IQXO-85, -86, -87, -88 MILITARY OSCILLATORS

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Description

- 8-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seals and gold plated pins and bases. Available non-screened (IQXO-85, -87) and fully screened (IQXO-86, -88)

Package Outline

- 8-pin DIL

Frequency Range

- 250kHz to 72MHz

Output Compatibility & Load

- HCMOS/TTL
- Drive Capability: 50pF or 10TTL
- Non tri-state (IQXO-85, -86)
- Tri-state (IQXO-87, -88)

Frequency Tolerance @ 25°C (Optional)

- ±10ppm, ±25ppm

Frequency Stabilities

- ±50ppm, ±100ppm (inclusive of supply voltage variations over the operating temperature range)

Operating Temperature Range

- –55 to 125°C

Storage Temperature Range

- –55 to 125°C

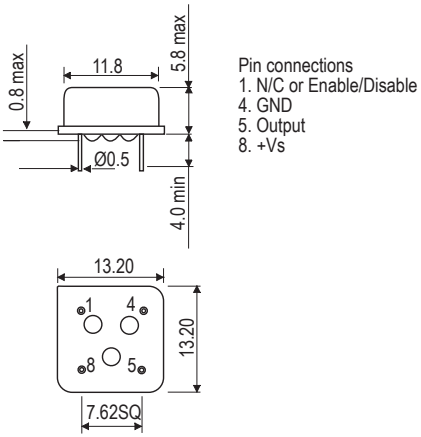
Tri-state Operation (IQXO-87, -88)

- No connection or Logic '1' to pin 1 enables oscillator output
- Logic '0' to pin 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state
- Disable current 50µA typical

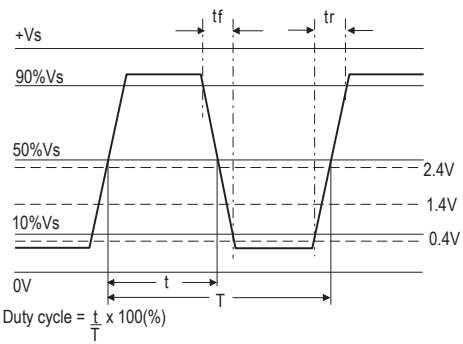
Environmental

- Bump: 4000 bumps at 391m/s^2 in each of the three mutually perpendicular planes
- Hermetic Seal: not to exceed 1 x 10^{-8} mBar litres of Helium leakage
- Humidity: steady state: in accordance with test Ca of IEC 60068-2-3, for 56 days at 40°C at a relative humidity of 93%, cyclic: in accordance with test Db variant 1 of IEC 60068-2-30, at severity (b), 55°C for six cycles
- Shock: 981m/s^2 for 6ms, three shocks in each direction along the three mutually perpendicular planes
- Solderability: test IEC 60068-TA
- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 2000Hz 98.1m/s^2 acceleration, 30 minutes in each of three mutually perpendicular planes

Outline (mm)



Output Waveform



Screening on Each Device (IQXO-86, -88)

- Acceleration: 49000m/s^2 for 1 minute in the 'Y1' plane
- High Temperature Storage: 24hrs at 150°C
- Rapid Change of Temperature: –55 to 125°C, 10 cycles
- Dynamic burn-in for 168hrs at 125°C
- Check all parameters & assess

Marking Includes

- Model Number + Frequency Stability Code + Frequency Tolerance Code (Optional) + Frequency + Date Code

Packaging

- Bulk

Minimum Order Information Required

- Frequency + Model Number + Frequency Stability

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Electrical Specifications - maximum limiting values

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (tr)	Fall Time (tf)	Duty Cycle	Model Number
250.0kHz to <8.0MHz	±50ppm, ±100ppm	5V ±0.5V	5mA	10ns	10ns	45/55%	IQXO-85, -86, -87, -88
8.0MHz to <23.0MHz			10mA	5ns	5ns	40/60%	
23.0MHz to <48.0MHz			50mA				
48.0MHz to <72.0MHz			65mA	3ns	3ns		

Ordering Example 50.0MHz IQXO-85 B F

Frequency

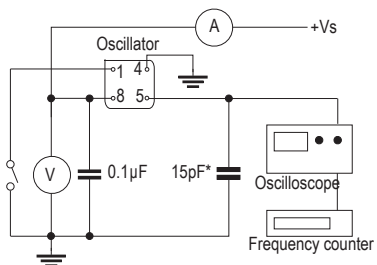
Model number: -85, -86 = Non tri-state, -87, -88 = Tri-state

Frequency Stability: A = ±25ppm, B = ±50ppm, C = ±100ppm

Frequency Tolerance @25°C: E = ±10ppm, F = ±25ppm

Please note: Code combination A F is not available

Test Circuit



*Inclusive of jigging and equipment capacitance

Note: Pin 1 = No connection on non tri-state models

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