GSHTVX1201
DIP High Temperature VCXO

Features

Standard 5 x 7 x 1.8 mm SMD
Multiple Extreme temp ranges
Enable I Disable Option
Low jitter; Low Noise
3.3 and 5.0V Supply Options
Up to 200C operation

Picture of Part

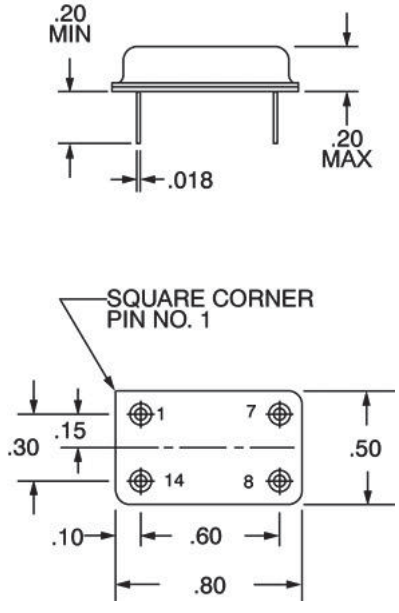
Typical Applications

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

Description

The GSHTVX1201 family offers a quartz crystal-based clock oscillator utilizing proprietary extreme high temperature packaging, assembly, and testing technologies for operation up to 200C operation. Special high temperature processing of the crystal ensures superior long term reliability and frequency stability.

Physical Dimensions and Pin Connections



Pin	Function
1	VCXO Control Voltage
7	Case & Electrical Ground
8	VCXO RF Output
14	V_{CC} Power Supply Voltage

Dimensions in inches

Specification

GSHTVX1201 Specification		Sym	Condition	Value			Unit	Note
				Min.	Typ.	Max.		
Operational Frequency Range		f_0		10		30	MHz	
CMOS	LOAD				15	30	pF	
	H - level voltage	V_H		Vcc-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		Vcc		3.0	3.3	3.6	V	5V also available
Current consumption		Icc			5		mA	At 20 MHz
Voltage Control								
			Control Voltage Range Linearity	0		Vcc +/- 20 %		
			Transfer Function Positive					
ABSOLUTE PULL RANGE								
PPM Adjustment above Aging			Over any temp range	-25		+ 25	ppm	Either OR depending on temp
Temp, and Supply Variation				- 50		+ 50	ppm	Range
Phase Noise @ 25MHz ; HCMOS ; 5.0V				10	-80	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			0.2	Pico-sec	

Ordering Information

GSHTVX1201-XX.XXXXXX-W-X-Y

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
   b. " 1 " for -20°C to +180°C
   c. " 2 " for 0°C to +200°C
3. Field " X " is Operating Temperature Range and Freq. Stability :
   a. " 0 " for 3.3 V Supply
   b. " 1 " for 5.0 V Supply
4. Field " Y " is APR (Absolute Pull Range Adjustment)
   a. " 0 " for +/- 25 PPM additional pull above frequency drift caused by aging, temp, and supply variation
   b. " 1 " for +/- 50 PPM additional pull above frequency drift caused by aging, temp, and supply variation

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

Part Number Example

GSHTVX1201-20.000000-2-1-0
20.000000 MHz Operating Frequency
Operating Temperature of 0°C to +200°C
5.0V Supply
+/- 25 ppm APR

Environmental Qualifications

Environmental Compliance		
Vibration-Sine	20g to 2kHz Sine	MIL-STD-202 Method 204 Condition D
Vibration-Random	20grms to 2kHz Random	MIL-STD-202 Method 214 Condition I-F
Shock	100g, 6ms	MIL-STD-202 Method 213 Condition C & I
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