



## CXOXHT

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An increasing number of applications require the use of high temperature oscillators. For these applications IQD offers Statek's CXOXHT oscillator. This oscillator is designed to operate at

Model Name	Description
CXOXHT 3.3V	A 3.3V Version
CXOXHT 5.0V	A 5.0V Version

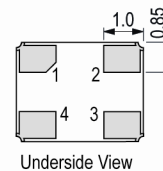
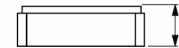
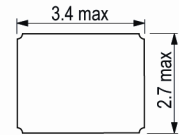
ISSUE 1; March 2022

### Description

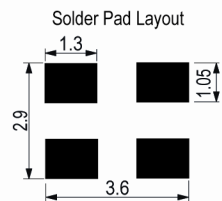
- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. An increasing number of applications require the use of high temperature oscillators. For these applications IQD offers Statek's CXOXHT oscillator. This oscillator is designed to operate at temperatures up to 200°C with high shock survivability.
- -HG-SM1 HG-SM1 (Gold plated, RoHS compliant, 10000G)
- -HG-SM5 HG-SM5 (Solder dipped, RoHS compliant, 10000G)
- -SM1 SM1 (Gold plated, RoHS compliant, 3000G)
- -SM5 SM5 (Solder dipped, RoHS compliant, 3000G)
- FEATURES:
  - High temperature operation up to 200°C
  - Excellent stability over temperature
  - Fast start-up
  - High shock resistance
  - CMOS and TTL compatible
  - Optional output enable/disable
  - Low EMI emission
  - Hermetically sealed ceramic package
- APPLICATIONS:
  - Industrial -
  - Downhole instrumentation
  - Rotary shaft sensors
  - Underground boring tools
- Please note that all data is only valid at 25°C unless otherwise stated.



Outline (mm) -SM1 = SM1 (Gold plated, RoHS compliant, 3000G)



Pad Connections	Height (H) =
1. NC/EN/TS	SM1 1.09 max
2. GND	SM3 1.21 max
3. Output	SM5 1.21 max
4. +Vs	



### Frequency Parameters

- Frequency: 1.0MHz to 50.0MHz
- Frequency Tolerance: ±50.00ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ±100.00ppm to ±200.00ppm
- Ageing: ±5ppm max in 1st year @ 25°C
- Ageing: ±100ppm max @ 200°C
- Operable Temperature Range: -55 to 200°C

### Electrical Parameters

- Supply Voltage: 3.3V ±10%
- Supply Current (typical):
  - 3.0mA @ 24MHz
  - 5.0mA @ 32MHz
  - 6.0mA @ 50MHz
- Supply Voltage (absolute maximum rating): -0.5V to 4.0V

### Operating Temperature Ranges

- 25 to 150°C
- 25 to 175°C
- 25 to 200°C

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF

**ISSUE 1; March 2022**

**Output Control**

- Start Up Time: 5ms max
- Enable/Disable:  
Logic 1 to pad 1, output enabled  
Logic 0 to pad 1, output disabled, output goes to high impedance state, current consumption very low. Internal oscillator stops.
- No Connection (NC): Pad 1 No Connection
- Tri State:  
Logic 1 to pad 1, output enabled  
Logic 0 to pad 1, output disabled, output goes to high impedance state, current consumption low. Internal oscillator continues to function.

**Environmental Parameters**

- Shock (Std): 5000G, 0.3ms, 1/2 sine  
Shock (HG): 10000G, 0.3ms 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz swept sine
- Note: Random Vibration test is also available - please contact an IQD Sales Office
- Storage Temperature Range: -55 to 125°C
- Expected life at 200°C is in excess of 1500hrs

