HIGH TEMPERATURE CLOCK OSCILLATORS HTOSC

FEATURES

- Tested -55 to +225°C, Operation to 300°C
- CMOS/TTL Compatible
- Output Frequencies of 24KHz—20MHz
- Divide by 2, 4, 8
- Single 5V Supply
- 14-Pin 0.3" DIP
- Interfaces With External Crystal

APPLICATIONS

- Down-Hole Oil Well
- Avionics
- Turbine Engine Control
- Process Control
- Nuclear Reactor
- Electric Power Conversion

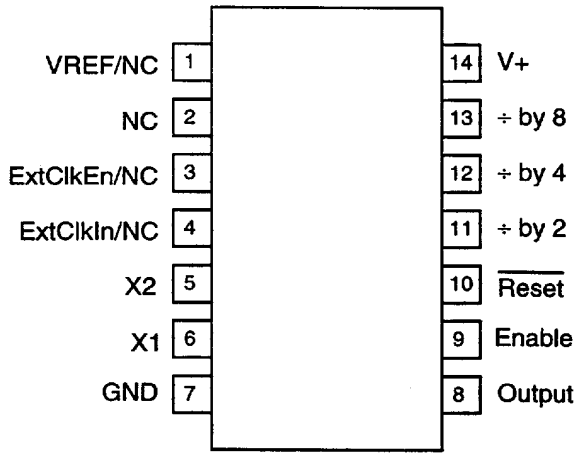
GENERAL DESCRIPTION

The HTOSC is a high temperature clock oscillator fabricated in Honeywell's HTMOS™ high temperature process. The chip contains a crystal controlled oscillator, divider chain, low voltage monitor, and enable and reset lines. Using an external crystal, it is intended to provide reliable precision performance throughout the -55 to +225°C temperature band.

The HTOSC operates from input crystal frequencies of 48KHz to 40MHz. The base frequency output ranges from 24KHz to 20Mhz, with divide by two, four, and eight frequency outputs also provided. When used in conjunction with an external 5.0V Reference, the HTOSC will pulse the Reset Pin when the supply voltage drops 10% below the nominal 5.0V Supply. An Enable pin is included for extremely low power applications, and a Reset pin for prototyping purposes. The crystal driver may be bypassed for applications requiring only a precision divider chain.

All parts are burned in at elevated temperatures to eliminate infant mortality. The HTOSC is a high reliability precision part designed specifically for applications with an extremely wide operating temperature range.

PACKAGE PINOUT



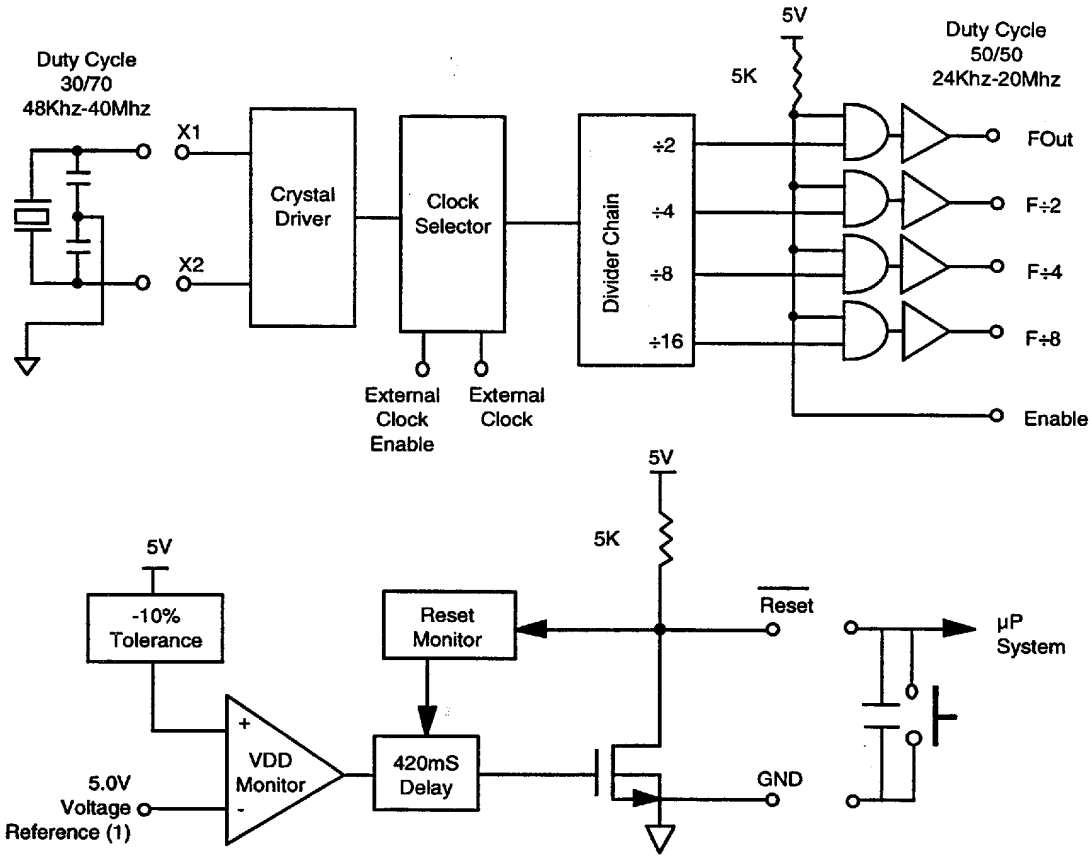
14-Lead Cerdip

HTOSC

SPECIFICATIONS

Frequency Range	24KHz—20MHz
Output Format	CMOS/TTL Compatible
Output Symmetry	50 ± 5 %
Supply Voltage	5V ±10%
Supply Current	<10mA
Stability Long Term Short Term	 0.1% 0.01%
Room Temperature Calibration Accuracy	±5ppm
Aging after Burn-In	<50ppm/year

SIMPLIFIED SCHEMATIC



(1) Without a 5.0V reference supplied to pin 1, the supply voltage monitoring function is disabled.

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