



Crystal Clock Oscillator — HCMOS

by SaRonix

Technical Data

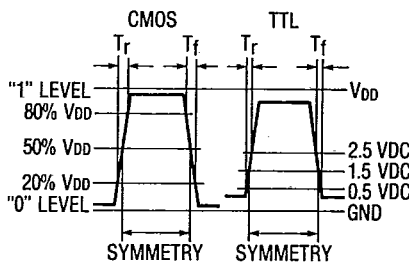
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Description

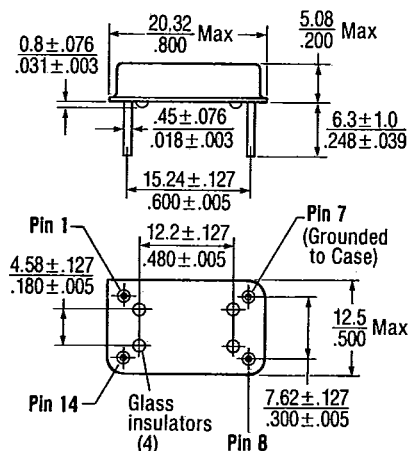
A crystal controlled, low current hybrid oscillator circuit providing precise rise and fall times to drive high speed CMOS and NMOS microprocessors. Compatible with both high speed CMOS and TTL. Can drive up to 10 TTL loads. Device is packaged in a 14-pin DIP compatible, resistance welded, all metal case. Pin 7 is grounded to the case to reduce RFI.

Physically and functionally interchangeable with RASCO.[†]

Output Waveform



Package



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

Standard Marking Format



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

[†] RASCO is a trademark of MOTOROLA.

Frequency Range:	500 kHz to 50 MHz
Frequency Stability:	±0.0025% to ±0.05% over all conditions: calibration tolerance, operating temperature, input voltage change, load change, aging, shock and vibration.
Temperature Range:	Operating: 0°C to +70°C Storage: -55°C to +125°C
Input Voltage:	Rated: +5 VDC ±10% Operating: +4 VDC min +7 VDC max
Input Current:	500 kHz - 24 MHz: 15 mA max @ 25°C, 10 mA typical 20 mA max over operating temperature range over 24 MHz: 30 mA max @ 25°C, 20 mA typical 35 mA max over operating temperature range

HCMOS Output:

Symmetry:	50% ±5% at 50% V _{DD}
Rise & Fall Times:	(10 TTL Loads): 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} + 0.5V max
"1" Level:	V _{DD} - 0.5V min

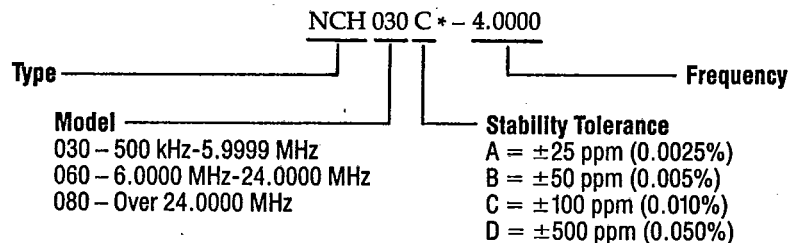
Mechanical:

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 × 10 ⁻⁸ ATM cc/sec
Thermal Shock:	MIL-STD-883C, Method 1011.4, Condition A
Moisture Resistance:	MIL-STD-883C, Method 1004.4

Part Numbering Guide



* For Enable/Disable function on pin #1, add "E" suffix after the tolerance.
Example: NCH070CE-24.0000



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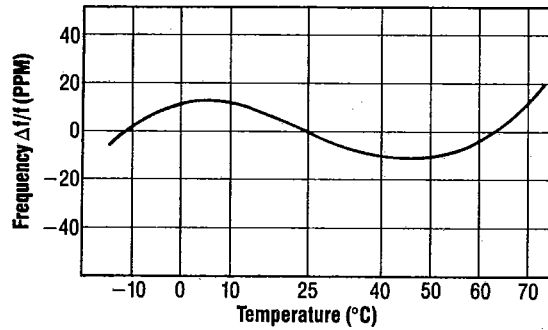
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Standard Frequencies*

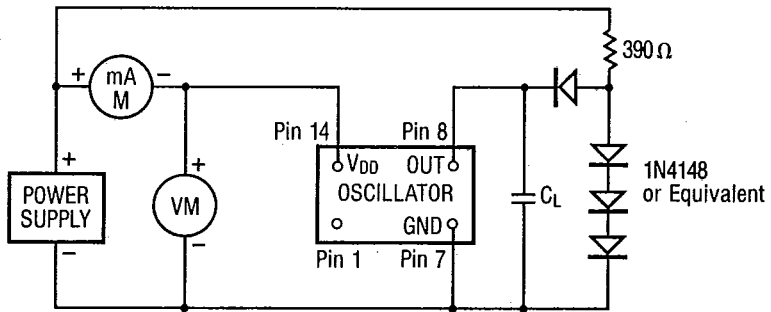
- 1.8432 MHz
- 2.0000 MHz
- 2.4576 MHz
- 4.0000 MHz
- 8.0000 MHz
- 10.0000 MHz
- 12.0000 MHz
- 16.0000 MHz
- 16.2570 MHz
- 18.4320 MHz
- 20.0000 MHz
- 24.0000 MHz

* Special frequencies available upon request.

Frequency and Temperature Characteristics



Test Circuit



C_L : Total fixture and probe capacitance = 15 pF max

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REPRESENTED BY: