

# IQXO-331, -336 CLOCK OSCILLATORS

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

## Description

- ACMOS/TTL 14-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seal

## Package Outline

- 14-pin DIL

## Frequency Range

- 70MHz to 150MHz

## Output Compatibility & Load

- ACMOS/TTL
- Drive Capability: 50pF max (70.0 to 110.0MHz)  
15pF max (>110.0 to 150.0MHz)  
10TTL
- Non tri-state (IQXO-336, -336I)
- Tri-state (IQXO-331, 331I)

## Frequency Stabilities

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

## Operating Temperature Ranges

- 0 to 70°C (IQXO-331, -336)
- 40 to 85°C (IQXO-331I, -336I)

## Storage Temperature Range

- 55 to 125°C

## Tri-state Operation (IQXO-331, -331I)

- 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

## Environmental Specification

- Terminal Strength: 0.91kg max force perpendicular to top & bottom
- Hermetic Seal: not to exceed  $1 \times 10^{-8}$  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<sup>2</sup> for 6ms, three shocks in each direction along the three mutually perpendicular planes

## Marking Includes

- IQD + Model Number + Operating Temperature Code (if applicable) + Frequency Stability Code + Frequency Tolerance Code (Optional) + Frequency + Date Code

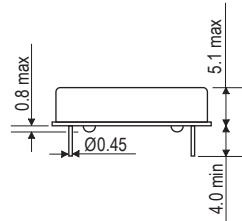
## Packaging

- Bulk

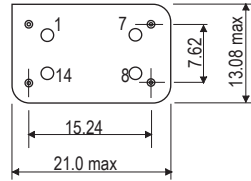
## Minimum Order Information Required

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

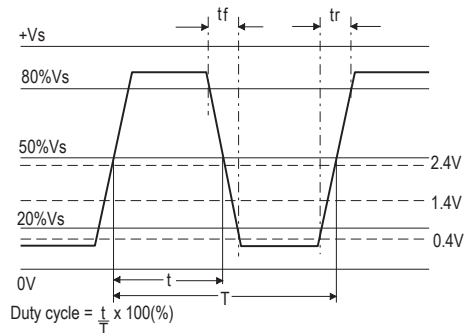
## Outline (mm)



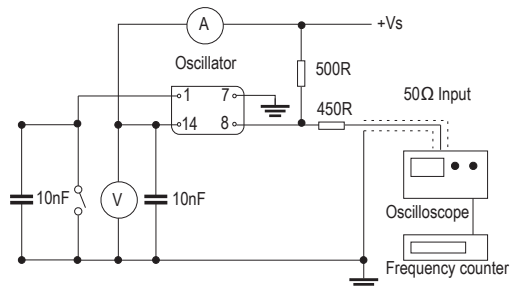
- Pin connections
- N/C or Enable/Disable
  - GND
  - Output
  - +Vs



## Output Waveform



## Test Circuit



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

### Electrical Specifications - maximum limiting values

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (tr) (20-80%)	Fall Time (tf) (80-20%)	Duty Cycle	Model Number
70.0MHz to <90.0MHz	±25ppm, ±50ppm, ±100ppm	5V ±0.25V	45mA	3ns	3ns	40/60%	IQXO-331, -3311, -336, -336I
90.0MHz to <115.0MHz			60mA				
115.0MHz to 150.0MHz			65mA				

Ordering Example 75.0MHz IQXO-331 I B

Frequency \_\_\_\_\_

Model number: -331, -3311 = Tri-state, -336, -336I = Non 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 \_\_\_\_\_

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