High Temperature, Low Noise 32.768 MHz Oscillator

FEATURES

- Up to 215 C˚ operation
- Low Vcc modulation artifacts
- 3.3 volt to 5.0 volt Vcc range
- Low drift over temperature range

APPLICATIONS

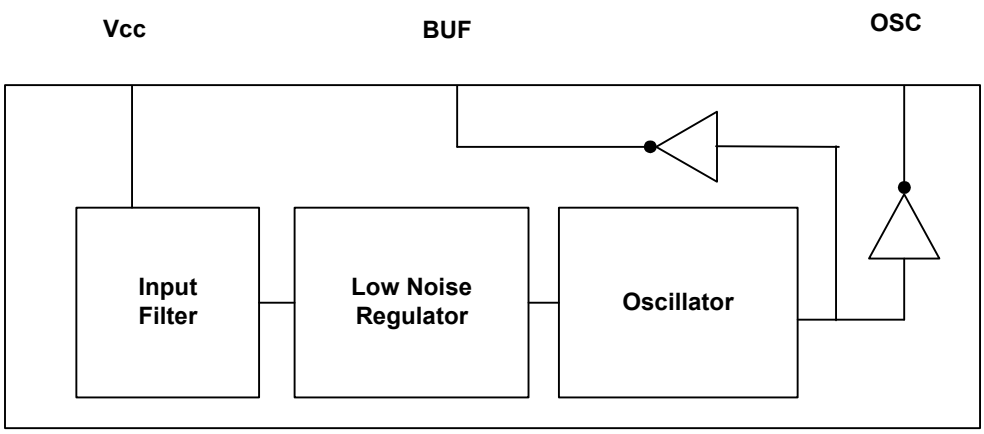
- Perfect companion for the Precision A/D converter
- Low jitter clock for any Sigma-Delta converter
- High temperature applications
- Downhole applications

The TX5328 is a precision oscillator designed for operation at temperatures up to 215 C˚

The TX5328 minimizes the problem of power supply noise modulation artifacts by driving the oscillator components from an internal, stable, low-noise reference supply. This effectively isolates the oscillator circuitry from the digital supply.

The standard TX5328 frequency is 32.768 MHz and is designed to interface with the TX424 four channel, 24 bit, digitizer hybrid.

TX5328 Block Diagram



TX5328 – Specifications

Absolute Maximum Ratings

Supply voltage: -0.3 V to 7.0 V
Operating Temperature: 215 C˚

Specifications @ 5 Volts and 25 C˚

Vcc voltage range: 3.30 minimum to 5.5 volts
Level “0”: < 0.4V
Level “1”: > Vcc – 0.5V
Current consumption 20 mA typ @ 5V, 15 mA typ @ 3.3V

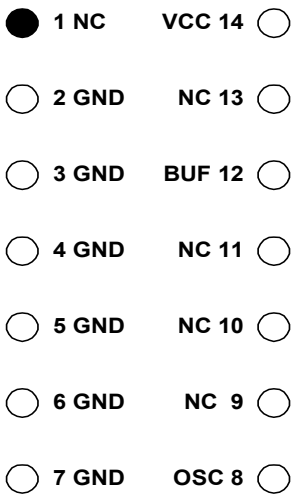
Calibration Tolerance(25 C˚): ± 50 ppm
Frequency stability (-55 C˚ to 215 C˚): ± 160 ppm

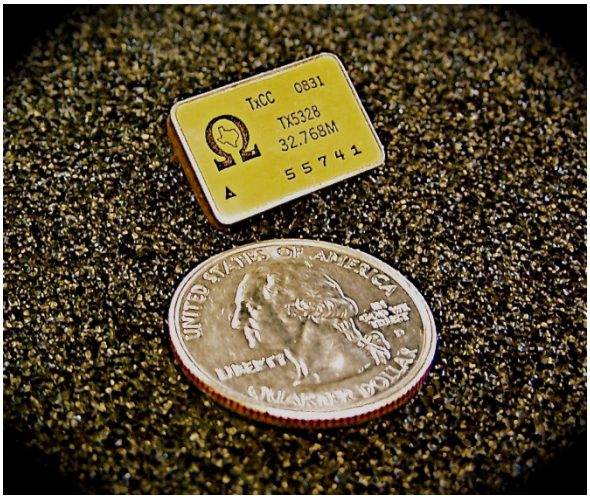
Buffered Clock Output: In phase with clock output.

