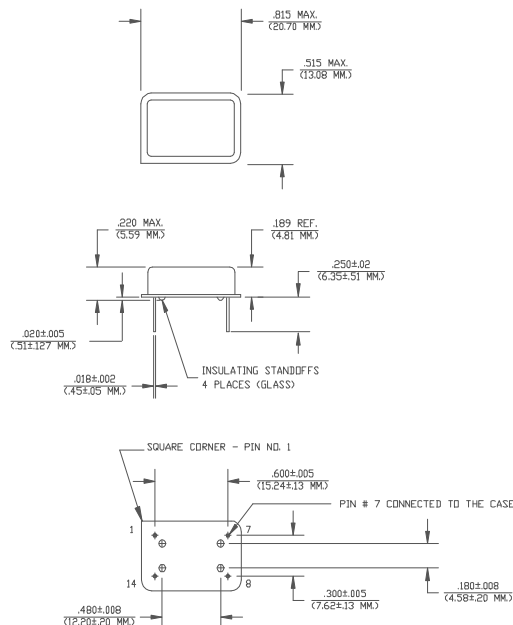
### Description

The **-370 Series** of quartz crystal oscillators are resistance welded in an all metal package, offering RFI shielding, and are designed to survive standard wave soldering operations without damage. Insulated standoffs to enhance board cleaning are standard.

### Features

- Wide frequency range - 25.1MHz to 85.0MHz
- User specified tolerance from ±25ppm
- Case at electrical ground
- Will withstand vapor phase temperatures of 253°C for 4 minutes maximum.
- Low power consumption
- All metal, resistance weld, hermetically sealed package
- High shock resistance, to 3000g
- SM & SA versions:  
Leads are solder dipped for ease of solder attaching to printed wiring board.

HS- Outline drawing shown  
Contact NEL for other  
package drawings.



# Crystal Clock Oscillators

## Operating Conditions and Output Characteristics

HS/SM/HA/SA-370

(Continued)

PARAMETER	CONDITIONS	MINIMUM	MAXIMUM
<b>General Characteristics</b>			
Supply voltage ( $V_{DD}$ )	-----	4.75V	5.25V
Supply current ( $I_{DD}$ )	$V_{DD}$ or Ground Current	0.0 mA	50 mA
Output current ( $I_O$ )	Low level Output Current	0.0 mA	$\pm 16.0$ mA
Tolerance <sup>(1)</sup>	User specified	$\pm 25$ ppm	-----
Operating temperature ( $T_A$ )	-----	0°C	70°C
Storage temperature ( $T_S$ )	-----	-55°C	125°C
Power dissipation ( $P_D$ )	-----	-----	400 mW
Lead temperature ( $T_L$ )	Soldering, 10 sec.	-----	300°C
<b>Output Characteristics</b>			
Frequency	-----	25.1MHz	85.0MHz
Symmetry	@ .5 $V_{DD}$	40/60%	60/40%
Logic 0 ( $V_{OL}$ )	$I_O=600\mu A$	-----	0.2V
Logic 1 ( $V_{OH}$ )	$I_O=600\mu A$	$V_{DD}-0.2V$	-----
Logic 0 ( $I_{OL}$ sink)	$V_O=0.2V$	-----	600 $\mu A$
Logic 1 ( $I_{OH}$ source)	$V_O=V_{DD}-0.2V$	-----	600 $\mu A$
Rise & fall time ( $t_r, t_f$ )	10-90% $V_O$		
	<40MHz	-----	8 ns
	$\geq 40$ MHz	-----	4 ns

Footnote:

(1) Tighter tolerances available upon request.

This information has been carefully prepared and is believed to be entirely reliable. However, no responsibility is assumed for inaccuracies. NEL reserves the right to make changes at any time in order to improve design and supply the best product possible.

