



# Microprocessor Oscillators

## STANDARD STOCK FREQUENCIES

### H Series 1.0 MHz-40.0 MHz

Modern semiconductor technology has made development and production of hybrid clock oscillators a logical advance in crystal manufacture. Optimum trade-offs can be determined when detailed information on crystal design and factors influencing their choice and performance are known. The availability of efficient divider circuitry increases the variety of options by allowing crystal frequencies to be chosen in ranges most advantageous for specific applications.

The stock oscillators are TTL & CMOS compatible and fit a DIP layout. Standard electrical specifications are shown. Variations can be made for special applications.

HS-380 Series oscillators provide output levels compatible with requirements of the Z80/80A/80B and 8000/8000A microprocessors.

### THESE OSCILLATORS ARE AVAILABLE IN BOTH THRU-HOLE & SURFACE MOUNT CONFIGURATION

All NEL clock oscillators are hermetically sealed in resistance welded, all metal packages that are dry gas backfilled and mass spectrometer leak tested.

To order microprocessor oscillators, specify NEL Catalog Numbers from the table. The Catalog Number identifies the oscillator completely, including tolerance.

Example: H6250 fully defines an NEL stock oscillator at 4.000 MHz,  $\pm 0.01\%$  from 0° to 70° C, which is CMOS and TTL compatible.

### HS-100/HS-350 Series

| FREQUENCY (MHz) | CATALOG NUMBER |
|-----------------|----------------|
| 1.000           | H6050          |
| 1.2288          | H6100          |
| 1.8432          | H6150          |
| 2.000           | H6160          |
| 2.4576          | H6200          |
| 3.6864          | H6225          |
| 4.000           | H6250          |
| 4.096           | H6275          |
| 4.9152          | H6300          |
| 5.000           | H6350          |
| 5.0688          | H6400          |
| 6.000           | H6450          |
| 6.144           | H6475          |
| 7.3728          | H6500          |
| 8.000           | H6550          |
| 10.000          | H6600          |
| 11.0592         | H6625          |
| 12.000          | H6650          |
| 16.000          | H6700          |
| 16.384          | H6750          |
| 18.432          | H6800          |
| 19.6608         | H6850          |
| 20.000          | H6900          |
| 24.000          | H6950          |
| 25.000          | H7000          |
| 40.000          | H7250          |

### HS-380 Series

| FREQUENCY (MHz) | CATALOG NUMBER |
|-----------------|----------------|
| 4.000           | H8100          |

### OVERALL TOLERANCE

$\pm 0.01\%$  0° to + 70° C  
inclusive of calibration & drift

Enclosure Dimensions, Output Waveform & Equivalent Load see pages 16, 17, 18, 32.



## NEW PRODUCTS

In our continued effort to provide quality products to meet the needs of the changing electronics market, NEL is in the process of developing several new products.

Among these are:

### TTL/CMOS Oscillator

Frequency range 70 to 100 MHz. User tolerance available from  $\pm .005\%$ .

### 3-State CMOS/TTL

Frequency range extended to 80MHz. User tolerance available from  $\pm .005\%$ .

### Z80/8000/80A/80B Oscillator

Frequency range on HS-380/2890 Series extended to 40.0MHz. User tolerance available from  $\pm .0025\%$ .

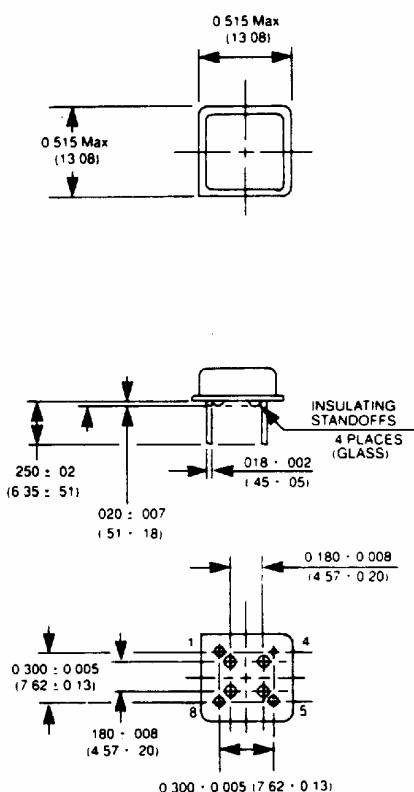
### Programmable Video Clock Generator

For use in the computer graphics, disk drive (zone locator) and fiber optics markets.

