

# IQXO-350 Commercial Oscillator

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## Delivery Options

- Common frequencies are available from stock, please contact our sales office for current leadtimes

## Output Compatibility

- HCMOS/TTL/LSTTL
- Drive Capability: 50pF or 10TTL (<70.0MHz)  
30pF (≥70.0 to 160.0MHz)  
(1.0 to < 100.0kHz 15pF or 10 LSTTL only)

## Package Outline

- 14-pin DIL compatible resistance welded enclosure, hermetically sealed with glass to metal seal. Available over 0 to 70°C (IQXO-350) or -40 to 85°C (IQXO-350I)

## Standard Frequency Stabilities

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

## Operating Temperature Ranges

- 0 to 70°C (IQXO-350)
- 40 to 85°C (IQXO-350I)

## Storage Temperature Range

- 55 to 125°C

## Environmental Specification

- Terminal Strength: 0.91kg max. Force perpendicular to top & bottom
- Hermetic Seal: not to exceed  $1 \times 10^{-8}$  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

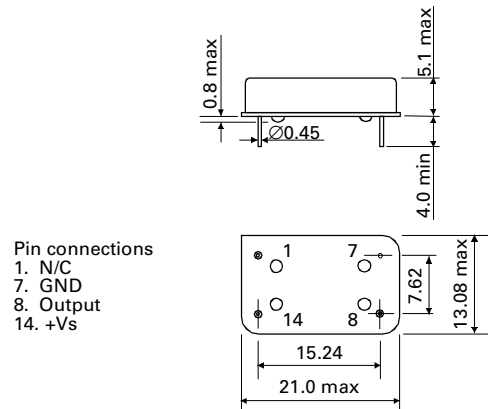
## Marking

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

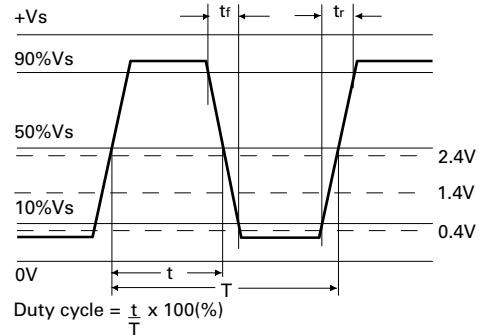
## Minimum Order Information Required

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

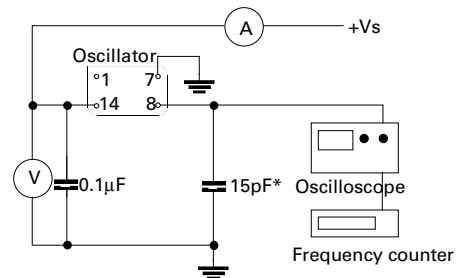
## Outline in mm



## Output Waveform - HCMOS/TTL



## Test Circuit - HCMOS



\*Inclusive of jigging & equipment capacitance

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    |
|----------------------|---------------------------------------------------------------|----------------|----------------|---------------------|---------------------|--------------|-----------------|
| 1.0 to < 100.0kHz    | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 10mA           | 10ns                | 10ns                | 45/55%       | IQX0-350, -350I |
| 100.0 to < 250.0kHz  | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 10mA           | 15ns                | 15ns                | 45/55%       | IQX0-350, -350I |
| 250.0kHz to < 5.0MHz | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 30mA           | 15ns                | 15ns                | 45/55%       | IQX0-350, -350I |
| 5.0 to < 16.0MHz     | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 15mA           | 10ns                | 10ns                | 45/55%       | IQX0-350, -350I |
| 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%       | IQX0-350, -350I |
| 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%       | IQX0-350, -350I |
| 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%       | IQX0-350, -350I |
| 70.0 to 160.0MHz     | $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$ | $5V \pm 0.25V$ | 70mA           | 5ns                 | 5ns                 | 40/60%       | IQX0-350, -350I |

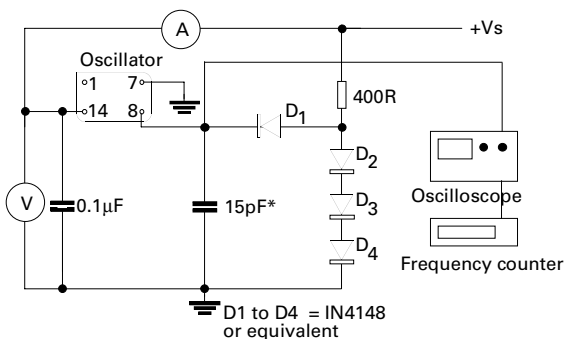
#### Ordering Example

Frequency \_\_\_\_\_ 22.0MHz  
 Model number: -350 \_\_\_\_\_ IQX0-350I  
 Operating Temperature Code: I = -40 to 85°C Not applicable for 0 to 70°C \_\_\_\_\_ B  
 Frequency Stability: A =  $\pm 25\text{ppm}$ , B =  $\pm 50\text{ppm}$ , C =  $\pm 100\text{ppm}$  \_\_\_\_\_

Please note that the rise and fall times listed are the maximum values we specify to cover various frequency breaks. In practise the actual values are generally lower depending upon the spot frequency chosen. For typical values please contact our sales office.

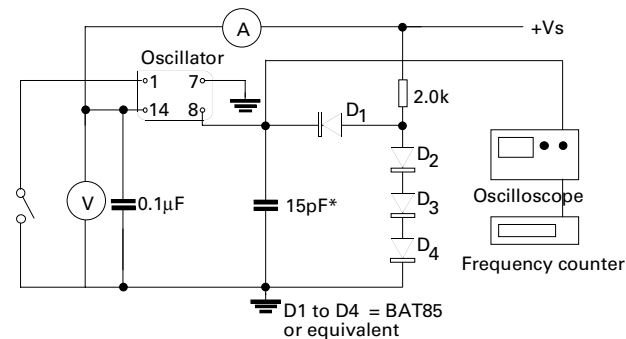
LEADED SPXOs

#### Test Circuit - TTL



\*Inclusive of jigging & equipment capacitance

#### Test Circuit - LSTTL



\*Inclusive of jigging & equipment capacitance

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