VITE TECHNOLOGY EXPRESS

Fixed Frequency Crystal Oscillator (XO)

The F-Type Fixed-Frequency Crystal Oscillator (XO) is a hybrid clock oscillator designed for use in both CMOS and TTL applications. It is available in either commercial or industrial temperature ranges and can be ordered with a 3-state option. The 3-state option allows the output of the oscillator to be placed in a high-impedance state for board-level testing by automatic testing equipment. The F-Type XO is also available in a surface-mount configuration. The pin through-hole version is compatible with a 14-pin DIP footprint.

Typical applications for the F-Type oscillator are to provide clock signals for digital signal processing chips and microprocessors. Tight stabilities compatible with SONET and STRATUM 4 telephony requirements are available.

Features

- Industry Standard Pinout
- Stability to 20 ppm
- TTL or CMOS
- Choice of Temperature Range
- Tri-State Output Option
- Hermetically Sealed Metal Package

Mechanical Characteristics

Parameter	Description
Mechanical Shock	MIL-STD-883C, Method 2002.3, Condition A.
Mechanical Vibration	MIL-STD-883C, Method 2007.1, Condition A.
Temperature Cycle	MIL-STD-883C, Method 1010, Condition A.
Gross Leak Test	All Units 100% leak tested in deionized water.
Fine Leak Test	All Units test to MIL-STD-883C, Method 1014.
Seal Strength	2 lbs. maximum force perpendicular to top and bottom.
Bend Test	MIL-STD-202E, Method 211A, Condition C.
Marking	MIL-STD-202E, Method 215.
ESD	MIL-STD-883D, Method 3015; 1000v HBM, 500v CDM

Electrical Characteristics

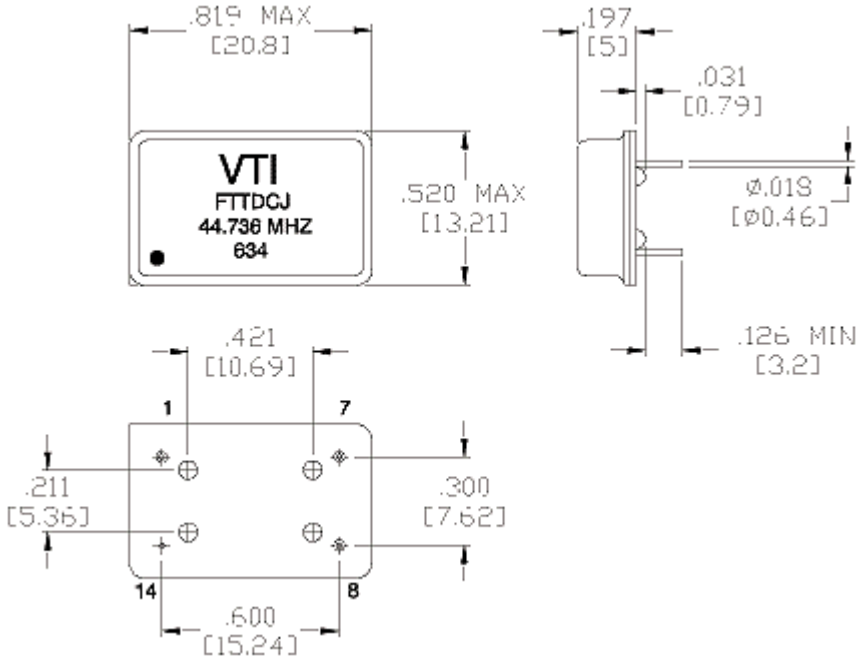
Parameter	Symbol	Min		Typ		Max		Unit
		3.3V	5.0V	3.3V	5.0V	3.3V	5.0V	
Frequency Range	f_0	1 to 80						Mhz
Temperature Range	T_O	0 to 70 or -40 to 85						°C
Stability Options[1]		±25, ±50 or ±100						ppm
Supply Voltage	V_{DD}	3.3 (±10%) or 5.0 (±10%)						V
Supply Current 1 to 20 MHz 21 to 80 MHz	I_{DD}	 -	 -	 -	 -	 10	 15	mA
		-	-	-	-	35	50	
Output Levels High Low	 V_{OH} V_{OL}	 3.0	 4.5	 -	 -	 0.3	 0.5	V
Output Rise/Fall Time[2] 1 to 20 MHz 21 to 80 MHz	$t_{R/F}$	 -	 -	 -	 -	 5	 8	ns
		-	-	-	-	4	6	
Tri-State Out Enable Out Disable (High Imp.)		 2.0	 4.0	 -	 -	 0.5	 0.8	V
Output Symmetry	-	45		50		55		%
Start-up Time	t_{SU}			3				ms
Output Load Options	-	TTL or CMOS, 15 or 50 pF						-
Storage Temperature	T_S	-55		-		125		°C

1 Inclusive of calibration tolerance at 25°C, over the operating temperature range, and aging.

2 Current consumption is typically 0.4 mA/MHz above 20 MHz frequencies.

3 Transition times are measured between 10% and 90% of V_{DD}

Outline Drawing



Standard Frequencies*

2.000	2.048	3.088	4.096	8.000
8.192	10.000	11.0592	16.000	20.000
28.800	30.000	32.768	34.468	40.000
45.000	49.152	51.840	55.000	60.000
64.000	66.000	80.000		

*** Other Frequencies available upon request.**