IQXO-35, -36 Industrial Oscillator

ISSUE 5; 19 OCTOBER 1999

Delivery Options

- Please contact our sales office for current leadtimes

Output Compatibility

- HCMOS/TTL
- Drive Capability: 50pF or 10TTL
- Non tri-state (IQXO-35)
- Tri-state (IQXO-36)

Package Outline

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

Standard Frequency Stabilities

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

Frequency Tolerance @ 25°C (Optional)

- ±5ppm, ±10ppm, ±25ppm

Operating Temperature Range

- –40 to 85°C

Storage Temperature Range

- –55 to 125°C

Environmental Specification

- Acceleration: 490m/s² for 1 minute in the 'Y_1' plane
- Bump: 4000 bumps at 390m/s² 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/s² 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/s² acceleration, 30 minutes in each of three mutually perpendicular planes

Tri-state Operation (IQXO-36)

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

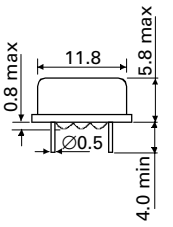
Marking

- Model number
- Frequency Stability Code
- Frequency Tolerance Code (Optional)
- Frequency
- Date Code (Year/Week)

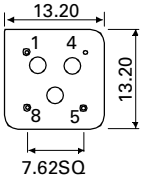
Minimum Order Information Required

- Frequency + Model Number + Frequency Stability

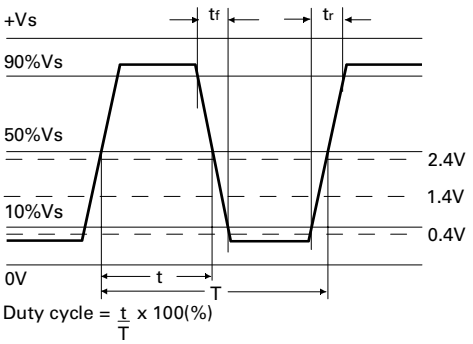
Outline in mm



Pin connections
1. N/C or Enable/Disable.
4. GND
5. Output
8. +Vs



Output Waveform - HCMOS/TTL



Duty cycle = $\frac{t}{T}$ x 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
500.0kHz to < 5.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	20mA	15ns	15ns	45/55%	IQXO-35, -36
5.0 to < 16.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	20mA	10ns	10ns	45/55%	IQXO-35, -36
16.0 to < 30.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	30mA	10ns	10ns	45/55%	IQXO-35, -36
30.0 to < 50.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	40mA	8ns	8ns	45/55%	IQXO-35, -36
50.0 to 70.0MHz	±25ppm, ±50ppm, ±100ppm	5V±0.25V	50mA	6ns	6ns	40/60%	IQXO-35, -36

Ordering Example 22.0MHz IQXO-35 B F

Frequency

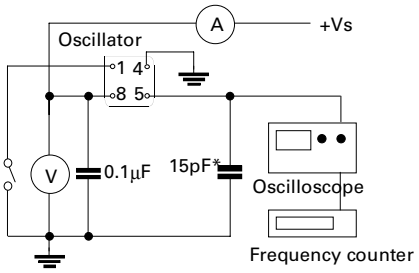
Model number -35 = Non tri-state, -36 = Tri-state

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

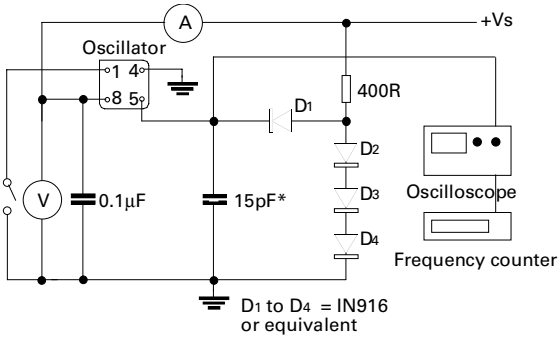
Test Circuit - HCMOS



*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