

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

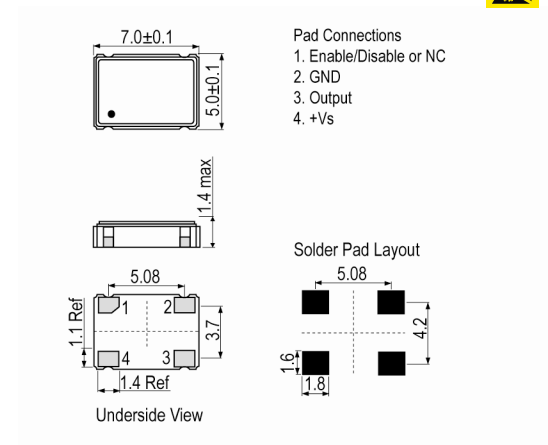
Output Control

- 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 -40 to 85 | ±25.0 ±50.0 | - - | - - | - - |

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