

FTX3 Series High Reliability 5.0x3.2 mm Ceramic CMOS/TTL Clock Oscillator

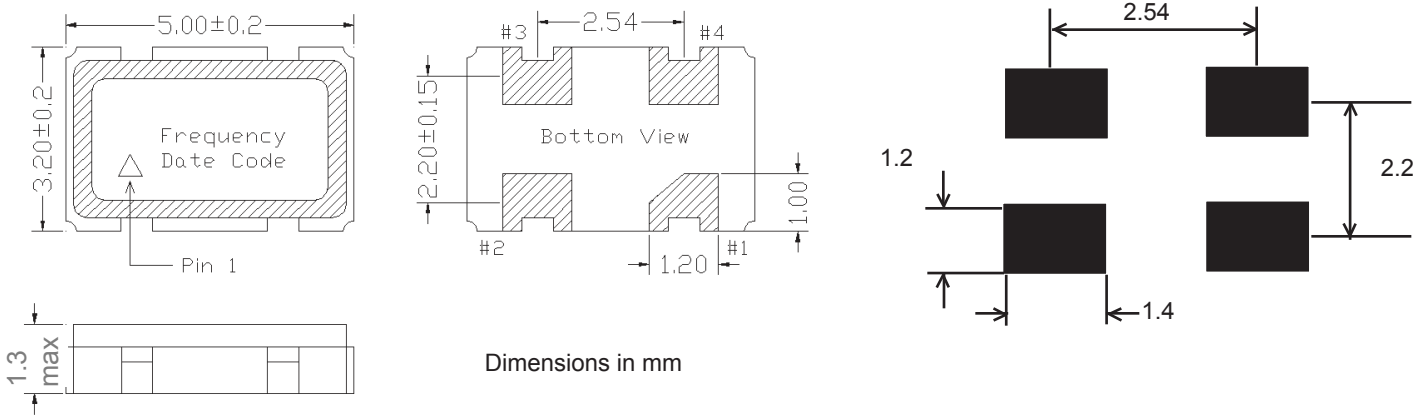
Product Features

- Made in the USA
- 0.5MHz to 200 MHz Frequency Range
- 1.8V /2.5V /3.3V/5.0V logic levels
- Hermetically sealed ceramic packages
- Wide operating temperature range
- Military screening tests available
- High shock resistance(meet 3000G shock)
- Pb-free and RoHS/Green compliant

Applications

- High shock and vibration environments
- Military applications
- Extended temperature applications
- Down-hole drilling Equipments
- Instrumentation and Microprocessor

Outline Drawing & Pad Layout



PIN CONNECTIONS

1. Not connected (N) or Enable/Disable (E)
2. Ground
3. Output
4. V_{DD}

HOW TO ORDER

FTX3	-	E	L	M	N /	100
Frequency/Temperature Stability		Voltage		Screening Level		Pin 1 Connection
A= 100 ppm over -40°C to +85°C		R=+1.8V		N = No Screening		N=Not connected
B= 50 ppm over -40°C to +85°C		N=+2.5V		I = Industrial Std		E=Enable/Disable
C= 25 ppm over -40°C to +85°C		L=+3.3V		B = MIL-PRF-55310,level B		
D= 100 ppm over -55°C to +125°C		H=+5.0V		S = MIL-PRF-55310,level S		
E= 50 ppm over -55°C to +125°C						Frequency KHz/MHz
F= 20 ppm over -20°C to +70 °C						
G= 50 ppm over -20°C to +70 °C						

