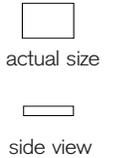


GSHTXO1204

Low Profile Miniature Surface Mount Crystal Oscillator
200 KHz to 220 MHz, 3.3 V

Description

GSHTXO1204's surface-mount 3.3V GSHTXO1204 oscillators consist of a GSHTXO1204 miniature quartz crystal and a CMOS/TTL Compatible hybrid circuit in a low-profile ceramic package with an extremely small foot print.



Features

- Designed for surface mount applications using infrared, vapor phase, vaor epoxy mount techniques
- 3.3V operation
- CMOS and TTL compatible
- Low power consumption
- Optical Output Enable/Disable with Tri-State
- Low EMI emission
- High shock resistance
- Full testing available
- Hermetically sealed ceramic package

Applications

Aerospace

- Cockpit Systems
- Navigation

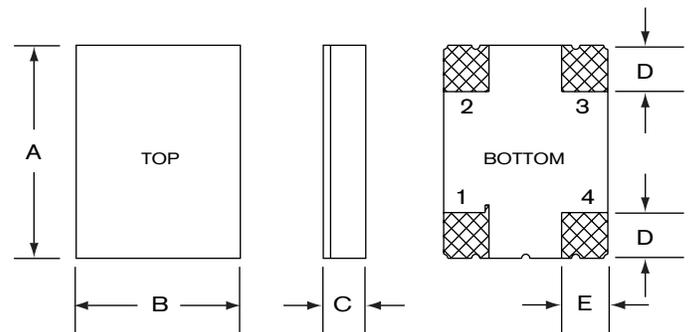
Industrial, computer & Communications

- Industrial Controls
- Instrumentation
- Microprocessor Clocks

Medical

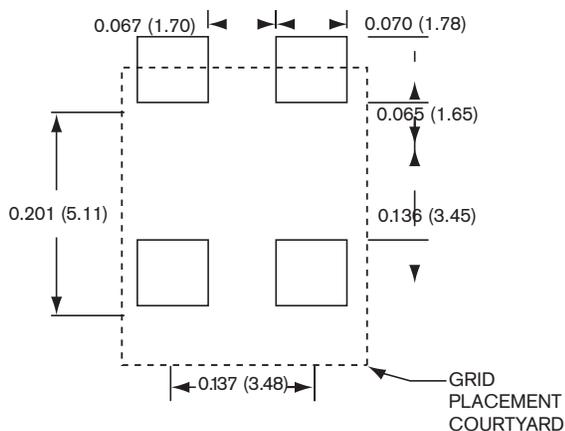
- Infusion Pumps

Dimensions



DIM	TYPICAL		MAXIMUM	
	inches	mm	inches	mm
A	0.256	6.50	0.263	6.68
B	0.197	5.00	0.204	5.18
C (SM1)	0.051	1.30	0.055	1.40
C (SM3/SM5)	0.055	1.40	0.063	1.60
D	0.055	1.40	0.065	1.65
E	0.060	1.52	0.070	1.78

Suggested Land Pattern



Pin Connections

1. Enable/Disable (E or T) or not connected (N)
2. Ground
3. Output
4. V_{DD}

Specifications

Specifications are typical at 25°C unless otherwise noted. Specifications are subject to change without notice. Tighter specifications available. Please contact GSL.

Supply Voltage ¹	3.3V ±10%
Calibrations Tolerance ²	± 100ppm
Frequency Stability Over Temperature ³	± 50 ppm for Commercial ± 100 ppm for Industrial ± 100 ppm
Supply Current (Typical)	10 MHz 2 mA 24 MHz 4 mA 30 MHz 6 mA 40 MHz 8 mA 50 MHz 10 mA
Output Load (CMOS) ⁴	15 pF
Start-up Time	5 ms MAX
Rise/Fall Time	6 ns MAX
Duty Cycle	40% MIN, 60% MAX
Aging, first year	10 ppm MAX
Shock, survival ⁵	3,000g, 0.3 ms, 1/2 sine
Vibration, Survival ⁶	20g, 10-2,000 Hz swept sine
Operating Temp Ranges	-10°C to +70°C (Commercial) -40°C to +85°C (Industrial) -55°C to +125°C

1. Other voltages available.
 2. Other tolerances available.
 3. Does not include calibration tolerance. Other tolerances available.
 4. Higher CMOS loads and TTL loads available. Contact GSL.
 5. Higher shock version available. Contact factory about GSHTXO1204 HG.
- Note: All parameters are measured at ambient temperature with a 10M Ω , 15 pF load.

Packaging Options

GSHTXO1204 – Tray Pack
- 16 mm tape, 7" or 13" reels
Per EIA 418

How to Order



*The T-version is not available for all frequencies.

Absolute Maximum Ratings

Supply Voltage V _{DD}	-0.5V to 7.0V*
Storage Temperature	-55°C to +125°C
Maximum Process Temperature	260°C for 20 seconds

* The supply voltage range is -0.5V to +4.0V for some products. Contact GSL.

Enable/Disable Options (E/T/N)

GSL offers three enable/disable options: E, T and N. Both the E-version and T-version have Tri-State outputs and differ in whether the oscillator continues to run internally when the output is put into the high Z state: it stops in the E-version and continues to run in the T-version. So, the E-version offers very low current consumption when the oscillator is disabled and the T-version offers very fast output recovery when the oscillator is re-enabled. The N-version does not have PIN 1 connected internally and so has no enable/disable capability. The following table summarizes the three options.

Comparison of Enable/Disable Options E and T

	E	T
When enabled (PIN 1 is high*)		
Output	Freq. output	Freq. output
Oscillator	Oscillates	Oscillates
Current consumption	Normal	Normal
When disabled (PIN 1 is low)		
Output	High Z state	High Z state
Oscillator	Stops	Oscillates
Current consumption	Very low	Lower than normal
When re-enabled (PIN 1 changes from low to high)		
Output recovery	Delayed	Immediate

