

ISSUE 0; July 2016

### Description

- The IQXO-946 is a CMOS oscillator that operates at standard voltages from 1.8 to 3.3V to address the tight stability requirements of computing processors and commercial networking applications.
- Applications:
  - Automotive
  - Industrial
  - Consumer
  - Mobile Communications
  - Medical equipment
- Features:
  - Extended temperature range
  - 1.8 to 3.3V operating voltage
  - Fast sample turnaround
  - Low power consumption

### Frequency Parameters

- Frequency: 2.0MHz to 50.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max in 1st year at 25°C
- Frequency Stability (including tolerance, temperature range, supply voltage variation and load variation)

### Electrical Parameters

- Supply Voltage Options: 1.8V to 3.3V
- Supply Current: 3mA to 20mA
- Standby Current: 15µA max

### Operating Temperature Ranges

- -40 to 85°C

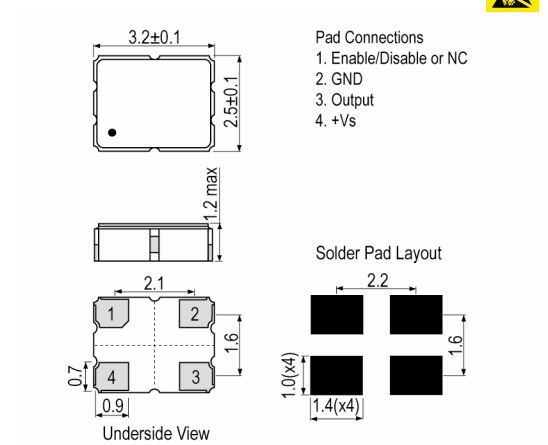
### Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF
- 1.8V Output Characteristics:
  - Output Low (Vol) @ 15pF: 20%Vs max
  - Output High (Voh) @ 15pF: 80%Vs min
  - Duty Cycle @ 50% Vs: 40/60 % max
  - R/F Time (@ 80%/20%): 5ns max
  - Cycle to Cycle Jitter (@ 100MHz): 80ps max
- 2.5V or 3.3V Output Characteristics:
  - Output Low (Vol) @ 15pF: 20%Vs max
  - Output High (Voh) @ 15pF: 80%Vs min
  - Duty Cycle @ 50% Vs: 40/60 % max
  - R/F Time (@ 80%/20%): 7ns max
  - Cycle to Cycle Jitter (@ 100MHz): 80ps max

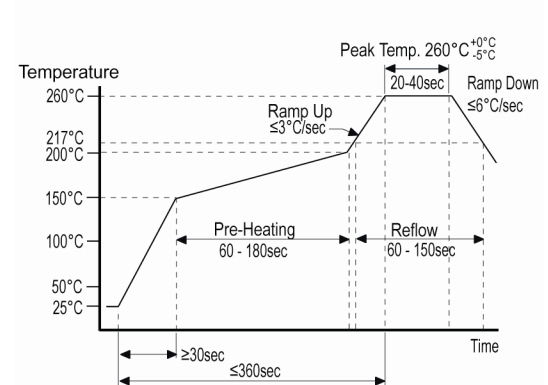
### Output Control

- Enable/Disable:
  - Logic '1' (70%Vs min) to pad 1 or no connection enables oscillator output
  - Logic '0' (30%Vs max) to pad 1 disables oscillator output

### Outline (mm)



### Pb-Free Reflow



### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

#### Environmental Parameters

- Shock: MIL-STD-883, Method 2002
- Storage Temperature Range: -55 to 125°C
- Humidity: after 48 hours at 85 °C ±2 °C 85 % relative humidity non-condensing
- Thermal Shock: MIL-STD-883, Method 1011
- Vibration: MIL-STD-883, Method 2007

#### Ordering Information

- \*minimum information required  
Frequency\*  
Model\*  
Supply Voltage\*  
Frequency Stability\*  
Operating Temperature Range\*
- Operating Temperature Range -40 to 125°C, please check availability with IQD sales office

#### Compliance

- RoHS Status (2011/65/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JEDEC-STD-033):    Not Applicable

#### Packaging Details

- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 3,000

#### Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
2.0MHz	50.0MHz	-40 to 85	±25.0	-	-	-

*This document was correct at the time of printing; please contact your local sales office for the latest version.*

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