



## Crystal Clock Oscillator — DUAL OUTPUT

by SaRonix

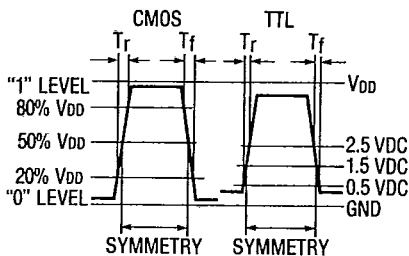
## Technical Data

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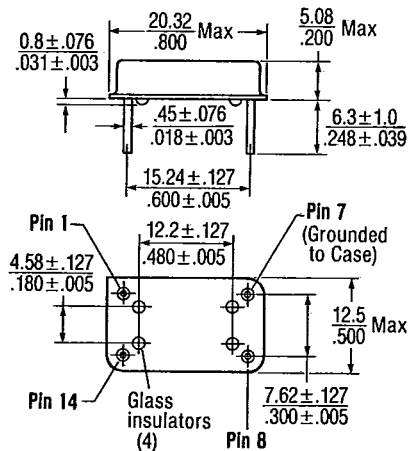
## Description

A crystal controlled hybrid clock oscillator with two independent frequency outputs in one package. This device allows for a choice of any two exact frequencies to drive CMOS, HCMOS, TTL or any combination. Each unit contains an internal bypass supply capacitor which minimizes "cross-talk" and RFI.

## Output Waveform

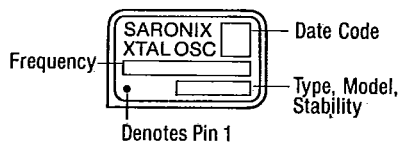


## Package



Pin 1: Output Pin 7: GND  
Pin 8: Output Pin 14: +5 VDC

## Standard Marking Format



Scale: None (Dimension in  $\frac{mm}{inches}$ )

## Frequency Range:

CMOS: 250 kHz to 24 MHz  
HCMOS: 2 MHz to 24 MHz

## Frequency Stability:

$\pm 0.0025\%$  to  $\pm 0.05\%$  over all conditions: calibration tolerance, operating temperature, input voltage change, load change, aging, shock and vibration.

## Temperature Range:

Operating:  $0^\circ\text{C}$  to  $+70^\circ\text{C}$   
Storage:  $-55^\circ\text{C}$  to  $+125^\circ\text{C}$

## Input Voltage:

CMOS: Rated:  $+5\text{VDC} \pm 10\%$   
Operating:  $+3\text{VDC}$  min,  $+7\text{VDC}$  max  
HCMOS: Rated:  $+5\text{VDC} \pm 10\%$   
Operating:  $+4\text{VDC}$  min,  $+7\text{VDC}$  max

## Input Current:

CMOS: 8 mA max at  $25^\circ\text{C}$ , 4 mA typical  
10 mA max over operating temperature  
HCMOS: 15 mA max at  $25^\circ\text{C}$ , 10 mA typical  
20 mA over operating temperature

## Dual Output:

## Symmetry:

CMOS:  $50\% \pm 10\%$  at  $50\% V_{DD}$   
HCMOS:  $50\% \pm 5\%$  at  $50\% V_{DD}$

## Rise &amp; Fall Times:

CMOS (1 TTL Load): 20% to 80%  $V_{DD}$ :  $T_r = 10$  ns max,  $T_f = 7$  ns max  
0.5V to 2.5V:  $T_r = 6$  ns max,  $T_f = 6$  ns max

HCMOS (10 TTL Load): 20% to 80%  $V_{DD}$ :  $T_r = 4$  ns max,  $T_f = 4$  ns max  
0.5V to 2.5V:  $T_r = 6$  ns max,  $T_f = 4$  ns max

"0" Level:  $V_{SS} + 0.5\text{V}$  max

"1" Level:  $V_{DD} - 0.5\text{V}$  min

## Mechanical:

Shock: MIL-STD-883C, Method 2002.3, Condition B  
Solderability: MIL-STD-883C, Method 2003.3  
Terminal Strength: MIL-STD-202F, Method 211A, Conditions A and C  
Vibration: MIL-STD-883C, Method 2007.1, Condition A  
Solvent Resistance: MIL-STD-202F, Method 215B  
Resistance to Soldering Heat: MIL-STD-202F, Method 210A, Condition B

## Environmental:

Gross Leak Test: MIL-STD-883C, Method 1014.5, Condition C  
Fine Leak Test: MIL-STD-883C, Method 1014.5, Condition A2,  
 $< 5 \times 10^{-8}$  ATM cc/sec  
Thermal Shock: MIL-STD-883C, Method 1011.4, Condition A  
Moisture Resistance: MIL-STD-883C, Method 1004.4

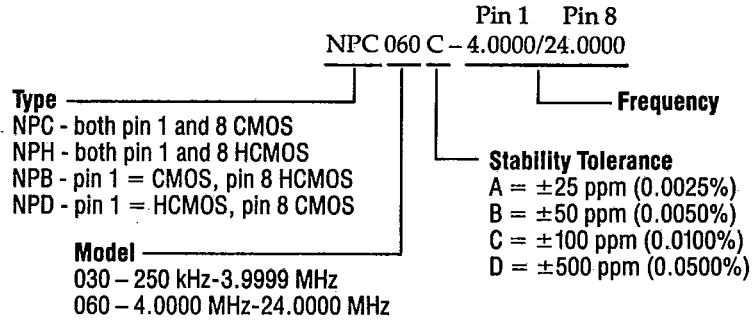


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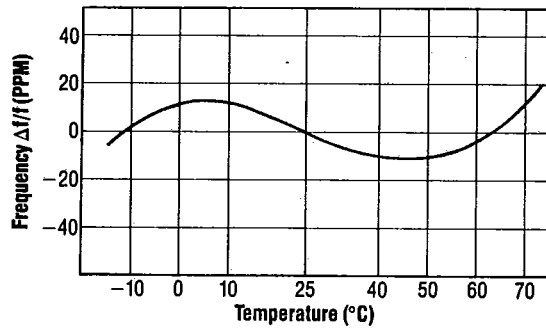
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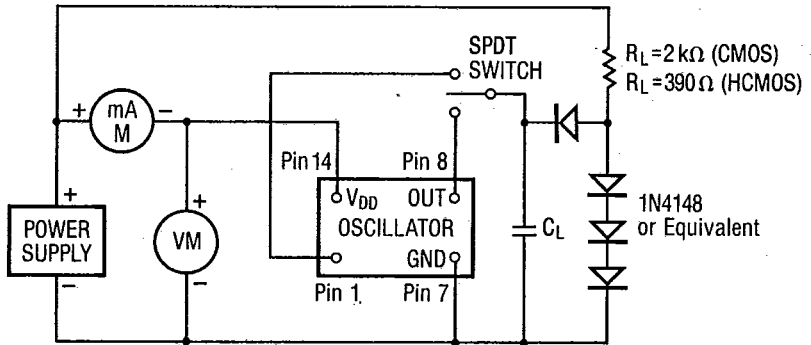
Part Numbering Guide



Frequency and Temperature Characteristics



Test Circuit



$C_L$ : Total fixture and probe capacitance = 15 pF max