

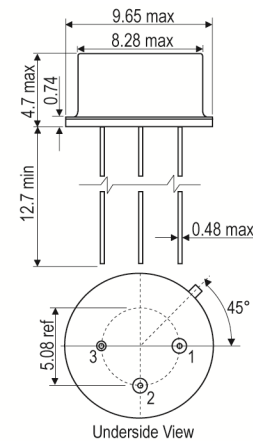
ISSUE 1; January 2016

### Description

- An increasing number of high temperature applications require the use of leaded (through hole) packaged oscillators. For these applications IQD offers the SQXO-2ATHG oscillator. These oscillators are designed to operate at temperatures up to 200°C with high shock survivability.
- FEATURES:
  - Excellent stability over temperature
  - High shock resistance
  - Reduces mechanical and thermal mounting stresses
  - Robust TO-39 package
  - Low current
  - Fast start-up
- APPLICATIONS:
  - Industrial, Computer & Communications -
  - Downhole instrumentation
  - Rotary shaft sensors
  - Underground boring tools
  - Avionics applications
- Please note that all data is only valid at 25°C unless otherwise stated.



Outline (mm)



Pin Connections  
 1. +V<sub>S</sub>  
 2. Output  
 3. GND

### Frequency Parameters

- Frequency: 32.768kHz to 50.0MHz
- Frequency Tolerance: ±50.00ppm
- Tolerance Condition: @ 25°C
- Frequency Stability: ±100.00ppm to ±175.00ppm
- Ageing: ±5ppm max in 1st year @ 25°C

### Electrical Parameters

- Supply Voltage: 3.3V ±10%
- Supply Current (typical):
  - 500µA @ 32.768kHz
  - 3.0mA @ 24MHz
  - 5.0mA @ 32MHz
  - 6.0mA @ 50MHz
- Rise/Fall Time: 10ns max (32.768kHz: 100ns max)
- 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

### 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](mailto:info@iqdfrequencyproducts.com)  
 Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

**Environmental Parameters**

- Shock (@ 25°C): 8000G, 0.5ms, 1/2 sine
- Vibration: MIL-STD-202G, Method 204D, Condition D: 20G, 10-2000Hz, swept sine
- Storage Temperature Range: -55 to 125°C
- Operable Temperature Range: -55 to 200°C
- Expected life at 200°C is in excess of 1,500 hours

**Manufacturing Details**

- Maximum Process Temperature: 260°C for 10sec

**Ordering Information**

- Frequency\*
- Model\*
- Output
- Frequency Tolerance\*
- Frequency Stability\*
- Operating Temperature Range\*
- Supply Voltage
- (\*minimum required)
- Example
- 10.0MHz SQXO-2ATHG 3.3V
- CMOS ±50ppm ±175ppm 25 to 200C

**Compliance**

- RoHS Status (2011/65/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: Bulk           Loose in bulk pack
- 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  | 50.0MHz       | 25 to 150         | ±100.0          | -            | -                  | 40/60%     |
|               |               | 25 to 175         | ±150.0          | -            | -                  | 40/60%     |
|               |               | 25 to 200         | ±175.0          | -            | -                  | 40/60%     |

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