SaRonix

Crystal Clock Oscillator 5V, CMOS, TTL, Low Current

Technical Data NCC Series

ACTUAL SIZE

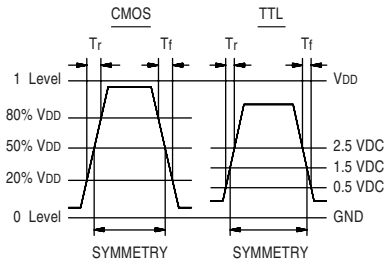
Description

A crystal controlled, low current hybrid oscillator providing precise rise and fall times to drive CMOS and NMOS microprocessors. Compatible with both CMOS and TTL. Can drive up to 2 LSTTL loads. Device is packaged in 14-pin or an 8-pin DIP compatible full size or half size, resistance welded, all metal case. Pin 7 (pin 4 for ½ size) is grounded to the case to reduce RFI.

Applications & Features

- Low power
- CMOS and TTL compatible output
- Enable/disable feature available
- Grounded, all metal full size and half size case

Output Waveform



Frequency Range:		62.5 kHz to 24 MHz (½ size - 250 kHz to 24 MHz)
Frequency Stability:		±25, ±50 or ±100 ppm 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
Supply Voltage:		
	Recommended Operating:	5V ±10%
Supply Current:		(See Input Current vs. Frequency Graph, page 2)
Output Drive:		
CMOS	Symmetry	see part numbering guide
	Rise & Fall Times:	12ns max, 20% to 80% V_{DD}
	Logic 0:	10% V_{DD} max
	Logic 1:	90% V_{DD} min
	Output Load:	2 CMOS
TTL	Symmetry	see part numbering guide
	Rise & Fall Times:	12ns max, 0.5V to 2.5V
	Logic 0:	0.5V max
	Logic 1:	2.5V min (V_{CC} -0.6 typ)
	Output Load:	2 LSTTL
Mechanical:		
	Shock:	MIL-STD-883, Method 2002, Condition B
	Solderability:	MIL-STD-883, Method 2003
	Terminal Strength:	MIL-STD-883, Method 2004, Condition B2
	Vibration:	MIL-STD-883, Method 2007, Condition A
	Solvent Resistance:	MIL-STD-202, Method 215
	Resistance to Soldering Heat:	MIL-STD-202, Method 210, Condition A, B or C
Environmental:		
	Gross Leak Test:	MIL-STD-883, Method 1014, Condition C
	Fine Leak Test:	MIL-STD-883, Method 1014, Condition A2
	Thermal Shock:	MIL-STD-883, Method 1011, Condition A
	Moisture Resistance:	MIL-STD-883, Method 1004

Part Numbering Guide

NCC 0 6 0 C E - 4.0000

Series

Symmetry & Temperature Range
0 = 40/60% max, 0 to 70°C
2 = 40/60% max, -40 to 85°C
4 = 45/55% max, -40 to 85°C, TTL to 7.1590MHz
6 = 45/55% max, 0 to 70°C, TTL to 7.1590MHz
A = 45/55% max, 0 to 70°C, CMOS to 7.1590MHz
C = 45/55% max, -40 to 85°C, CMOS to 7.1590MHz

Frequency Range
3 = 62.5 kHz to 4 MHz, Full Size
250 kHz to 4 MHz, Half Size
6 = 4+ MHz to 24 MHz

Package Type
0 = Full Size
9 = Half Size

Stability Tolerance
A = ±25 ppm, 0 to +70°C only
B = ±50 ppm
C = ±100 ppm

Blank = No Enable/Disable
E = Enable/ Disable

Frequency (MHz)

DS-133 REV C

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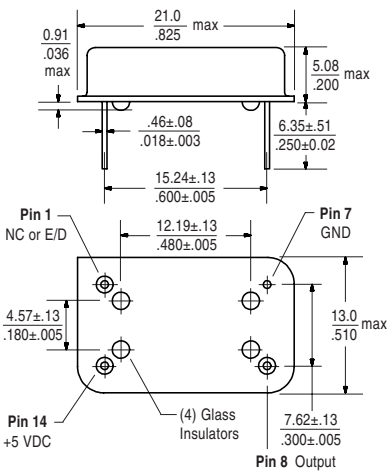
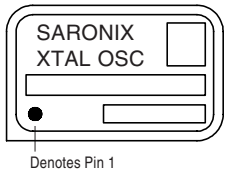
Package Details

