



## Crystal Clock Oscillator Specification

*IQD Part No. + Packaging: LFSPXO056294Reel*

*Würth Part No. 831056294*



### Description

- Standard 2.5 x 2.0 oscillator in a ceramic package with a hermetically sealed metal lid.
- Model IQXO-791
- Model Issue number 1

### Frequency Parameters

- Frequency 24.0MHz
- Frequency Stability  $\pm 50.00\text{ppm}$
- Operating Temperature Range  $-40.00$  to  $85.00^\circ\text{C}$
- Ageing  $\pm 3\text{ppm}$  max per year @  $25^\circ\text{C}$

### Electrical Parameters

- Supply Voltage  $3.3\text{V} \pm 10\%$
- Current Draw  $10.000\text{mA}$

### Output Details

- Output Compatibility HCMOS
- Drive Capability  $15\text{pF}$
- Rise and Fall Time  $10.0\text{ns}$  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

### Output Control

- Stand-by Operation:  
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

### Noise Parameters

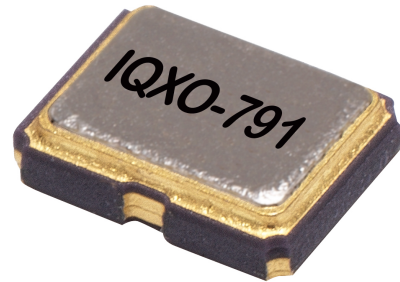
- Period Jitter (pk-pk):  $\pm 80\text{ps}$  typ
- Period Jitter ( $1\sigma$ ):  $\pm 10\text{ps}$  typ
- Phase Jitter ( $12\text{kHz}$  to  $20\text{MHz}$ ):  $1\text{ps}$  rms max

### Environmental Parameters

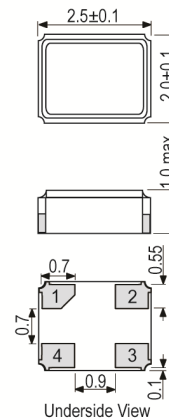
- Storage Temperature Range:  $-55$  to  $125^\circ\text{C}$
- Shock: MIL-STD-202, Method 213. Or comparable.
- Vibration: MIL-STD-883, Method 2007, Condition A. Or comparable.

### Manufacturing Details

- Maximum Process Temperature:  $260^\circ\text{C}$  (10secs max)
- 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)

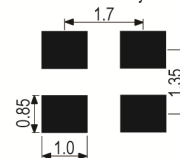


### Pad Connections

1. Enable/Disable
2. GND
3. Output
4.  $+V_s$

Note: Connect bypass capacitor  $0.1\mu\text{F}$  or  $0.01\mu\text{F}$  between  $+V_s$  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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