

ISSUE 1; January 2016

### Description

- The IQXO-948 is a low-profile, commercial CMOS oscillator that operates at standard voltages from 1.8 to 5.0V
- Applications:
  - Consumer
  - DSL/ADSL
  - Ethernet
  - Wi-Fi
  - WiMAX/W-LAN
- Features:
  - 1.8 to 5.0V operating voltage
  - Low height profile

### Frequency Parameters

- Frequency: 1.0MHz to 160.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 5\text{ppm}$  max in 1st year @ 25°C

### Electrical Parameters

- Supply Voltage Options:
  - 1.8V to 2.85V  $\pm 5\%$
  - 3.3V to 5.0V  $\pm 10\%$

### Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF
- Output Characteristics (1.8V operation):
  - Output Low (VoL): 20%Vs max
  - Output High (VoH): 80%Vs min
  - Duty Cycle @ 50% Vs: 45/55% max
  - R/F Time (@ 80%/20%): 5ns max
  - Start-Up Time: 10ms max
  - Output Enable Time: 10ms max
  - Output Disable Time: 300ns max
- Output Characteristics (2.5V, 2.85V, 3.3V or 5.0V operation):
  - Output Low (VoL): 10%Vs max
  - Output High (VoH): 90%Vs min
  - Duty Cycle @ 50% Vs: 45/55% max
  - R/F Time (@ 80%/20%): 10ns max
  - Start-Up Time: 10ms max
  - Output Enable Time: 10ms max
  - Output Disable Time: 150ns max

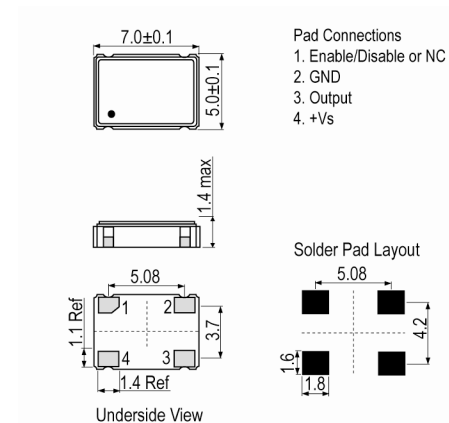
### Output Control

- 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.

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Mechanical Shock: MIL-STD-883, Method 2002.
- Vibration: MIL-STD-883, Method 2007.
- Thermal Shock: MIL-STD-883, Method 1011.
- Humidity: After 48hrs @ 85°C  $\pm 2^\circ\text{C}$ , 85% RH non-condensing.

### Outline (mm)



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#### Manufacturing Details

- Maximum Process Temperature: 260°C (10secs max)

#### Ordering Information

- Frequency\*
- Model\*
- Supply Voltage\*
- Frequency Stability\*
- Operating Temperature Range\*
- (\*minimum required)

#### Compliance

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

#### Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack  
Pack Size: 1

#### 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	%
1.0MHz	160.0MHz	-10 to 70	±25.0	-	-	-
		-40 to 85	±50.0	-	-	-

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

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