FULL SIZE PACKAGE

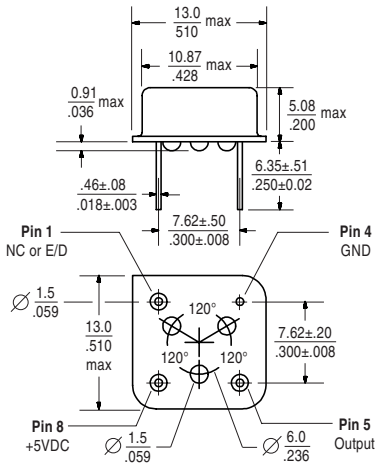


Marking Format *

Includes Date Code, Frequency & Model



HALF SIZE PACKAGE



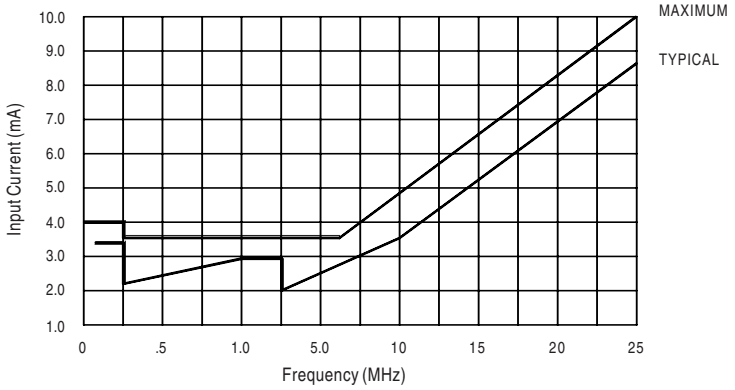
Marking Format *

Includes Date Code, Frequency & Model

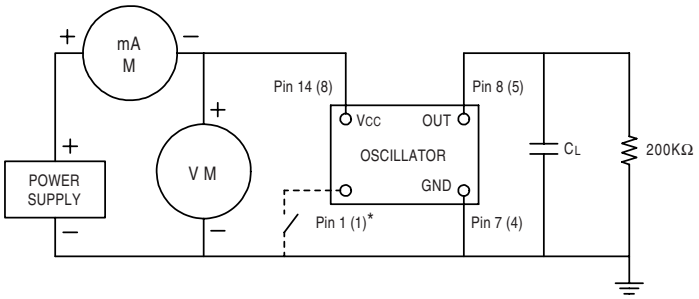
* Exact location of items may vary

Scale: None (Dimensions in mm / inches)

Input Current vs. Frequency at +5.0V

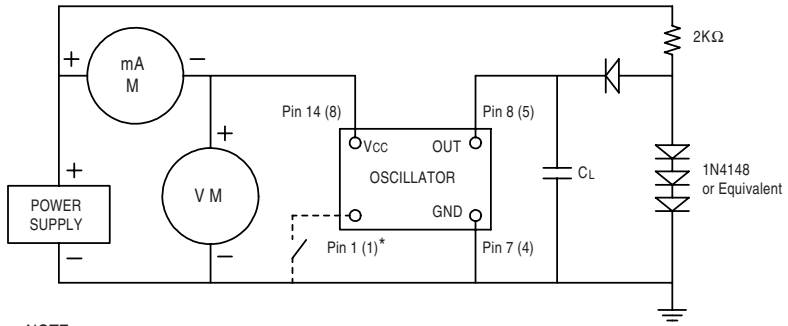


Test Circuits



NOTE:
C_L = 15 pF max (Includes probe and fixture capacitance)
Pin 1 = No connection or Enable/Disable function optional (Enable = "1" level, Disable = "0" level).
*( ) Indicates pin numbers for half-size package

CMOS TEST CIRCUIT



NOTE:
C_L = 15 pF max (Includes probe and fixture capacitance)
Pin 1 = No connection or Enable/Disable function optional (Enable = "1" level, Disable = "0" level).
*( ) Indicates pin numbers for half-size package

TTL TEST CIRCUIT

All specifications are subject to change without notice.

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