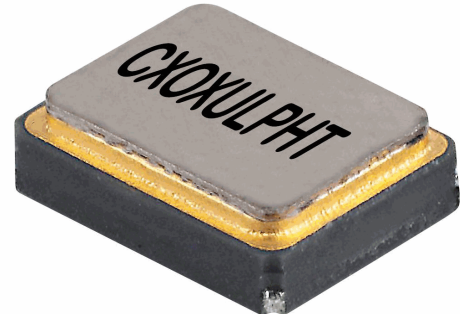


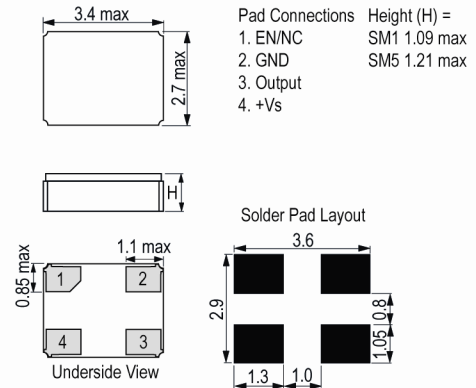
ISSUE 1; March 2019

### Description

- This product is designed and manufactured by Statek Corporation in California, USA and distributed by IQD. The CXOXULPHT 32.768 kHz oscillator achieves the low power comparable with a tuning fork design and the fast start-up and tight frequency stability attained by an AT cut crystal design. Designed for applications requiring ultra low current (55µA), fast start-up time (2ms) and a tight frequency stability (200ppm) for high temperature operation up to 200°C. These oscillators are also capable of withstanding significantly higher shock than a standard tuning fork design.
- -HG-SM1 Gold Plated (RoHS), High Shock
- -HG-SM5 Solder Dipped (RoHS), High Shock
- -SM1 Gold Plated (RoHS)
- -SM5 Solder Dipped (RoHS)
- FEATURES:
  - High temperature operation up to 200°C
  - Ultra-low current (typical 55µA)
  - Fast start-up (typical 2ms)
  - High shock resistance up to 10000G
  - Low ageing
  - CMOS output
  - Optional Output Enable/Disable with Tri-State
  - 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 = Gold Plated (RoHS)



### Frequency Parameters

- Frequency 32.768kHz
- Frequency Tolerance  $\pm 100.00\text{ppm}$
- Tolerance Condition @ 25°C
- Frequency Stability  $\pm 100.00\text{ppm}$  to  $\pm 200.00\text{ppm}$
- Ageing  $\pm 10\text{ppm}$  max in 1st year @ 25°C
- Ageing (1000hrs):  $\pm 100\text{ppm}$  max @ 200°C
- Frequency Stability does not include Frequency Tolerance @ 25°C
- Note: Other Frequency Tolerances and Stabilities are available, including stabilities that are inclusive of tolerance (e.g.  $\pm 200\text{ppm}$  over 25 to 200°C) - please contact an IQD Sales Office

### Electrical Parameters

- Supply Voltage 3.3V  $\pm 10\%$
- Note: Other Supply Voltages are available - please contact an IQD Sales Office
- Supply Current: 55µA typ
- Supply Voltage (absolute maximum rating): -0.3V to 5.0V
- All parameters are measured @ 25°C with a 10MΩ and 15pF load with Vs=3.3V

### Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1 760 318 2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

#### Operating Temperature Ranges

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

#### Output Details

- Output Compatibility CMOS
- Drive Capability 15pF
- Output Level High Voh: 90%Vs min  
Output Level Low Vol: 10%Vs max
- Rise Time (10%-90%): 4ns typ  
Fall Time (90%-10%): 5ns typ

#### Output Control

- Start Up Time: 2ms typ

#### Environmental Parameters

- Operable Temperature Range: -55 to 200°C
- Expected life @ 200°C is in excess of 1500hrs
- Storage Temperature Range: -55 to 125°C
- Shock (std): 5000G, 0.3ms, 1/2 sine  
Shock (HG): 10000G, 0.3ms, 1/2 sine  
(shocked @ 25°C)
- Note: Higher Shock versions are available - please contact an IQD Sales Office
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10Hz-2000Hz swept sine (vibrated @ 25°C)
- Note: Random Vibration test is also available - please contact an IQD Sales Office

#### Manufacturing Details

- Maximum Process Temperature: 260°C (for 20secs max)

#### Ordering Information

- Frequency  
Model\*  
Shock Level\*  
Termination Variant\*  
Output  
Frequency Tolerance (@ 25°C)\*  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Pad 1 Function\*  
(minimum required\*)
- Shock Options:  
Blank = Standard (5000G)  
HG = High Shock (10000G)
- Termination Variants:  
SM1 = Gold Plated (RoHS)  
SM5 = Solder Dipped (RoHS)
- Pad 1 Function Options:  
EN = Enable/Disable  
NC = No connection
- Example  
32.768kHz CXOXULPHT 3.3V SM1  
CMOS ±100ppm ±175ppm 25 to 200C NC

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**Compliance**

- RoHS Status (2015/863/EU)      Compliant
- 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-D  
Pack Size: 1,000

**Electrical Specification - maximum limiting values 3.30V ±10%**

Frequency	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
32.768kHz	25 to 200	±100.00	-	-	45/55%

*This document was correct at the time of printing; please contact your local sales office for the latest version.*

[Click to view latest version on our website.](#)

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