



Crystal Clock Oscillator — 32.768 kHz CMOS

by SaRonix

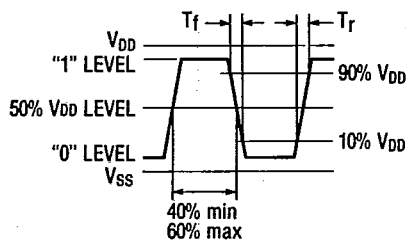
Technical Data

Ref. No. **Series M**
 Date **May 1988**
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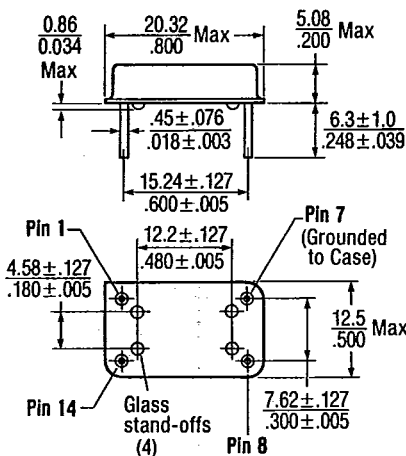
Description

A crystal controlled, highly accurate and stable CMOS compatible oscillator. Device features include low power consumption, low aging, and a hermetically sealed all metal package. The 32.768 kHz frequency, dividing conveniently to 1 Hz, is selected for real time applications.

Output Waveform



Package



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

Standard Marking Format



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

Frequency:

32.768 kHz

Frequency Tolerance: (initial accuracy @ +25°C)

±0.001% or ±0.0025%

Operating Stability: (from frequency @ +25°C)

±0.0025% over 0°C to +50°C
 ±0.005% over -20°C to +70°C

Temperature Range:

Operating: -20°C to +70°C
 Storage: -30°C to +85°C

Input Voltage:

Rated: +5VDC ±10%
 Operating: +3VDC min. +10VDC max.

Input Current @ +5.0V:

40 µA typical, 80 µA max.

CMOS Output:

Symmetry: 50% ±10% at 50% V_{DD}
 Rise & Fall Times: 40 ns typical, 60 ns max.
 "0" Level: V_{SS} + 0.5V max.
 "1" Level: V_{DD} - 0.5V min.
 Output Load: 200 kΩ at 15 pF

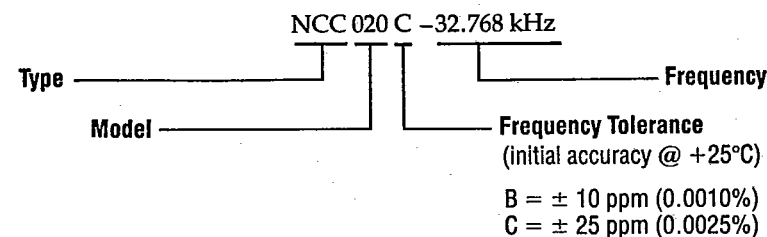
Mechanical:

Shock: MIL-STD-883C, Method 2002.3, Condition B
 Solderability: MIL-STD-883C, Method 2003.5
 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 215C
 Resistance to Soldering Heat: MIL-STD-202F, Method 210A, Condition B

Environmental:

Gross Leak Test: MIL-STD-883C, Method 1014.8, Condition C1
 Fine Leak Test: MIL-STD-883C, Method 1014.8, Condition A2, <5 × 10⁻⁸ ATM cc/sec.
 Thermal Shock: MIL-STD-883C, Method 1011.7, Condition A
 Moisture Resistance: MIL-STD-883C, Method 1004.6

Part Numbering Guide



B = ± 10 ppm (0.0010%)
 C = ± 25 ppm (0.0025%)