

**Customer Part:**



**Description**

- LVDS output crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid.
- Model IQXO-618-25
- Model Issue number 3

**Frequency Parameters**

- Frequency 100.0MHz
- Frequency Stability  $\pm 50.00\text{ppm}$
- Operating Temperature Range  $-40.00$  to  $105.00^\circ\text{C}$
- Ageing  $\pm 3\text{ppm}$  max per year at  $25^\circ\text{C}$

**Electrical Parameters**

- Supply Voltage  $2.5\text{V} \pm 5\%$
- Current Draw  $50.000\text{mA}$

**Output Details**

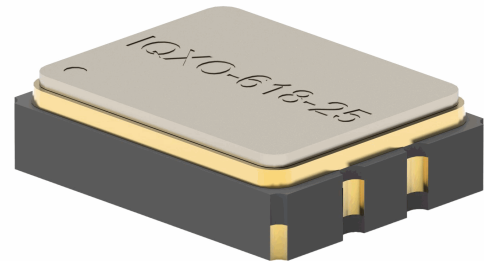
- Output Compatibility LVDS
- Drive Capability  $100\Omega$
- Rise & Fall Time (20 - 80%)  $0.5\text{ns}$  max
- Duty Cycle 45/55%
- Differential Output Voltage (VOD):  $0.247\text{V}$  min,  $0.33\text{V}$  typ,  $0.454\text{V}$  max
- Offset Voltage (VOS):  $1.125\text{V}$  min,  $1.250\text{V}$  typ,  $1.375\text{V}$  max.
- Output Voltage Levels:  
 Output Low (VOL):  $0.9\text{V}$  min  
 Output High (VOH):  $1.6\text{V}$  max

**Output Control**

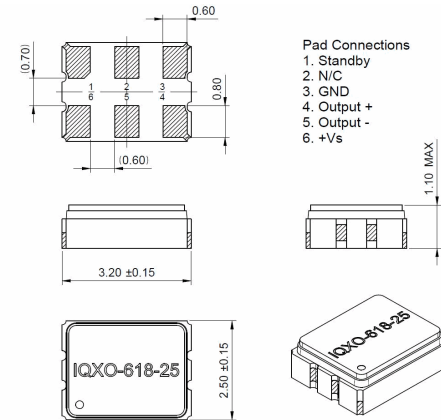
- Standby Operation:  
 Logic '1' ( $\geq 70\% V_s$ ) to pad 1 enables oscillator output.  
 Logic '0' ( $\leq 30\% V_s$ ) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state.  
 No connection to pad 1 enables oscillator output.
- Start-Up Time:  $10\text{ms}$  max
- Standby Current:  $10\mu\text{A}$  max

**Noise Parameters**

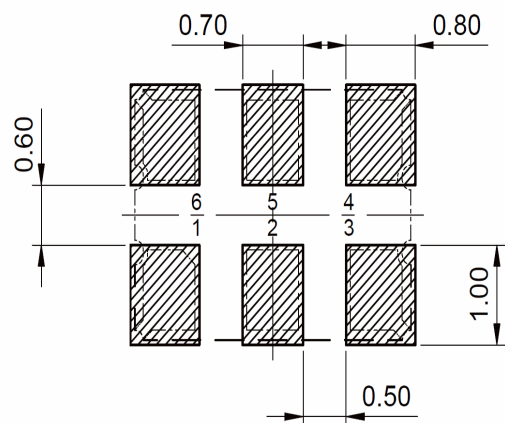
- Phase Jitter (12kHz to 20MHz):  $300\text{fs}$  rms max
- Phase Jitter (12kHz to 20MHz):  
 @100MHz:  $155\text{fs}$  rms typ  
 @125MHz:  $119\text{fs}$  rms typ  
 @156.25MHz:  $74\text{fs}$  rms typ



**Outline (mm)**



**Recommended Solder Pad Layout**



**Sales Office Contact Details:**

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## Customer Part:

**Environmental Parameters**

- Storage Temperature Range: -55 to 125°C
- Drop Test (JIS-C0044): the specimen is measured for frequency before the test. It is then dropped from a height of 100cm min as a free fall object onto a hard wooden plate of thickness 30mm min.
- Vibration (MIL-STD-883F : 2007.3): the specimen is measured for frequency before the test. Test in X,Y and Z axes for the vibration test. Frequency range: 20~2000Hz, peak to peak amplitude: 1.52mm, peak acceleration: 20G, sweep time: 20 minute/axis, pendicular total test time: 4 hours.
- Low Temp Exposure (JIS-C0020): the specimen is measured for frequency before the test. Expose device to -40°C±3°C for 168±6 hours. Measure electrical performance after leaving 1~2 hours at room temperature.
- Ageing Test (JIS-C0021): the specimen is measured for frequency before the test. Expose device to +125°C±3°C for 720±48 hours. Measure electrical performance after leaving 1~2 hours at room temperature.
- High Temperature and Humidity (MIL-STD-883F : 1004.7): the specimen is measured for frequency before the test. Expose device to +85°C±5°C and 85±5% humidity for 168±6 hours. Measure electrical performance after leaving 1~2 hours at room temperature.
- Temperature Cycle Test (MIL-STD-883F : 1010.8): the specimen is measured for frequency before the test. Expose device to 100 cycles of:  
Low temp: -55°C±3°C for 15±3 min  
Ramp up to high temp: 2-3 mins  
High temp: +125°C±3°C for 15±3 min  
Ramp down to low temp: 2-3 mins  
Measure electrical performance after leaving 1~2 hours at room temperature.
- RoHS Terminations
- RoHS Reflow Temp                      260°C max for 10s max

**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 Quantity: 3,000 Pieces

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