



## Crystal Clock Oscillator Specification

*IQD Part No. + Packaging: LFSPXO083322RL3K*

*Würth Part No. 830208332209*



### Description

- LVDS output crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid.
- Model IQXO-618-25
- Model Issue number 2
- Note: Operating temperature ranges -40 to 105°C and -40 to 125°C are intended for industrial use and not for safety critical applications such as automotive. Please contact IQD for alternative options.

### Frequency Parameters

- Frequency 100.0MHz
- Frequency Stability  $\pm 50.00\text{ppm}$
- Operating Temperature Range -40.00 to 105.00°C
- Ageing  $\pm 3\text{ppm}$  max per year at 25°C

### Electrical Parameters

- Supply Voltage 2.5V  $\pm 5\%$
- Current Draw 50.000mA

### Output Details

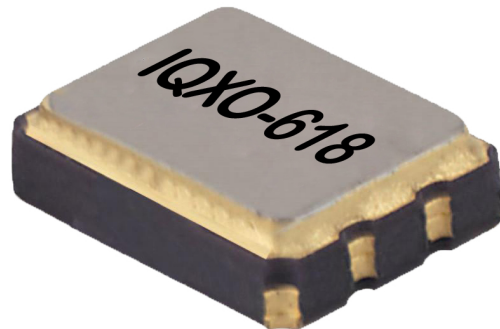
- Output Compatibility LVDS
- Drive Capability 100 $\Omega$
- Rise & Fall Time (20 - 80%) 0.5ns max
- Duty Cycle 45/55%
- Differential Output Voltage (VOD): 0.247V min, 0.33V typ, 0.454V max
- Offset Voltage (VOS): 1.125V min, 1.250V typ, 1.375V max.
- Output Voltage Levels:  
Output Low (VOL): 0.9V min  
Output High (VOH): 1.6V max

### Output Control

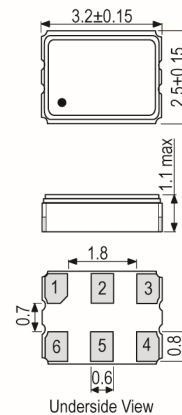
- Standby Operation:  
Logic '1' ( $\geq 70\%$  Vs) to pad 1 enables oscillator output.  
Logic '0' ( $\leq 30\%$  Vs) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state.  
No connection to pad 1 enables oscillator output.
- Start-Up Time: 10ms max
- Standby Current: 10 $\mu\text{A}$  max

### Noise Parameters

- Phase Jitter (12kHz to 20MHz): 1ps rms max



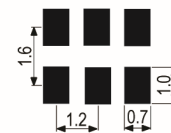
### Outline (mm)



### Pad Connections

- Standby Operation
- N/C
- GND
- Output +
- Output -
- +Vs

### Solder Pad Layout



### CONTACT INFORMATION:

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*IQD Part No. + Packaging: LFSPX0083322RL3K*

*Würth Part No. 830208332209*



### Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Drop Test (JIS-C0044): the specimen is measured for frequency before the test. It is then dropped from a height of 100cm min as a free fall object onto a hard wooden plate of thickness 30mm min.
- Vibration (MIL-STD-883F : 2007.3): the specimen is measured for frequency before the test. Test in X,Y and Z axes for the vibration test. Frequency range: 20~2000Hz, peak to peak amplitude: 1.52mm, peak acceleration: 20G, sweep time: 20 minute/axis, pendicular total test time: 4 hours.
- Low Temp Exposure (JIS-C0020): the specimen is measured for frequency before the test. Expose device to -40°C±3°C for 168±6 hours. Measure electrical performance after leaving 1~2 hours at room temperature.
- Ageing Test (JIS-C0021): the specimen is measured for frequency before the test. Expose device to +125°C±3°C for 720±48 hours. Measure electrical performance after leaving 1~2 hours at room temperature.
- High Temperature and Humidity (MIL-STD-883F : 1004.7): the specimen is measured for frequency before the test. Expose device to +85°C±5°C and 85±5% humidity for 168±6 hours. Measure electrical performance after leaving 1~2 hours at room temperature.
- Temperature Cycle Test (MIL-STD-883F : 1010.8): the specimen is measured for frequency before the test. Expose device to 100 cycles of:
  - Low temp: -55°C±3°C for 15±3 min
  - Ramp up to high temp: 2-3 mins
  - High temp: +125°C±3°C for 15±3 min
  - Ramp down to low temp: 2-3 mins
  - Measure electrical performance after leaving 1~2 hours at room temperature.
- RoHS Terminations
- RoHS Reflow Temp                      260°C max for 10s max

### Compliance

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

### Packaging Details

- Pack Style: RL3K      Tape & reel in accordance with EIA-481-D  
Pack Size: 3,000
- *Alternative packing option available*

## USEFUL LINKS

#### Toolbox:

[www.we-online.com/toolbox](http://www.we-online.com/toolbox)

#### Product Catalog:

[www.we-online.com/products](http://www.we-online.com/products)

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