# IQXO-365, -366 CLOCK OSCILLATORS

**ISSUE 9; 3 APRIL 2009 - RoHS 2002/95/EC**



### Description

- 14-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seals and high environmental performance

### Package Outline

- 14-pin DIL

### Frequency Range

- 500kHz to 70MHz

### Output Compatibility & Load

- HCMOS/TTL
- Drive Capability: 50pF max or 10TTL
- Non tri-state (IQXO-365)
- Tri-state (IQXO-366)

### Frequency Tolerance @ 25°C (Optional)

- ±5ppm, ±10ppm, ±25ppm

### Frequency Stabilities

- ±25ppm, ±50ppm, ±100ppm (over operating temperature range)

### Operating Temperature Range

- –40 to 85°C

### Storage Temperature Range

- –55 to 125°C

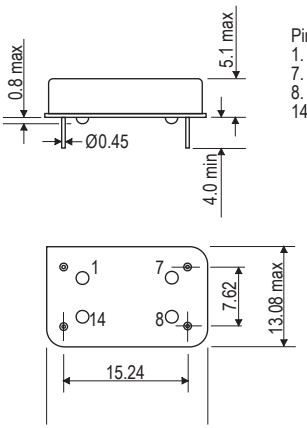
### Tri-state Operation (IQXO-366)

- 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
- Maximum 'pull-down' resistance required to disable output = 20kΩ
- Disable current 50µA typical

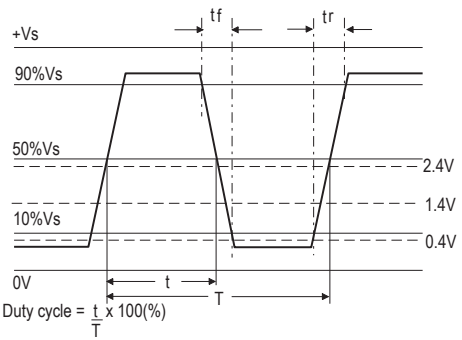
### Environmental

- Acceleration: 490m/s$^2$ for 1 minute in the 'Y1' plane
- Bump: 4000 bumps at 390m/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 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: BS2011 test TA
- Rapid Change of Temperature over Operating Temperature Range: 10 cycles
- 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




### Marking

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

### Packaging

- Bulk

### Minimum Order Information Required

- Frequency + Model Number + Frequency Stability

IQD Frequency Products Ltd, Station Road, Crewkerne, Somerset TA18 8AR, United Kingdom
Tel: +44 (1460) 270200; Fax: +44 (1460) 72578;
Email: info@iqdfrequencyproducts.com Web: www.iqdfrequencyproducts.com

## Electrical Specifications - maximum limiting values

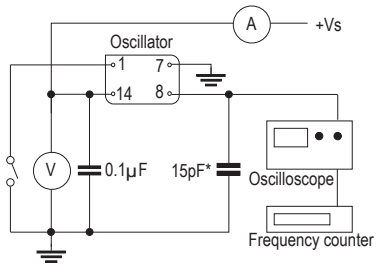
| Frequency Range | Frequency Stability | Supply Voltage | Supply Current | Rise Time (tr) | Fall Time (tf) | Duty Cycle | Model Number |
|---|---|---|---|---|---|---|---|
| 500.0kHz to <5.0MHz | ±25ppm, ±50ppm, ±100ppm | 5V ±0.25V | 20mA | 15ns | 15ns | 45/55% | IQXO-365, -366 |
| 5.0MHz to <16.0MHz | | | | 10ns | 10ns | | |
| 16.0MHz to <30.0MHz | | | 30mA | | | | |
| 30.0MHz to <50.0MHz | | | 40mA | 8ns | 8ns | | |
| 50.0MHz to <70.0MHz | | | 50mA | 6ns | 6ns | 40/60% | |

Ordering Example: 22.0MHz IQXO-365 B F

- Frequency
- Model number: -365 = Non tri-state, -366 = Tri-state
- Frequency Stability: A = ±25ppm, B = ±50ppm, C = ±100ppm
- Frequency Tolerance @25°C: D = ±5ppm, 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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