

ISSUE 3; July 2024

### Description

- Standard 2.5 x 2.0mm oscillator in a ceramic package with a hermetically sealed metal lid.



### Frequency Parameters

- Frequency: 1.0MHz to 156.25MHz
- Frequency Stability:  $\pm 50.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 5\text{ppm}$  max per year @ 25°C

### Electrical Parameters

- Supply Voltage: 3.3V  $\pm 10\%$

### Operating Temperature Ranges

- 20 to 70°C
- 40 to 85°C

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF
- Output Voltage Levels:
  - Output Low (VoL): 10%Vs max
  - Output High (VoH): 90%Vs min
- Start Up Time: 10ms 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.
- Standby Current: 10 $\mu$ A max

### Noise Parameters

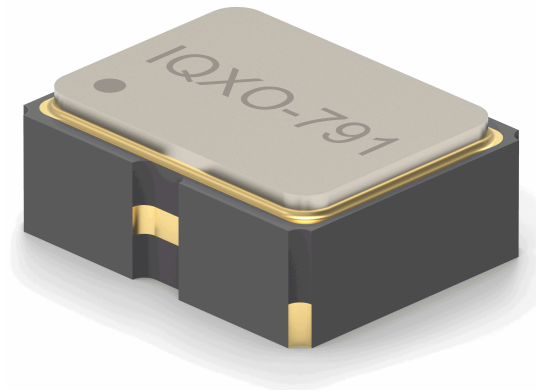
- Period Jitter (pk-pk):  $\pm 80\text{ps}$  typ
- Period Jitter (1 $\sigma$ ):  $\pm 10\text{ps}$  typ
- RMS Phase Jitter (12kHz to 20MHz): 1ps rms max

### Environmental Parameters

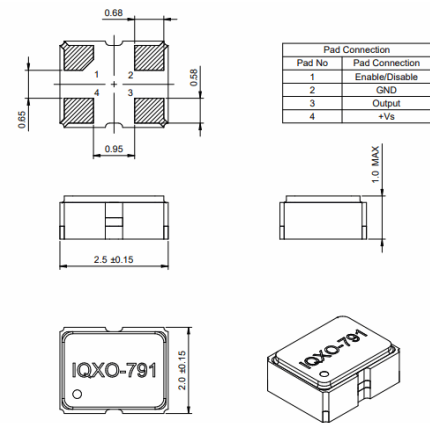
- Storage Temperature Range: -55 to 125°C
- Shock: Half Sine shock pulse with peak acceleration 500g; Pulse duration: 0.3ms
- Vibration: MIL-STD-202 Method 204. 5g for 20 minutes, 12 cycles in each of the 3 orientations, 10 - 2000 Hz. As per Table 11 of AEC-Q200.

### Manufacturing Details

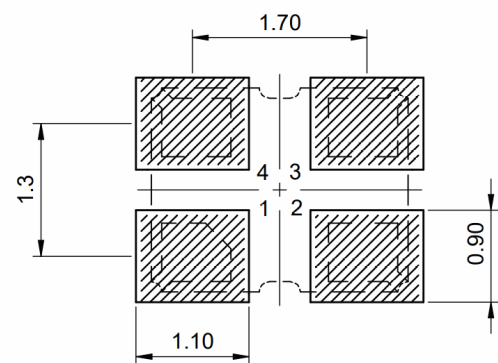
- RoHS Reflow: 260°C max for 10secs max



Outline (mm)



Recommended Solder Pad Layout



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### Ordering Information

- Frequency\*  
Model\*  
Output  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example:  
20.0MHz IQXO-791  
HCMOS ±50ppm -10 to 70C 3.3V

### Compliance

- RoHS Status (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

### Packaging Details

- Tape & reel in accordance with EIA-481  
Quantities below the standard reel size to be supplied on cut tape.  
Standard Pack Quantity: 3,000

### Electrical Specification - maximum limiting values 3.3V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	60.0MHz	-20 to 70	±50.0	25	7	40/60
		-40 to 85	±50.0	25	7	40/60
60.000001MHz	156.25MHz	-20 to 70	±50.0	20	7	40/60
		-40 to 85	±50.0	20	7	40/60

*This document was correct at the time of printing; please contact your local sales office for the latest version.*

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