

ISSUE 1; January 2016

Description

- Statek's 32.768kHz surface mount LFXO oscillators, designed especially for applications requiring a fast start-up and high precision, consist of a Statek miniature AT quartz crystal and a CMOS/TTL compatible hybrid circuit in a ceramic package. Each crystal is pre-qualified before assembly into the oscillator through electrical tests and characterization over temperature.

For harsh environments, a high shock version of the LFXO is also available.

- HG-SM1 Gold Plated (RoHS) 20000G
- HG-SM5 Solder Dipped (RoHS) 20000G
- SM1 Gold Plated (RoHS)
- SM5 Solder Dipped (RoHS)
- Please note that all data is only valid at 25°C unless otherwise stated.

Frequency Parameters

- Frequency: 32.768kHz
- Frequency Tolerance: $\pm 10.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Tolerance Condition: @ 25°C
- Frequency Stability: $\pm 10.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 3\text{ppm}$ max in 1st year

Electrical Parameters

- Supply Voltage: 3.3V $\pm 10\%$
- Start-Up Time: 0.8ms typ
- Current: 500 μA typ when operating, 3.2 μA typ when in EN mode.
- Absolute Maximum Supply Voltage: -0.3V to 5.0V

Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C
- 55 to 125°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF

Output Levels

- Output High: 90%Vs min
- Output Low: 10%Vs max

Environmental Parameters

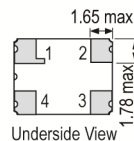
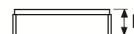
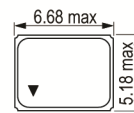
- Storage Temperature Range: -55 to 125°C
- Shock (std): 5000G, 0.3ms, 1/2 sine
- Shock (HG): 20000G, 0.3ms, 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Test Condition D 20G, 10Hz-2000Hz, swept sine

Manufacturing Details

- Maximum Process Temperature: 260°C for 20sec

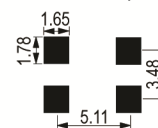


Outline (mm) SM1 = Gold Plated (RoHS)



| Pad Connections | Height (H) = |
|-----------------|----------------|
| 1. EN/NC | SM1 1.65mm max |
| 2. GND | SM3 1.85mm max |
| 3. Output | SM5 1.85mm max |
| 4. +Vs | |

Solder Pad Layout



Sales Office Contact Details:

UK: +44 (0)1460 270200

Germany: 0800 1808 443

France: 0800 901 383

USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com

Ordering Information

- Frequency*
- Model*
- Termination Variant*
- Output Compatibility
- Frequency Tolerance (@25°C)*
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Supply Voltage
- Pad 1 Function*
- Example
- 32.768kHz LFXO-AT 3.3V HG-SM1
- CMOS ±10ppm ±50ppm -10 to 70C NC

Compliance

- RoHS Status (2011/65/EU) Optional
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

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

Electrical Specification - maximum limiting values 3.3V ±10%

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Current Draw | Rise and Fall Time | Duty Cycle |
|---------------|---------------|-------------------|-----------------|--------------|--------------------|------------|
| | | °C | ppm | mA | ns | % |
| 32.768000kHz | 32.768000kHz | -10 to 70 | ±10.0 | - | 1,000 | 45/55% |
| | | -40 to 85 | ±20.0 | - | 1,000 | 45/55% |
| | | -55 to 125 | ±30.0 | - | 1,000 | 45/55% |

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