

ISSUE 1; August 2016

### Description

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

### Frequency Parameters

- Frequency: 1.0MHz to 66.0MHz
- Frequency Stability:  $\pm 20.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max per year @ 25°C

### Electrical Parameters

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

### Operating Temperature Ranges

- 0 to 70°C
- 40 to 85°C

### Output Details

- Output Compatibility: HCMOS
- 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

- Stand-by 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.
- Stand-by Current: 10 $\mu$ A max

### Noise Parameters

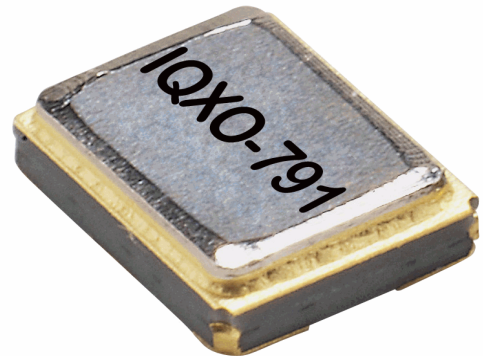
- Period Jitter (pk-pk):  $\pm 80\text{ps}$  typ
- Period Jitter (1 $\sigma$ ):  $\pm 10\text{ps}$  typ
- Phase Jitter (12kHz to 20MHz): 1ps rms max

### Environmental Parameters

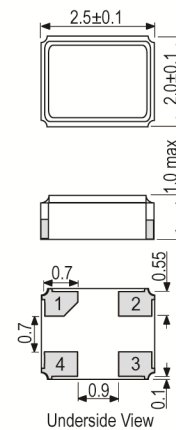
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202, Method 213. Or comparable.
- Vibration: MIL-STD-883, Method 2007, Condition A. Or comparable.

### Manufacturing Details

- Maximum Process Temperature: 260°C (10secs max)
- Note: Do not connect inductor or bead between pad 2 and GND as it can make the output unstable.



### Outline (mm)

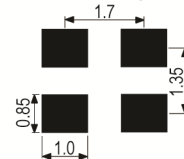


### Pad Connections

- Enable/Disable
- GND
- Output
- +Vs

Note: Connect bypass capacitor 0.1 $\mu$ F or 0.01 $\mu$ F between +Vs and GND

### 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 0 to 70C 3.3V

**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
- Pack Style: Cutt      Cut tape  
 Pack Size: 1

**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	50.0MHz	0 to 70	±20.0	10	10	40/60
		-40 to 85	±50.0	10	10	40/60
50.000001MHz	66.0MHz	0 to 70	±20.0	12	10	40/60
		-40 to 85	±50.0	12	10	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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