NYMPH®

Crystal Clock Oscillator — TTL TRI-STATE

by SaRonix

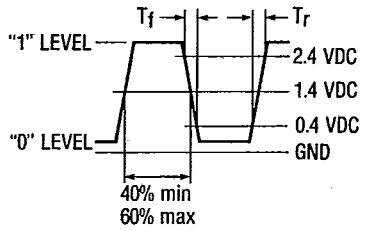
Technical Data

Ref. No. Series M
Date May 1988
Page 1 of 2

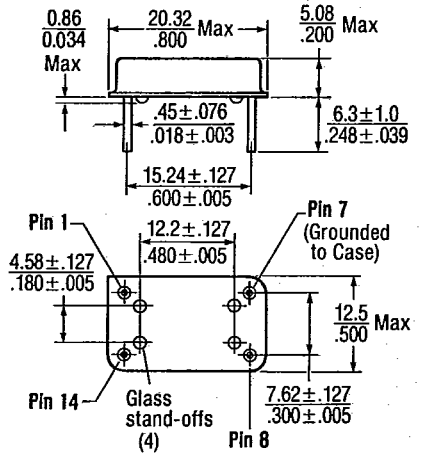
Description

A crystal controlled hybrid oscillator circuit providing TTL tri-state logic. The third state in tri-state logic is an open circuit. The internal circuitry is disconnected from the output allowing it to assume any logic level. Device is packaged in a 14-pin DIP compatible, resistance welded, all metal case. Pin 7 is grounded to the case to reduce RFI.

Output Waveform



Package



Pin 1: Tri-State Control
Pin 7: GND
Pin 8: Output
Pin 14: +5 VDC

Standard Marking Format

Scale: None (Dimension in mm / inches)

Frequency Range:	250 kHz to 50 MHz	
Frequency Stability:	±0.0025% to ±0.10% 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:	+5VDC ± 10%	
Input Current:	Maximum @ 25°C	Maximum over Temperature
250 kHz-3.9999 MHz:	40 mA	50 mA
4.0 MHz-20.0000 MHz:	35 mA	45 mA
20.0 + MHz-50.00 MHz:	50 mA	60 mA
Tri-State Output:		
Symmetry:	50% ±10% @ 1.4VDC level	
Rise & Fall Times:	(10 TTL loads): 8 ns max for 250 kHz to 20 MHz 6 ns max for over 20 MHz	
"0" Level:	+0.4 volts	
"1" Level:	+2.4 volts	
Output Load:	1 to 10 TTL gates	
* Tri-State Control-Pin 1:	Logic "1" or no connection = RF out Logic "0" or Ground = High Impedance	
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, $<5 \times 10^{-8}$ ATM cc/sec.	
Thermal Shock:	MIL-STD-883C, Method 1011.7, Condition A	
Moisture Resistance:	MIL-STD-883C, Method 1004.6	

Part Numbering Guide

NTT 050 C* – 6.0000

Type

Model
040—250 kHz–3.9999 MHz
050—4.0 MHz–20.0000 MHz
070—20+ MHz–50.000 MHz

Stability Tolerance:
A = ±25 ppm (0.0025%)
B = ±50 ppm (0.0050%)
C = ±100 ppm (0.0100%)
D = ±500 ppm (0.0500%)
E = ±1000 ppm (0.1000%)

Frequency

*For inverse logic state on pin #1, add "R" suffix after the tolerance.
Example: NTT050CR – 6.0000

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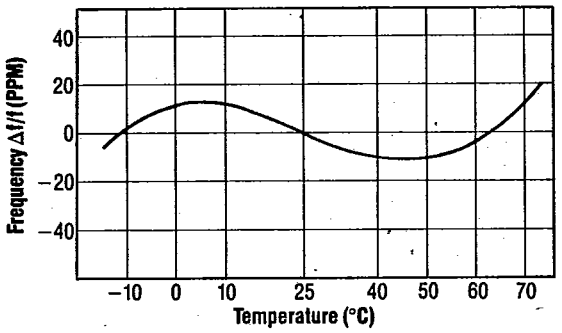
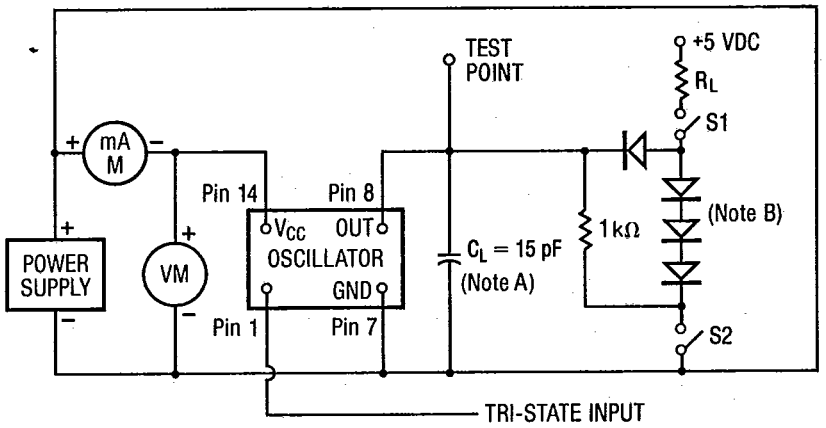
Frequency and Temperature Characteristics



Test Circuit



NOTES: A. C_L includes probe and jig capacitance.
B. All diodes are 1N4148 or equivalent.

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