VITE TECHNOLOGY EXPRESS

H-Type Fixed-Frequency Crystal Oscillator (XO)

The H-Type Fixed-Frequency Crystal Oscillator (XO) is a hybrid clock oscillator designed for use in CMOS and TTL applications. It is available in commercial or industrial temperature ranges and can be ordered with a tri-state option. This option allows the output of the oscillator to be placed in a high-impedance state for board-level testing. The H-Type is available in a surface-mount configuration and is packaged in a hermetically sealed metal case which is grounded to minimize RF radiation. The pin through-hole version is compatible with an
8-pin DIP footprint.

Typical applications for the H-Type oscillator are to provide clock signals for digital signal processing (DSP) 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
- Tape and Reel Configuration

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, Condition A.
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 min, 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 35	 15 50	mA
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 4	 8 6	ns
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

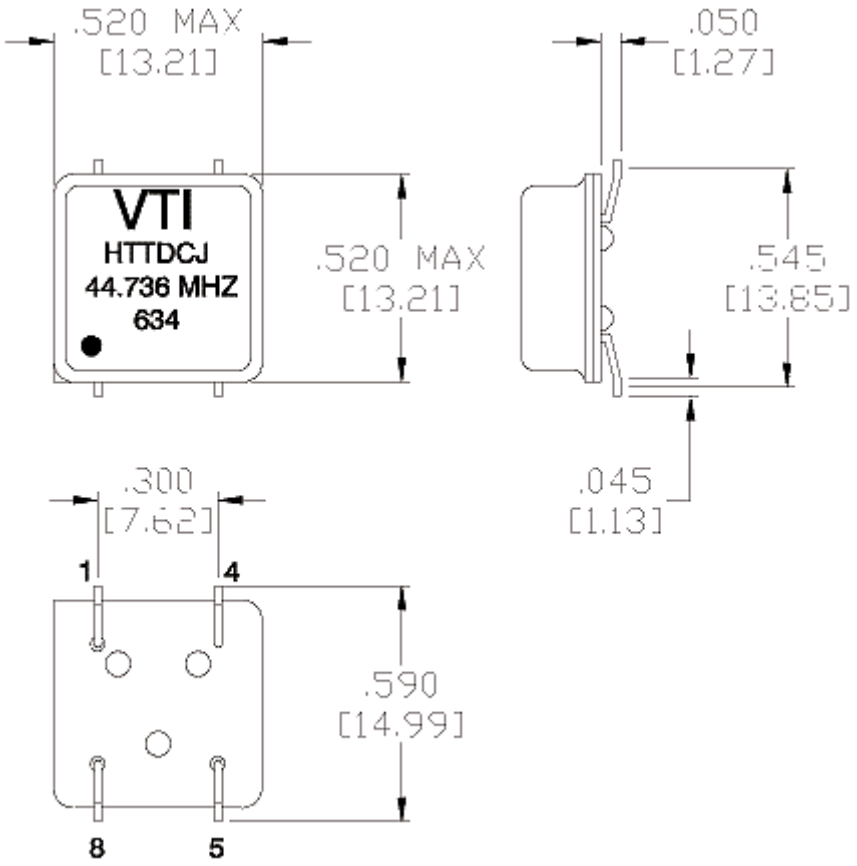
1 Inclusive of calibration tolerance at 25°C, over the operating temperature range, and aging.

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

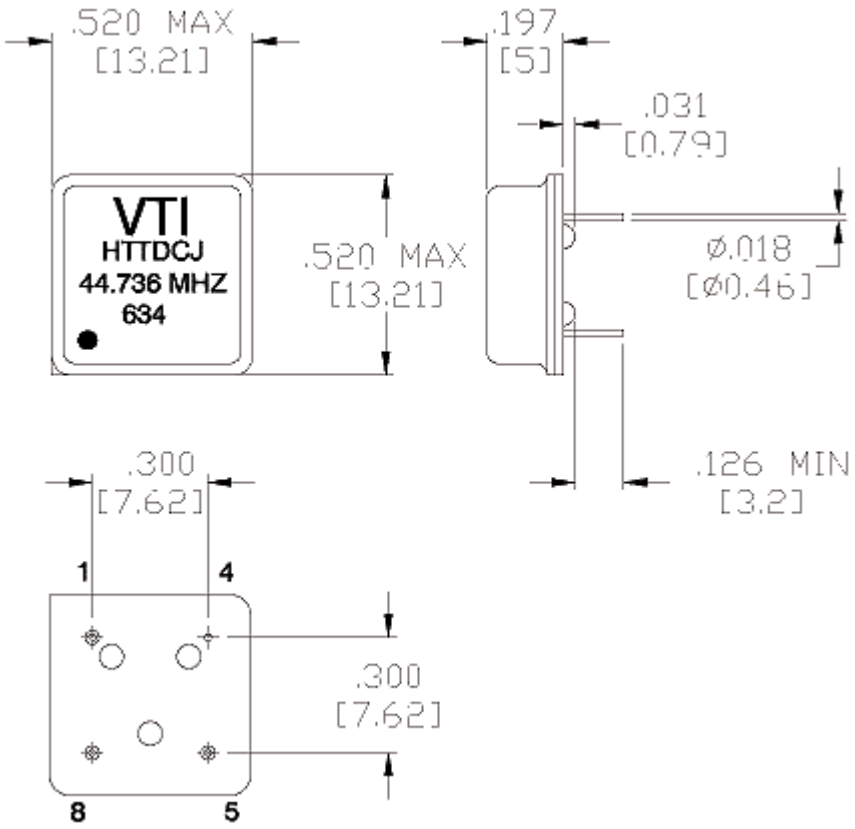
3 Transition times are measured between 10% and 90% of V_{DD}

Outline Drawing

H-type - Gull Wing



H-type - Through Hole



Standard Frequencies*

1.536	1.544	2.000	3.6864	4.096	4.9152
10.000	12.352	12.500	14.3182	16.000	16.384
16.667	18.432	20.000	20.480	24.000	24.576
25.000	29.4912	30.000	31.000	32.000	32.256
32.768	33.000	34.368	35.000	35.200	35.280
35.500	37.056	37.632	40.000	44.236	44.736
46.796	50.000	51.840	55.296	66.000	75.000

*** Other Frequencies available upon request.**