**Manufacturing Details**

- Maximum Process Temperature: 260°C max for 20sec max

**Ordering Information**

- Frequency\*  
Model\*  
Termination Variant\*  
Shock Rating\*  
Output  
Frequency Tolerance (@ 25°C)  
Frequency Stability\*  
Operating Temperature Range\*  
Pad 1 Function\*  
(\*minimum required)
- Termination Variants:  
SM1 = Gold Plated  
SM5 = Solder Dipped
- Stock Ratings:  
Standard = blank  
High Stock = HG
- Pad 1 Function Options:  
EN = Enable/Disable  
TS = Tri-State  
NC = No connection
- Example  
10.0MHz CXOXHT 3.3V-SM1  
CMOS ±50ppm ±175ppm 25 to 200C TS

**Compliance**

- RoHS Status (2015/863/EU)      Optional
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

**Packaging Details**

- Pack Style: Tray      Supplied on a tray  
Pack Size: 1
- Pack Style: Reel      Tape & reel in accordance with EIA-481  
Pack Size: 1,000



# Crystal Clock Oscillator Specification CXOXHT 3.3V

ISSUE 1; March 2022

Electrical Specification - maximum limiting values 3.3V  $\pm$ 10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	50.0MHz	25 to 150	$\pm$ 100.0	-	10	40/60%
		25 to 175	$\pm$ 150.0	-	10	40/60%
		25 to 200	$\pm$ 175.0	-	10	40/60%

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ISSUE 1; June 2019

### Description

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- -HG-SM1 HG-SM1 (Gold plated, RoHS compliant, 10000G)
- -HG-SM5 HG-SM5 (Solder dipped, RoHS compliant, 10000G)
- -SM1 SM1 ( Gold plated, RoHS compliant )
- -SM5 SM5 ( Solder dipped, RoHS compliant )
- Please note that all data is only valid at 25°C unless otherwise stated.



### Frequency Parameters

- Frequency 1.0MHz to 50.0MHz
- Frequency Tolerance  $\pm 50.00\text{ppm}$
- Frequency Stability  $\pm 100.00\text{ppm}$  to  $\pm 200.00\text{ppm}$
- Ageing  $\pm 5\text{ppm}$  max in 1st year at 25°C
- Ageing:  $\pm 100\text{pm}$  max @ 200°C
- Operable Temperature Range: -55 to 225°C

### Electrical Parameters

- Supply Voltage 5.0V  $\pm 10\%$
- Supply Voltage (absolute maximum rating): -0.5V to 7.0V

### Operating Temperature Ranges

- 25 to 150°C
- 25 to 175°C
- 25 to 200°C

### Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

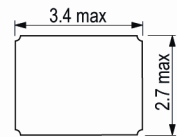
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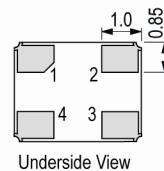
### Environmental Parameters

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- Vibration MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz swept sine
- Storage Temperature: -55 to 125°C

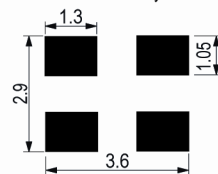
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Pad Connections	Height (H) =
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3. Output	SM5 1.21 max
4. +Vs	



### Solder Pad Layout



ISSUE 1; June 2019

**Manufacturing Details**

- Features:
  - High temperature operation up to 225°C
  - Excellent stability over temperature
  - Fast start-up
  - High shock resistance
  - CMOS and TTL compatible
  - Optional output enable/disable
  - Low EMI emission
  - Hermetically sealed ceramic package
- Applications:
  - Industrial
  - Downhole instrumentation
  - Rotary shaft sensors
  - Underground boring tools
- Maximum Process Temperature: 260°C, 20 seconds

**Ordering Information**

- (\*minimum required):
  - Frequency\*
  - Model\*
  - Termination Variant\*
  - Output
  - Frequency Tolerance (@ 25°C)\*
  - Frequency Stability\*
  - Operating Temperature Range\*
  - Pad 1 function\*
- Example:
  - 10.0MHz CXOXHT 5 5.0V SM1
  - CMOS ±50ppm ±175ppm 25 to 200C TS

**Compliance**

- RoHS Status (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

**Packaging Details**

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1.0MHz	50.0MHz	25 to 150	±100.0	14	10	40/60
		25 to 175	±150.0	14	10	40/60
		25 to 200	±175.0	14	10	40/60

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