This product simplifies operations by using phase-locked loop techniques to generate, from the crystal oscillator, all the necessary clocks used in a typical graphics system.

## OSCILLATOR METAL HALF PACK AND SURFACE MOUNT DIMENSIONS

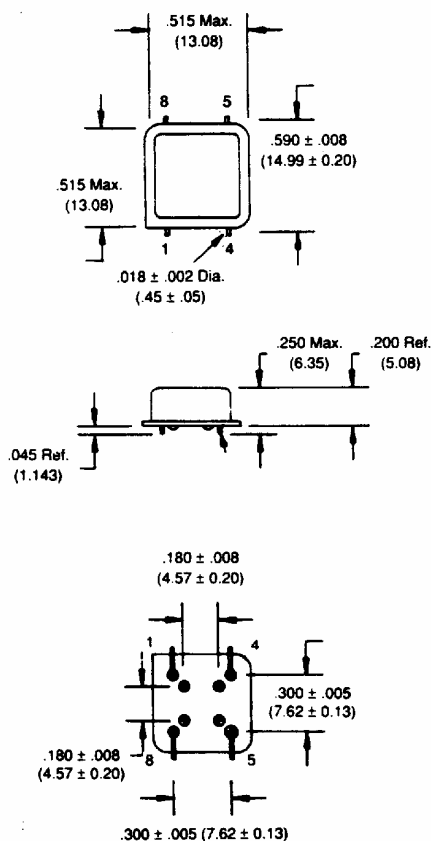
### HA Series



Pin number 4 connected to case.

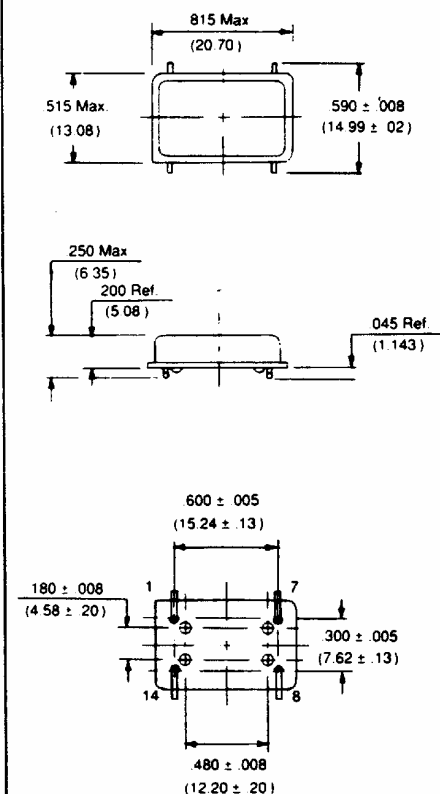
The metal half pack oscillator is available in TTL, CMOS, and Z80 logics. See options on pages 17, 20, 29, and 33 for details.

### SA Series



Pin number 4 connected to case.  
Seating plane =  $.005 \text{ Max.}$  (.127)  
Wire leads to be formed to a  $90^\circ$  angle.

### SM Series



Pin number 7 connected to case.  
Seating plane =  $.005 \text{ Max.}$  (.127)  
Wire leads to be formed to a  $90^\circ$  angle.

Dimensions are for reference only, inches (mm).

This datasheet has been downloaded from:

[www.DatasheetCatalog.com](http://www.DatasheetCatalog.com)

Datasheets for electronic components.



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