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
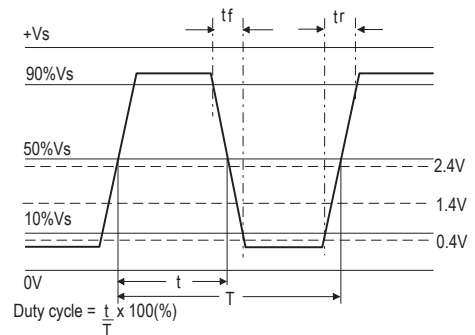
Outline (mm)
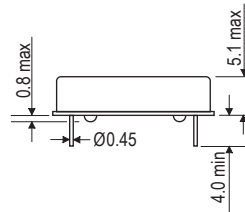
Pin connections
1. N/C or Enable/Disable
7. GND
8. Output
14. +Vs

Output Waveform

Duty cycle = $\frac{t}{T}$ x 100(%)
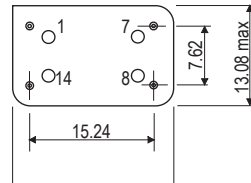
Marking

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

Packaging

- Bulk

Minimum Order Information Required

- Frequency + Model Number + Frequency Stability

Registration No. FS540259

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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
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
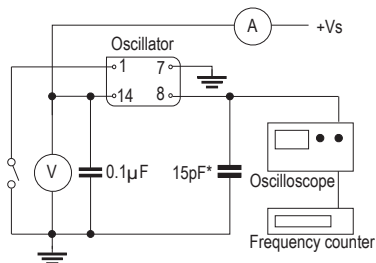
*Inclusive of jigging and equipment capacitance

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