NYMPH®

Crystal Clock Oscillator — DUAL OUTPUT

by SaRonix

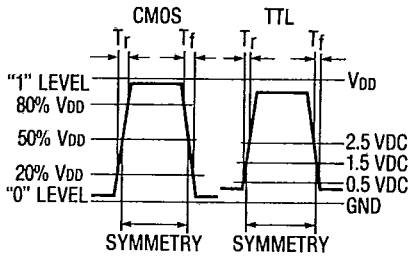
Technical Data

Ref. No. Series M
Date October 1986

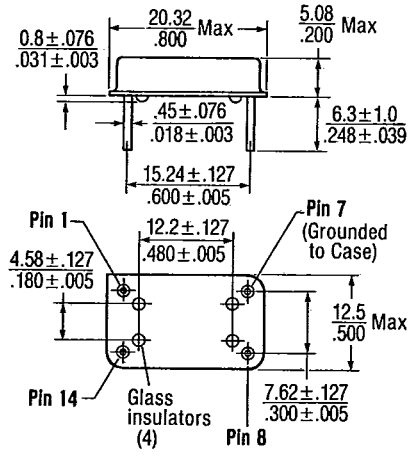
Description

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 by-pass supply capacitor which minimizes "cross-talk" and RFI.

Output Waveform

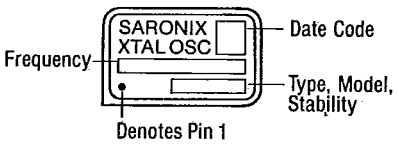


Package



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

Standard Marking Format



Scale: None (Dimension in mm / inches)

Frequency Range:
CMOS: 250 kHz to 24 MHz
HCMOS: 2 MHz to 24 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:
CMOS: Rated: +5VDC ±10%
Operating: +3VDC min, +7VDC max
HCMOS: Rated: +5VDC ±10%
Operating: +4VDC min, +7VDC max

Input Current:
CMOS: 8 mA max at 25°C, 4 mA typical
10 mA max over operating temperature
HCMOS: 15 mA max at 25°C, 10 mA typical
20 mA over operating temperature

Dual Output:
Symmetry:
CMOS: 50% ±10% at 50% V_{DD}
HCMOS: 50% ±5% at 50% V_{DD}
Rise & 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} + 0.5V 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, <$5x10^{-8}$ ATM cc/sec
Thermal Shock: MIL-STD-883C, Method 1011.4, Condition A
Moisture Resistance: MIL-STD-883C, Method 1004.4

..SaRonix..... 4010 Transport Street • Palo Alto, California 94303 • (415) 856-6900 • (800) 227-8974 • (800) 422-3355 (CA)

NYMPH®

Crystal Clock Oscillator — DUAL OUTPUT

by SaRonix

Technical Data

Ref. No. Series M
Date October 1986
Page 2 of 2

Part Numbering Guide

Pin 1 Pin 8
NPC 060 C – 4.0000/24.0000

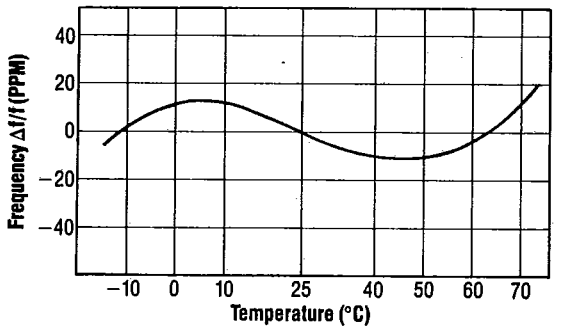
Type
NPC - both pin 1 and 8 CMOS
NPH - both pin 1 and 8 HCMOS
NPB - pin 1 = CMOS, pin 8 HCMOS
NPD - pin 1 = HCMOS, pin 8 CMOS

Model
030 – 250 kHz-3.9999 MHz
060 – 4.0000 MHz-24.0000 MHz

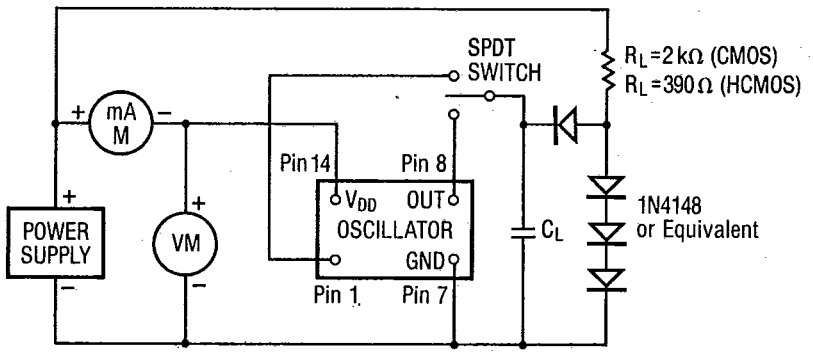
Stability Tolerance
A = ±25 ppm (0.0025%)
B = ±50 ppm (0.0050%)
C = ±100 ppm (0.0100%)
D = ±500 ppm (0.0500%)

Frequency

Frequency and Temperature Characteristics



Test Circuit



C_L = Total fixture and probe capacitance = 15 pF max