

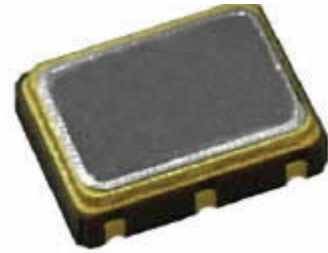
GSHTXO1206

5 x 7 mm SMD High Temperature Crystal Oscillator

Features

- Standard 5 x 7 x 1.8 mm SMD
- Multiple Extreme temp ranges
- Enable | Disable Option
- Low jitter; Low Noise
- 1.8, 2.5, 3.3, and 5.0V Supply Options
- Up to 230C operation

Picture of Part



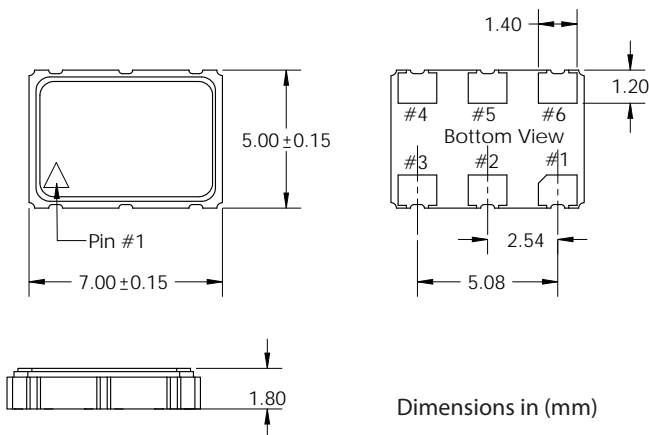
Typical Applications

Down hole drilling, weather observation equipment, Industrial Processes
Engine Control

Description

The GSHTXO1206 family offers a quartz crystal-based clock oscillator utilizing proprietary extreme high temperature packaging, assembly, and testing technologies for operation up to 230C operation. Special high temperature processing of the crystal ensures superior long term reliability and frequency stability.

Physical Dimensions and Pin Connections



Pin	Function
1	Enable/Disable option
2	No Connection
3	Case & Electrical Ground
4	RF Output
5	No Connection
6	V _{CC} Power Supply Voltage

Specification

GSHTXO1206 Specification		Sym.	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f ₀		0.032768		40	MHz	
CMOS	LOAD				15	30	pF	
	H - level voltage	V _H		V _{cc} -0.5			V	
	L - level voltage	V _L				0.4	V	
	Rise & Fall time	Tr1Tf	20% to 80%	1		3	ns	
				40	50	60	%	
Power supply								
Voltage		V _{cc}		3.0	3.3	3.6	V	
Current consumption		I _{cc}			5		mA	At 20 MHz
Tri-state Enable Disable Pin 1			Outputs Active	0.80* V _{cc}				
Pin 1			Outputs NOT Active			0.5	V	
Frequency stability								
vs. temperature			0°C to +200°C, ref 25°C	- 250		+ 250	ppm	
Room Tolerance				- 25		+ 25	ppm	
Phase Noise @ 20MHz ; HCMOS ; 3.3V				10	-70		dBc/Hz	
				100	-110		dBc/Hz	
				1000	-135		dBc/Hz	
				10K	-150		dBc/Hz	
				100K	-160		dBc/Hz	
Phase Jitter			Integrated from 12K to 20MHz			0.5	Pico-sec	

Ordering Information

GSHTXO1206-XX.XXXXXX-W-X

1. Field " XX.XXXXXX " is the Output Frequency to six decimals in MHz
2. Field " W " is Operating Temperature Range and Freq. Stability :
 - a. " 0 " for -55°C to +180°C and +/- 250 ppm
 - b. " 1 " for -20°C to +180°C and +/- 250 ppm
 - c. " 2 " for 0°C to +200°C and +/- 250 ppm
 - d. " 3 " for 0°C to +230°C and +/- 250 ppm
3. Field " X " is Operating Temperature Range and Freq. Stability :
 - a. " 0 " for 1.8 V Supply
 - b. " 1 " for 2.5 V Supply
 - c. " 2 " for 3.3 V Supply
 - d. " 3 " for 5.0 V Supply

****NOT** all combinations available at all frequencies. Please Consult Factory.

Part Number Example

GSHTXO1206-20.000000-2-3

20.000000 MHz Operating Frequency

Operating Temperature of 0°C to +200°C

+/- 250 ppm Frequency Stability

5V Supply

Frequency List

Standard Frequency List							
32.768kHz	512.000kHz	1.000MHz	1.024MHz	2.000MHz	2.048MHz	3.686MHz	4.000MHz
4.096MHz	5.000MHz	7.3728MHz	8.000MHz	8.192MHz	10.000MHz	12.000MHz	16.000MHz
16.384MHz	20.000MHz	24.000MHz	32.000MHz	32.768MHz	40.000MHz		

Environmental Qualifications

Environmental Compliance		
Vibration-Sine	30g, 10 to 2kHz Sine	MIL-STD-202G Method 204 Condition G
Vibration-Random	30grms, 10 to 2kHz Random	MIL-STD-202G Method 214 Condition I-H
Shock	3000g, 0.3ms	MIL-STD-202 Method 213
Seal Test	Fine	MIL-STD-883 Method 1014 Condition A2
Seal Test	Gross	MIL-STD-202 Method 112 Condition D
Temperature Cycling	10 Cycles minimum	MIL-STD-883 Method 1010 Condition B
Acceleration	5000g Y1 axis	MIL-STD-883 Method 2001 Condition A

Phase Noise Performance

