

**Customer Part:**

**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 12.0MHz
- 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  $7.000\text{mA}$

**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**

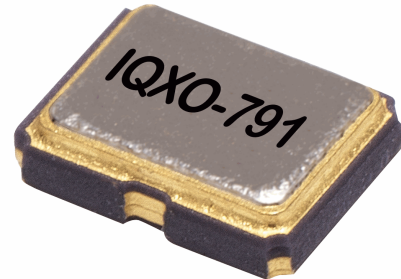
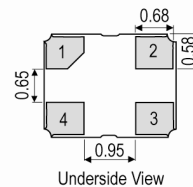
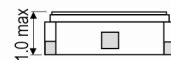
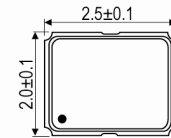
- Period Jitter (pk-pk):  $\pm 80\text{ps}$  typ
- Period Jitter ( $1\sigma$ ):  $\pm 10\text{ps}$  typ
- Phase Jitter (12kHz to 20MHz):  $1\text{ps}$  rms max

**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).

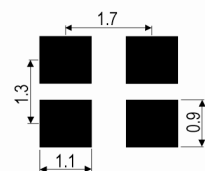
**Manufacturing Details**

- 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**

1. Enable/Disable
2. GND
3. Output
4. +Vs

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

**Solder Pad Layout**

**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)



**Customer Part:**

**Compliance**

- RoHS Status (2015/863/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*

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Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)