



ISSUE 1; July 2014 - RoHS 2011/65/EU

Description

- An increasing number of high temperature applications require the use of leaded (through hole) ceramic packaged oscillators. For these applications, IQD offers the LHTAT 7 x 5mm crystal oscillator. These oscillators are designed to operate at temperatures up to 200°C with high shock survivability.
- A-SM1 5000G, Gold Plated (RoHS)
- A-SM5 5000G, Solder Dipped (RoHS)
- B-SM1 10000G, Gold Plated (RoHS)
- B-SM5 10000G, Solder Dipped (RoHS)
- C-SM1 20000G, Gold Plated (RoHS)
- C-SM5 20000G, Solder Dipped (RoHS)
- D-SM1 30000G, Gold Plated (RoHS)
- D-SM5 30000G, Solder Dipped (RoHS)



Frequency Parameters

- Frequency 320.0kHz to 50.0MHz
- Frequency Tolerance $\pm 50.00\text{ppm}$
- Tolerance Condition @ 25°C
- Frequency Stability $\pm 100.00\text{ppm}$ to $\pm 175.00\text{ppm}$
- Ageing $\pm 5\text{ppm}$ max 1st year @ 25°C,
 $\pm 100\text{ppm}$ max @ 200°C

Electrical Parameters

- Supply Voltage 3.3V $\pm 10\%$
- Absolute Maximum Supply Voltage: -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

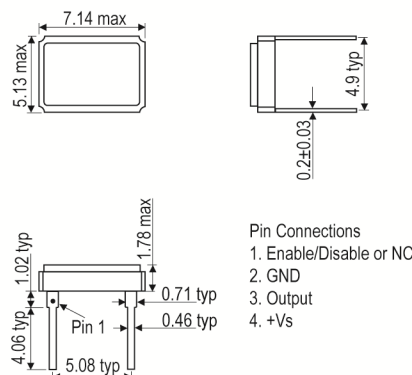
Output Control

- Start-Up Time: 5ms max

Environmental Parameters

- Maximum Operating Temperature Range: -55 to 200°C
- Shock Options:
 - A - 5000G, 0.3ms, 1/2 sine
 - B - 10000G, 0.3ms, 1/2 sine
 - C - 20000G, 0.3ms, 1/2 sine
 - D - 30000G, 0.3ms, 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10Hz-2000Hz swept sine
- Storage Temperature Range: -55 to 125°C

Outline (mm)



Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: +49 (0) 30 408 192 300

France: +33 (0)5 34 50 91 18
USA: +1 408.273.4530

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com

**Manufacturing Details**

- Features:
 - High temperature operation up to 200°C
 - Excellent stability over temperature
 - High shock resistance
 - CMOS output
 - Optional output enable/disable
 - Hermetically sealed ceramic package
 - Through-hole leaded package
 - Reduces mechanical and thermal mounting stresses
 - Robust lead attach-eutectic brazing process
 - Gold-plated Kovar leads
- Applications:
 - Industrial -
 - Downhole instrumentation
 - Rotary shaft sensors
 - Underground boring tools
 - Avionics applications
- Maximum Process Temperature: 260°C for 20sec
- Termination Variants:
 - SM1 - Gold Plated
 - SM5 - Solder Dipped (Pb free)

Ordering Information

- Frequency*
- Model*
- Supply Voltage
- Shock Level*
- Terminations*
- Output
- Frequency Tolerance (@ 25°C)*
- Frequency Stability (over Operating Temperature Range)*
- Operating Temperature Range*
- Pin 1 Function*
- (*minimum required)
- Example
 - 10.0MHz LHTAT 3.3V A-SM1
 - CMOS ±50ppm ±150ppm 25 to 175C EN

Compliance

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

Packaging Details

- Pack Style: Tube Supplied in tubes
- 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	%
320.00kHz	50.0MHz	25 to 200	±100.0	6	10	40/60

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.](#)

Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: +49 (0) 30 408 192 300

France: +33 (0)5 34 50 91 18
USA: +1 408.273.4530

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com