

# IQXO-620, -621 SMD CLOCK OSCILLATORS

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## Description

- LVPECL output using a high frequency fundamental crystal to give very low jitter
- Ceramic package with a seam sealed metal lid, hermetically sealed
- Replacement for the CFPS-34 and CFPS-59 packages
- For higher frequencies please see our IQXO-690

## Frequency Range

- 15 to 160MHz

## Output Compatibility & Load

- LVPECL
- Output Load 50Ω terminated to  $V_S - 2.0V$

## Supply Voltages

- 3.3V IQXO-620
- 2.5V IQXO-621

## Frequency Stabilities

- ±25ppm, ±30ppm, ±50ppm, ±100ppm (inclusive of tolerance and stability over the operating temperature range)

## Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

## Standby Operation

- Logic '1' (70%  $V_S$  min) to pad 1 enables oscillator output
- Logic '0' (30%  $V_S$  max) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state
- No connection to pad 1 enables oscillator output
- Standby Current 10µA max

## Output Voltages (IQXO-620)

- "0" Level ( $V_{OL}$ ), +1.680V max
- "1" Level ( $V_{OH}$ ), +2.275V min

## Output Voltages (IQXO-621)

- "0" Level ( $V_{OL}$ ), +1.095V max
- "1" Level ( $V_{OH}$ ), +1.475V min

## Phase Jitter (12kHz to 20MHz)

- 1ps rms max

## Ageing

- ±3ppm max per year at 25°C

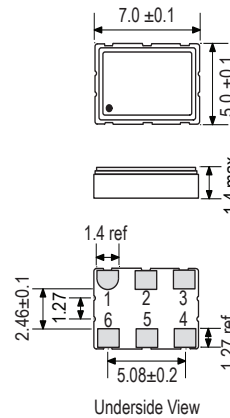
## Storage Temperature Range

- 55 to 125°C

## Environmental

- Shock: MIL-STD-202, Method 213, Condition E: 1000G, 0.5ms 1/2 sine wave
- Vibration: MIL-STD-883, Method 2007, Condition A: 20G

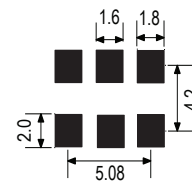
## Outline (mm)



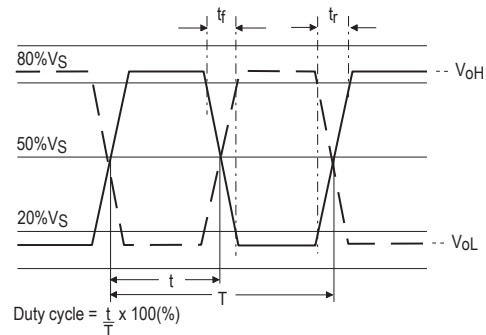
- Pad Connections
- Standby Operation
  - N/C
  - GND
  - Output 1
  - Output 2
  - + $V_S$

Note: a 0.01µF or 0.1µF capacitor is recommended between GND & + $V_S$

## Solder Pad Layout



## Output Waveform



## Packaging

- Loose in bulk pack, 100pcs per pack
- Tape and reel in accordance with EIA-481, 1kpcs per reel (please see pages 372 & 373)

## Ordering Information (\*minimum required)

- Frequency\*
- Model\*
- Output
- Frequency Stability\*
- Operating Temperature Range\*
- Supply Voltage

## Example

- 100.0MHz IQXO-620  
LVPECL ±50ppm -10 to 70C 3.3V



**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
15.0 to <100.0MHz	±25ppm ±30ppm ±50ppm ±100ppm	3.3V±5%	70mA	1.0ns	1.0ns	45/55%	IQXO-620
100.0 to 160.0MHz				0.5ns	0.5ns		
15.0 to <100.0MHz		2.5V±5%		1.0ns	1.0ns	IQXO-621	
100.0 to 160.0MHz				0.5ns	0.5ns		

Note: For other frequency/specification combinations, please contact our sales offices

**Test Circuit**

