IQXO-415 Professional Oscillator

Delivery Options

- Please contact our sales office for current leadtimes

Output Compatibility

- Tri-state HCMOS/TTL

- Drive Capability: 50pF or 10TTL

Package Outline

- 14-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seal. Available over 0 to 70°C (IQXO-415) or -40 to 85°C (IQXO-415I)

Frequency Tolerance @ 25°C

- ±5ppm or ±10ppm

Frequency Stability Inclusive Of:-

- Frequency Tolerance (as above)

- Voltage Variation: $\leq$ ±0.5ppm

- Load Variation: $\leq$ ±0.5ppm (< 60.0MHz)

- Load Variation: $\leq$ ±1.0ppm ($\geq$ 60.0MHz)

- Ageing for 5 years: $\leq$ ±5ppm

Operating Temperature Ranges

- 0 to 70°C (IQXO-415)

- –40 to 85°C (IQXO-415I)

Storage Temperature Range

- –55 to 125°C

Environmental Specification

- Acceleration: 490m/s² for 1 minute in the 'Y₁' plane

- Bump: 4000 bumps at 390m/s² in each of the three mutually perpendicular planes

- Hermetic Seal: not to exceed 1×10^{-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/s² for 6ms, three shocks in each direction along the three mutually perpendicular planes

- Solderability: BS2011 test TA

- Thermal Shock: 10 cycles from -55 to 125°C

- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 2000Hz 98.1m/s² acceleration, 30 minutes in each of three mutually perpendicular planes

Tri-state Operation

- Logic '0' to pin 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state

- No connection or Logic '1' to pin 1 enables oscillator output
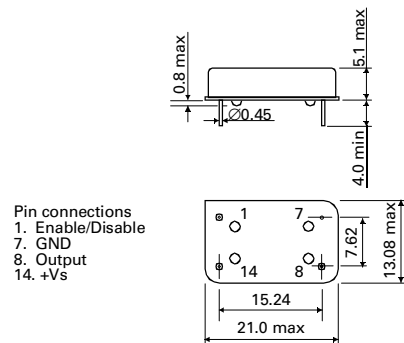
- Disable current 50µA typical

Marking

- Model number

- Frequency Stability Code

- Frequency Tolerance Code (Optional)

- Frequency

- Date Code (Year/Week)

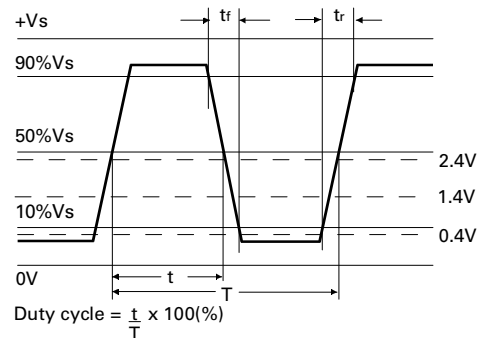**Minimum Order Information Required**

- Frequency + Model Number + Operating Temperature (if applicable) + Frequency Stability

Outline in mm

Pin connections
1. Enable/Disable
7. GND
8. Output
14. +Vs

Output Waveform - HCMOS/TTL

Duty cycle = $\dfrac{t}{T} \times 100(\%)$

Electrical Specifications - maximum limiting values when measured in HCMOS test circuit.

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time(t_r)	Fall Time(t_f)	Duty Cycle	Model Number
250kHz to < 8.0MHz	±15ppm, ±25ppm, ±50ppm	5V±0.5V	5mA	10ns	10ns	45/55%	IQXO-415, -415I
8.0 to < 23.0MHz	±15ppm, ±25ppm, ±50ppm	5V±0.5V	10mA	5ns	5ns	45/55%	IQXO-415, -415I
23.0 to 80.0MHz	±15ppm, ±25ppm, ±50ppm	5V±0.5V	65mA	3ns	3ns	45/55%	IQXO-415, -415I

Please note that variations to the above specification are considered upon request; please contact our sales office.

Ordering Example   22.0MHz   IQXO-415I   B   E

Frequency

Model number: -415

Operating Temperature Code: I = -40 to 85°C Not applicable for 0 to 70°C

Frequency Stability: A = ±25ppm, B = ±50ppm, N = ±15ppm (Only available for 0 to 70°C)
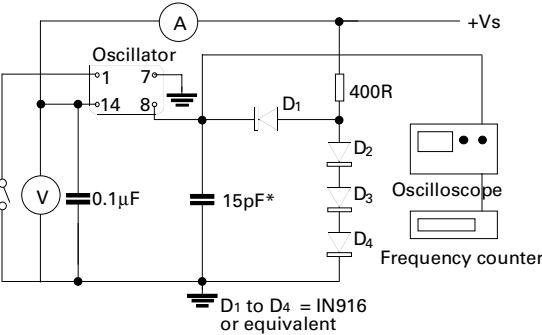
Frequency Tolerance @ 25°C: D = ±5ppm; E = ±10ppm

Please note: Code combination N E is not available

Test Circuit - HCMOS
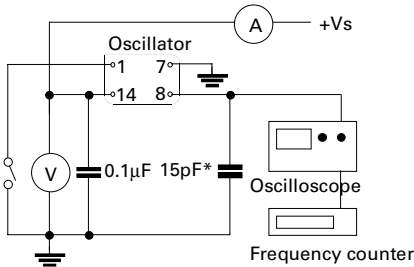
*Inclusive of jigging & equipment capacitance

Test Circuit - TTL

D_1 to D_4 = IN916 or equivalent

*Inclusive of jigging & equipment capacitance