Output drive: 10 CMOS loads (typ)
Duty cycle: 40% min. to 60% max.

Operating temperature range: -55 C˚ to 215 C˚
Package: 14 pin, hermetic, Kovar bathtub

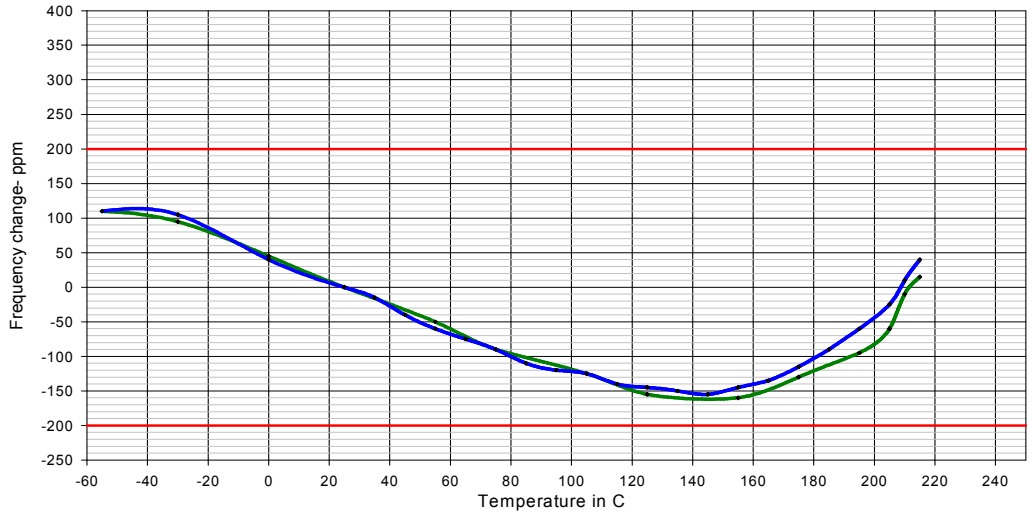
Pinout - Top View





TX5328 Data Plots

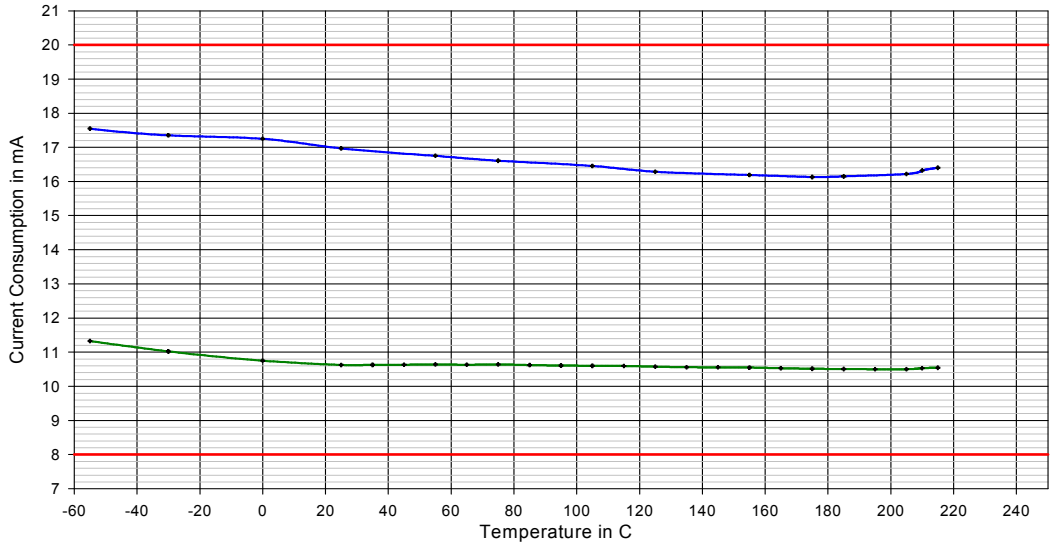
Frequency change vs Temperature Curve
TX5328



When V = 3.3 V, I = 12mA
When V = 5.0 V , I = 15mA
Frequency = 32.768Mhz

Device at Vin= 5V
Device at Vin= 3.3V

Current consumption vs Temperature Curve
TX5328



Frequency = 32.768Mhz

Device at Vin= 5V
Device at Vin= 3.3V

TX5328 14 pin KOVAR Package Information