Crystal Clock Oscillator Specification

LHTAT 3.3V

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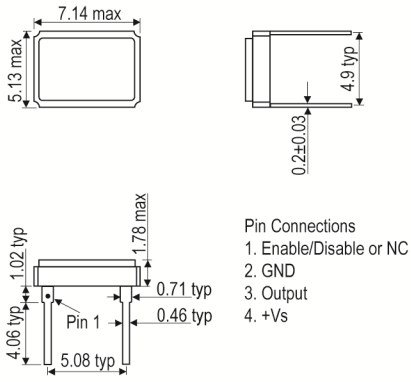
Description

- 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 200ºC 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)
- Please note that all data is only valid at 25°C unless otherwise stated.

Outline (mm) A-SM1 = 5000G, Gold Plated (RoHS)



Pin Connections
1. Enable/Disable or NC
2. GND
3. Output
4. +Vs

Frequency Parameters

Frequency	320.0kHz to 50.0MHz
Frequency Tolerance	±50.00ppm
Tolerance Condition	@ 25°C
Frequency Stability	±100.00ppm to ±175.00ppm
Ageing	±5ppm max 1st year @ 25°C, ±100ppm max @ 200°C

Electrical Parameters

Supply Voltage	3.3V ±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 Compatability	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

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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 (2011/65/EU) 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 150	±100.0	6	10	40/60%
		25 to 175	±150.0	6	10	40/60%
		25 to 200	±175.0	6	10	40/60%

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