

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 48.0MHz
- Frequency Stability $\pm 50.00\text{ppm}$
- Operating Temperature Range -40.00 to 85.00°C
- Ageing $\pm 3\text{ppm}$ max per year @ 25°C

Electrical Parameters

- Supply Voltage $3.3\text{V} \pm 10\%$
- Current Draw 20.000mA

Output Details

- Output Compatibility HCMOS
- Drive Capability 15pF
- Rise and Fall Time 7.0ns 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: 10ms max
 0.7ms typ to 90% of final amplitude (under ideal conditions @ 25°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°C

Noise Parameters

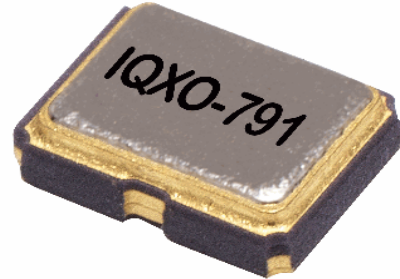
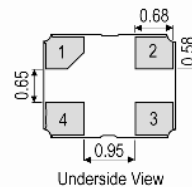
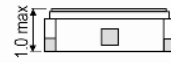
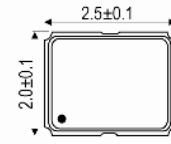
- Period Jitter (pk-pk): $\pm 80\text{ps}$ typ
- Period Jitter (1σ): $\pm 10\text{ps}$ typ
- Phase Jitter (12kHz to 20MHz): 1ps rms max

Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Mechanical Shock: MIL-STD-883, Method 2002, Condition B (or comparable).
- Vibration: MIL-STD-883, Method 2007, Condition A (or comparable).

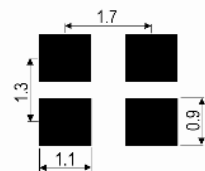
Manufacturing Details

- 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°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

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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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