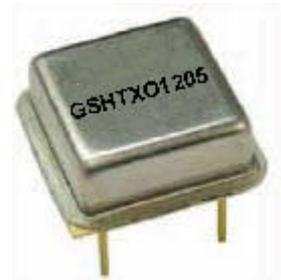


GSHTXO1205
High Temperature Crystal Oscillator

Features

Standard 4-pin Half DIP
 -55°C to 180°C or 0°C to 250°C
 Enable I Disable Option
 Low jitter; Low Noise
 3.3v or 5.0v supply

Picture of Part



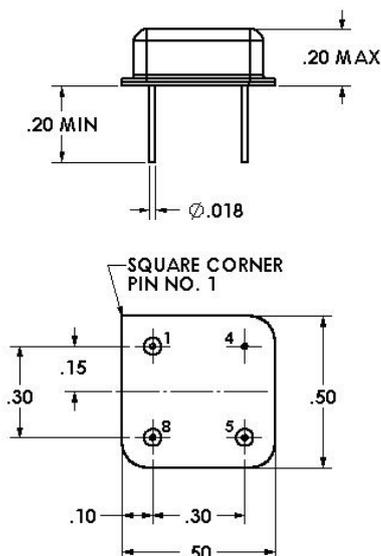
Typical Applications

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

Description

The GSHTXO1205 family offers a quartz crystal-based clock oscillator utilizing proprietary extreme high temperature packaging, assembly, and testing technologies for operation up to 250C operation. Special high temperature processing of the crystal ensures superior long term reliability and frequency stability.

Physical Dimensions



Pin Connections

Pin	Non Tristate Models	Tristate Models
1	NOT USED	Floating or 1 : Oscillator runs
4		Ground
5		Output
8		+V _{supply}

Specification

GSHTXO1205 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	Tr Tf	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 +250°C, ref 25°C	- 250		+ 250	ppm	
Room Tolerance				- 25		+ 25	ppm	
Phase Noise @ 20MHz ; HCMOS ; 3.3V				10	-70		dBc/Hz	
				100	-105		dBc/Hz	
				1000	-130		dBc/Hz	
				10K	-145		dBc/Hz	
				100K	-155		dBc/Hz	
Phase Jitter			Integrated from 12K to 20MHz			0.5	Pico-sec	
Environmental, mechanical conditions.								
Storage temperature range		-60°C to +225°C maximum range available						
Maximum Operating Temperature Ranges		-55°C to +180°C ; 0°C to +250°C						
Temperature Cycling		10 cycles minimum						
Mechanical shock		100G's ; 6 ms ;						
Vibration (Sine)		20 G's to 2000 Hz Sine						
Vibration Random		20 G rms to 2000 Hz Random						

Ordering information

GSHTXO1205-XX.XXXXXX-W-X

1. Field " XXX.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 0°C to +250°C and +/- 250 ppm
 - c. " 2 " for 0°C to +200°C and +/- 250 ppm
 - d. " 3 " for -55°C to +125°C and +/- 100 ppm
3. Field " X " is Operating Temperature Range and Freq. Stability:
 - a. " 0 " for 3.3 V Supply
 - b. " 1 " for 5.0 V Supply

Part Number Example

GSHTXO1205-20.000000-1-0

20.000000 MHz Operating Frequency

Operating Temperature of 0°C to +250°C

+/- 250 ppm Frequency Stability

3.3 V Supply