

IQXO-22, -23 Commercial Oscillator

ISSUE 15; 19 OCTOBER 1999

Delivery Options

- Common frequencies are available from stock. Please see p34 for details
- 3 day Express Manufacturing Service, subject to piece part stock availability.

Output Compatibility

- HCMOS/TTL
- Drive Capability: 50pF or 10 TTL
- Non tri-state (IQXO-22, -22I)
- Tri-state (IQXO-23, -23I)

Package Outline

- 8-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seals. Available over 0 to 70°C (IQXO-22, -23) or -40 to 85°C (IQXO-22I, -23I)

Standard Frequency Stabilities

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

Frequency Tolerance at 25°C (Optional)

- ±5ppm, ±10ppm, ±25ppm

Operating Temperature Range

- 0 to 70°C (IQXO-22, -23)
- 40 to 85°C (IQXO-22I, -23I)

Storage Temperature Range

- 55 to 125°C

Environmental Specification

- Terminal Strength: 0.91kg max. Force perpendicular to top & bottom.
- Hermetic Seal: not to exceed 1×10^{-8} mBar litres of Helium leakage
- Solderability: MIL-STD-202E, Method 208C
- Vibration: 10 to 55Hz 0.76mm displacement, sweep 60 seconds, duration 2 hours.
- Rapid Change of Temperature over Operating Temperature Range: 10 cycles
- Shock: 981m/s^2 for 6ms, three shocks in each direction along the three mutually perpendicular planes

Tri-state Operation (IQXO-23, -23I)

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

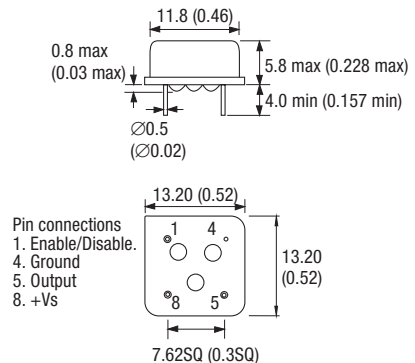
Marking

- Model number (+ Operating Temperature Code; if applicable)
- Frequency Stability Code
- Frequency Tolerance Code (Optional)
- Frequency
- Date code (Year/Week)

Minimum Order Information Required

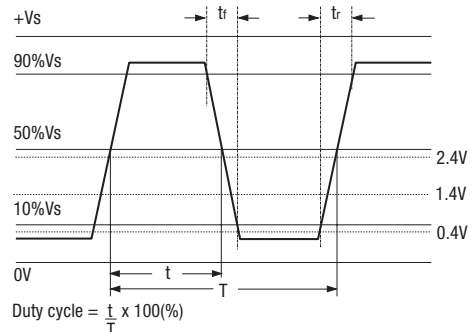
- Frequency + Model Number + Operating Temperature Code (if applicable) + Frequency Stability

Outline in mm (inches)



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

Output Waveform - HCMOS/TTL



Electrical Specification – 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
500.0kHz to < 5.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	20mA	15ns	15ns	45/55%	IQXO-22, -22I, -23, -23I
5.0 to < 16.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	20mA	10ns	10ns	45/55%	IQXO-22, -22I, -23, -23I
16.0 to < 30.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	30mA	10ns	10ns	45/55%	IQXO-22, -22I, -23, -23I
30.0 to < 50.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	40mA	8ns	8ns	45/55%	IQXO-22, -22I, -23, -23I
50.0 to 80.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	50mA	6ns	6ns	40/60%	IQXO-22, -22I, -23, -23I

Ordering Example

22.0MHz IQXO-22I B F

Frequency

Model No: -22, -22I = Non tri-state & -23, -23I = Tri-state

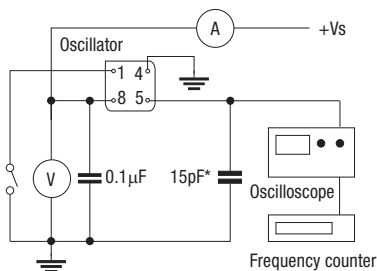
Operating Temperature Code: I = -40 to 85°C Not applicable for 0 to 70°C

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

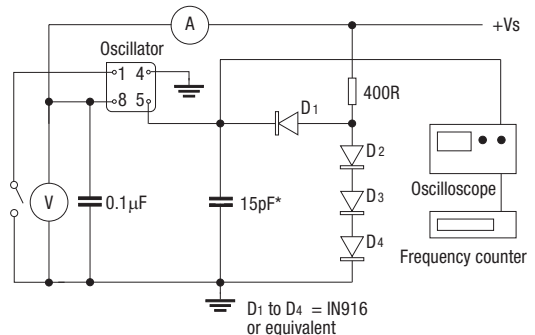
Test Circuit - HCMOS



*Inclusive of jigging & equipment capacitance

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

Test Circuit - TTL



*Inclusive of jigging & equipment capacitance

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