



## Crystal Clock Oscillator Specification

*IQD Part No. + Packaging: LFSPXO082199Reel*

*Würth Part No. 830208219901*



### Description

- Standard 2.5 x 2.0 oscillator in a ceramic package with a hermetically sealed metal lid.
- Model IQXO-791
- Model Issue number 2

### Frequency Parameters

- Frequency 4.0MHz
- Frequency Stability  $\pm 25.00\text{ppm}$
- Operating Temperature Range  $-20.00$  to  $70.00^\circ\text{C}$
- Ageing  $\pm 3\text{ppm}$  max per year @  $25^\circ\text{C}$

### Electrical Parameters

- Supply Voltage  $3.3\text{V} \pm 10\%$
- Current Draw  $7.000\text{mA}$

### Output Details

- Output Compatibility HCMOS
- Drive Capability  $15\text{pF}$
- Rise and Fall Time  $7.0\text{ns}$  max
- Duty Cycle  $40/60\%$
- Output Voltage Levels:  
Output Low (VoL):  $10\%V_s$  max  
Output High (VoH):  $90\%V_s$  min
- Start Up Time:  $10\text{ms}$  max  
 $0.7\text{ms}$  typ to  $90\%$  of final amplitude (under ideal conditions @  $25^\circ\text{C}$ )

### Output Control

- Enable/Disable:  
Logic '1' ( $\geq 70\% V_s$ ) to pad 1 enables oscillator output.  
Logic '0' ( $\leq 30\% V_s$ ) 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.
- Stand-by Current:  $10\mu\text{A}$  max,  $1.0\mu\text{A}$  typ @  $25^\circ\text{C}$

### Noise Parameters

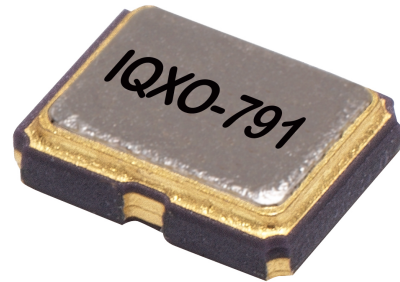
- Period Jitter (pk-pk):  $\pm 80\text{ps}$  typ
- Period Jitter ( $1\sigma$ ):  $\pm 10\text{ps}$  typ
- Phase Jitter (12kHz to 20MHz):  $1\text{ps}$  rms max

### Environmental Parameters

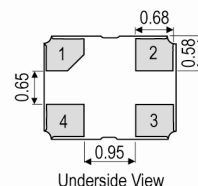
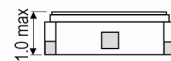
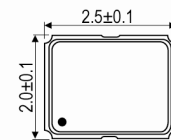
- Storage Temperature Range:  $-55$  to  $125^\circ\text{C}$
- Mechanical Shock: MIL-STD-883, Method 2002, Condition B (or comparable).
- Vibration: MIL-STD-883, Method 2007, Condition A (or comparable).

### Manufacturing Details

- Note: Do not connect inductor or bead between pad 2 and GND as it can make the output unstable.
- RoHS Terminations
- RoHS Reflow Temp  $260^\circ\text{C}$  max for 10secs max



### Outline (mm)

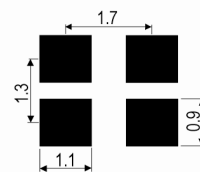


### Pad Connections

- Enable/Disable
- GND
- Output
- +Vs

Note: Connect bypass capacitor  $0.1\mu\text{F}$  between +Vs and GND

### Solder Pad Layout



### CONTACT INFORMATION:

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### Compliance

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

### Packaging Details

- Pack Style: Reel      Tape & reel in accordance with EIA-481D  
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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