

# 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

- $\pm 25\text{ppm}$ ,  $\pm 50\text{ppm}$ ,  $\pm 100\text{ppm}$   
(over operating temperature range)

## Frequency Tolerance @ 25°C (Optional)

- $\pm 5\text{ppm}$ ,  $\pm 10\text{ppm}$ ,  $\pm 25\text{ppm}$

## Operating Temperature Range

- $-40$  to  $85^\circ\text{C}$

## Storage Temperature Range

- $-55$  to  $125^\circ\text{C}$

## Environmental Specification

- Acceleration:  $490\text{m/s}^2$  for 1 minute in the 'Y<sub>1</sub>' plane
- Bump: 4000 bumps at  $390\text{m/s}^2$  in each of the three mutually perpendicular planes
- Hermetic Seal: not to exceed  $1 \times 10^{-8}$  mBar litres of Helium leakage
- Humidity: steady state: in accordance with test Ca of IEC 60068-2-3, for 56 days at  $40^\circ\text{C}$  at a relative humidity of 93%, cyclic: in accordance with test Db variant of IEC 60068-2-30, at severity b),  $55^\circ\text{C}$  for six cycles
- Shock:  $981\text{m/s}^2$  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  $98.1\text{m/s}^2$  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 =  $20\text{k}\Omega$
- Disable current  $50\mu\text{A}$  typical

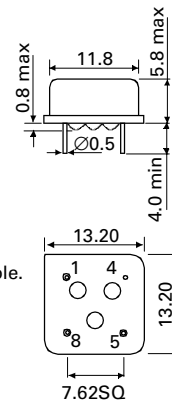
## Marking

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

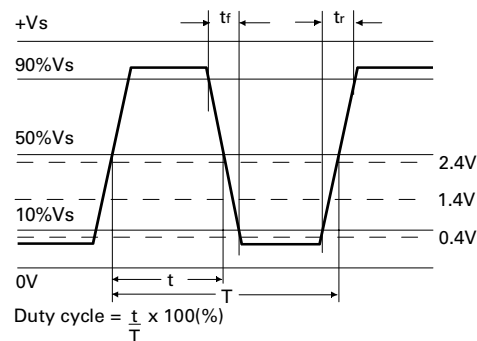
## Minimum Order Information Required

- Frequency + Model Number + Frequency Stability

## Outline in mm



## Output Waveform - HCMOS/TTL

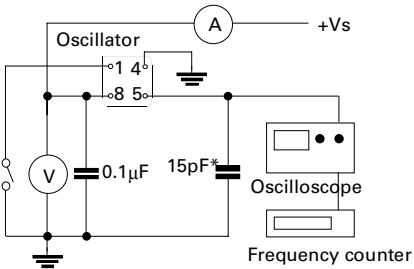


Electrical Specifications - maximum limiting values when measured in HCMOS test circuit.

| 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                                                                                      | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 20mA           | 15ns               | 15ns               | 45/55%     | IQX0-35, -36 |
| 5.0 to < 16.0MHz                                                                                          | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 20mA           | 10ns               | 10ns               | 45/55%     | IQX0-35, -36 |
| 16.0 to < 30.0MHz                                                                                         | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 30mA           | 10ns               | 10ns               | 45/55%     | IQX0-35, -36 |
| 30.0 to < 50.0MHz                                                                                         | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 40mA           | 8ns                | 8ns                | 45/55%     | IQX0-35, -36 |
| 50.0 to 70.0MHz                                                                                           | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 50mA           | 6ns                | 6ns                | 40/60%     | IQX0-35, -36 |
| <b>Ordering Example</b>                                                                                   |                                                               |                |                |                    |                    |            |              |
| Frequency _____                                                                                           |                                                               |                |                | 22.0MHz            | IQX0-35            | B          | F            |
| Model number -35 = Non tri-state, -36 = Tri-state _____                                                   |                                                               |                |                |                    |                    |            |              |
| Frequency Stability: A = $\pm 25\text{ppm}$ , B = $\pm 50\text{ppm}$ , C = $\pm 100\text{ppm}$ _____      |                                                               |                |                |                    |                    |            |              |
| Frequency Tolerance @ 25°C: D = $\pm 5\text{ppm}$ ; E = $\pm 10\text{ppm}$ ; F = $\pm 25\text{ppm}$ _____ |                                                               |                |                |                    |                    |            |              |
| Please note: Code combination A F is not available                                                        |                                                               |                |                |                    |                    |            |              |

LEADED SPX0s

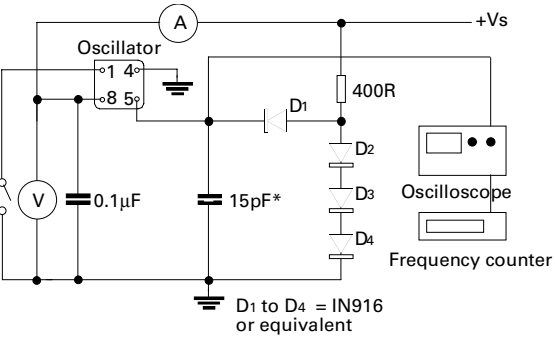
Test Circuit - HCMOS



\*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