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Electrical Performance

Frequency Range	: 0.5MHz to 200 MHz				
Frequency Stability	: ± 25.0 ppm, ± 30.0 ppm, ± 50.0 ppm, ± 100.0 ppm (plus other options).				
All Causes (Maximum)	: ± 25.0 ppm, ± 30.0 ppm, ± 50.0 ppm, ± 100.0 ppm (plus other options).				
Aging (Maximum per year at + 25.0 °C)	: ± 5.0 ppm.				
Temperature Range	: - 20 to + 70 °C (- 40 to + 85 °C plus other options).				
Operating	: - 20 to + 70 °C (- 40 to + 85 °C plus other options).				
Storage	: - 55 to + 125 °C.				
Supply Voltage (± 10.0 %)	: + 5.0 V.	: + 3.3 V.	: + 2.8 V.	: + 2.5 V.	: + 1.8 V.
Supply Current (Maximum)	: 20.0 mA. 15.0 mA. 10.0 mA. 10.0 mA. 8.0 mA.				
1.000 000 to 9.999 999 MHz	: 20.0 mA.	: 15.0 mA.	: 10.0 mA.	: 10.0 mA.	: 8.0 mA.
10.000 000 to 34.999 999 MHz	: 30.0 mA.	: 20.0 mA.	: 15.0 mA.	: 15.0 mA.	: 10.0 mA.
35.000 000 to 49.999 999 MHz	: 40.0 mA.	: 30.0 mA.	: 25.0 mA.	: 20.0 mA.	: 15.0 mA.
50.000 000 to 200.000 000 MHz	: 50.0 mA.	: 40.0 mA.	: 35.0 mA.	: 30.0 mA.	: 25.0 mA.
Output Characteristics	: Squarewave.				
Waveform	: Squarewave.				
Output	: HCMOS / TTL.				
Load (Maximum)	: 15 pF / 5 TTL gates.				
Mark Space Ratio (at 50 % V _{CC})	: 40 / 60 % (45 / 55 % option).				
Rise / Fall Times (Maximum)	: 10.0 ns. 10.0 ns. 8.0 ns. 8.0 ns. 7.0 ns.				
Rise Time (10 % to 90 % V _{CC})	: 10.0 ns.	: 10.0 ns.	: 8.0 ns.	: 8.0 ns.	: 7.0 ns.
Fall Time (90 % to 10 % V _{CC})	: 10.0 ns.	: 10.0 ns.	: 8.0 ns.	: 8.0 ns.	: 7.0 ns.
Start up Time (Maximum)	: 10.0 ms.				
Logic Levels	: 90 % V _{CC} .				
High (Minimum)	: 90 % V _{CC} .				
Low (Maximum)	: 10 % V _{CC} .				
Pin 1 (Tri-State) (option)	: Enable.				
High (see below) or Open	: Enable.				
Low (see below)	: Disable.				
High V _{CC} value (Minimum)	: 2.0.	: 70 %.	: 70 %.	: 70 %.	: 70 %.
Low V _{CC} value (Maximum)	: 0.8.	: 20 %.	: 20 %.	: 20 %.	: 20 %.
Disable Current (Maximum)	: 50.0 μA.	: 10.0 μA.	: 10.0 μA.	: 10.0 μA.	: 3.0 μA.
Enable Delay Time (Maximum)	: 10.0 ms.				
Disable Delay Time (Maximum)	: 100.0 ns.				
Package Style	: 5.00 x 3.20 x 1.30 mm.				

Environmental Specifications

Test	Test Method	Test Condition
Electrical Characteristics	Internal Specification	Per Specification
Frequency vs. Temperature	Internal Specification	Per Specification
Mechanical Shock	MIL-STD-202, Method 213, C	100 g's
Vibration	MIL-STD-202, Method 201-204	10 g's from 10-2000 Hz
Thermal Cycle	MIL-STD-883, Method 1010, B	-55 Deg. C to +125 Deg. C, 15 minute Dwell, 10 cycles
Aging	Internal Specification	168 Hours at 105 Degrees C
Gross Leak	MIL-STD-202, Method 112	30 Second Immersion
Fine Leak	MIL-STD-202, Method 112	Must meet 1x10 ⁻⁸
Solderability	MIL-STD-883, Method 2003	8 Hour Steam Age – Must Exhibit 95% coverage
Resistance to Solvents	MIL-STD-883, Method 2015	Three 1 minute soaks
Terminal Pull	MIL-STD-883, Method 2004, A	2 Pounds
Lead Bend	MIL-STD-883, Method 2004, B1	1 Bending Cycle
Physical Dimensions	MIL-STD-883, Method 2016	Per Specification
Internal Visual	Internal Specification	Per Internal Specification