

**Customer Part:**

**Description**

- LVDS output crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid.
- Model IQXO-618-33
- 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  $3.3\text{V} \pm 5\%$
- Current Draw 50.000mA

**Output Details**

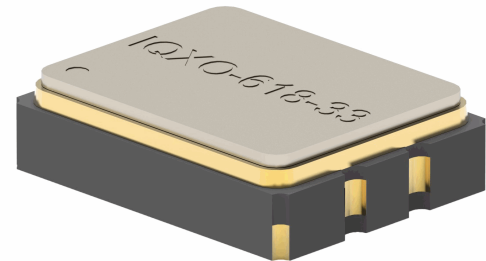
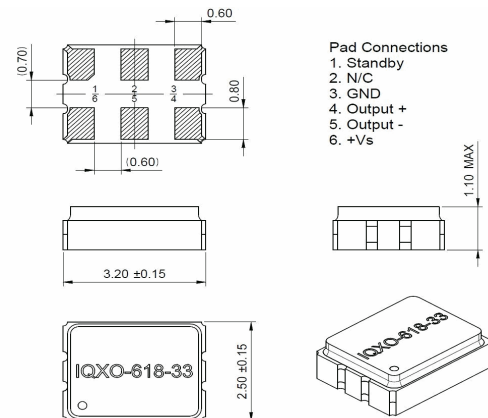
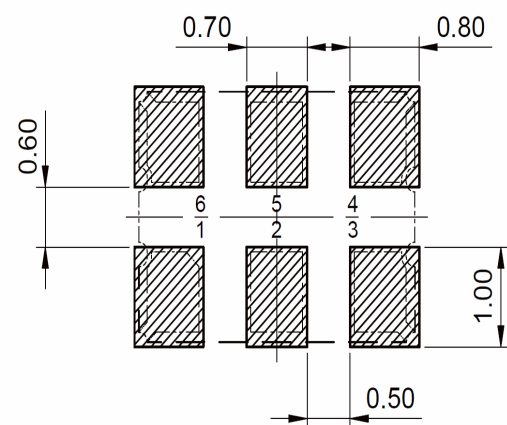
- Output Compatibility LVDS
- Drive Capability  $100\Omega$
- Rise & Fall Time (20 - 80%) 0.5ns max
- Duty Cycle 45/55%
- Differential Output Voltage (VOD): 0.247V min, 0.33V typ, 0.454V max
- Offset Voltage (VOS): 1.125V min, 1.25V typ, 1.375V max.
- Output Voltage Levels:  
Output Low (VOL): 0.9V min  
Output High (VOH): 1.6V 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.
- Start-up Time: 10ms max
- Standby Current: 10 $\mu\text{A}$  max

**Noise Parameters**

- Phase Jitter (12kHz to 20MHz): 300fs rms max
- Phase Jitter (12kHz to 20MHz):  
@100MHz: 137fs rms typ  
@125MHz: 118fs rms typ  
@156.25MHz: 83fs 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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