

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°C
- Ageing $\pm 3\text{ppm}$ max per year at 25°C

Electrical Parameters

- Supply Voltage 3.3V $\pm 5\%$
- Current Draw 50.000mA

Output Details

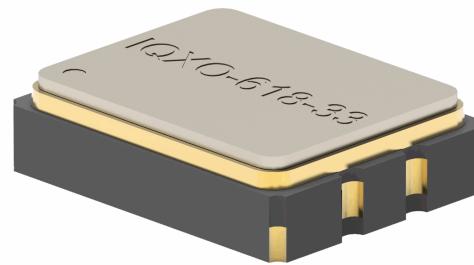
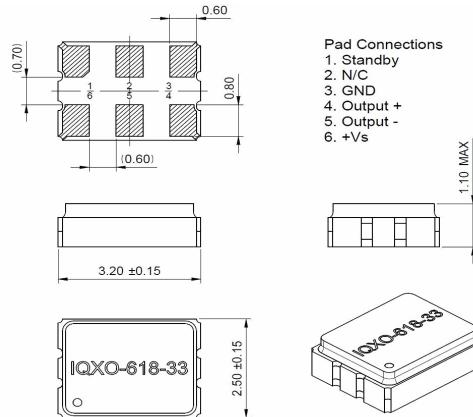
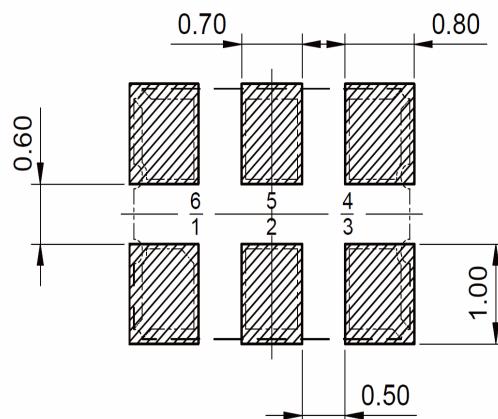
- Output Compatibility LVDS
- Drive Capability 100Ω
- Rise & Fall Time (20 - 80%) 0.5ns max
- Duty Cycle 45/55%
- Differential Output Voltage (VOD): 0.247V min, 0.33V typ, 0.454V max
- Offset Voltage (VOS): 1.125V min, 1.25V typ, 1.375V max.
- Output Voltage Levels:
 - Output Low (VOL): 0.9V min
 - Output 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: 10µA 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:

UK: +44 (0)1460 270200

Email: info@iqdfrequencyproducts.com

USA: +1.760 668 8935

Web: www.iqdfrequencyproducts.com

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 $-40^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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 $+125^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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 $+85^{\circ}\text{C}\pm 5^{\circ}\text{C}$ and $85\pm 5\%$ 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: $-55^{\circ}\text{C}\pm 3^{\circ}\text{C}$ for 15 ± 3 min
Ramp up to high temp: 2-3 mins
High temp: $+125^{\circ}\text{C}\pm 3^{\circ}\text{C}$ 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

- Pack Style: RL3K Tape & reel in accordance with EIA-481-D
Pack Size: 3,000
- *Alternative packing option available*

Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1.760 668 8935

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com