

ISSUE 1; October 2017

Description

- The IQXO-940 combines very low RMS phase jitter and tight frequency stability in a small 5 x 3.2mm SMD package.
- Applications:
 - Basestation
 - Communications
 - Consumer Products
 - DSL/ADSL
 - Ethernet
 - WiFi
 - WiMAX/WLAN
- Features:
 - 0.5 ps integrated RMS phase jitter (12kHz to 20MHz)
 - CMOS, LVPECL, or LVDS Output options
 - Wide frequency range
 - Low power differential outputs
 - Small form factor

Frequency Parameters

- Frequency 8.0MHz to 1.5GHz
- Frequency Stability $\pm 10.00\text{ppm}$ to $\pm 20.00\text{ppm}$
- Frequency Stability (including tolerance, temperature range, supply voltage variation, load variation and 10 years ageing at 25°C)

Electrical Parameters

- Supply Voltage Options:
 - 2.5V $\pm 5\%$
 - 3.3V $\pm 10\%$
- Supply Current:
 - CMOS 30mA max
 - LVPECL 65mA max
 - LVDS 40mA max

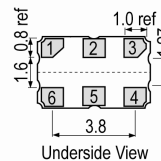
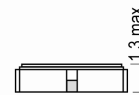
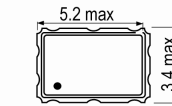
Operating Temperature Ranges

- -40 to 85°C

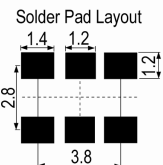
Output Details

- Output Compatibility CMOS/LVPECL/LVDS
- Output Characteristics (CMOS up to 200MHz):
 - Load: 15pF
 - Output Low (Vol): 10%Vs max
 - Output High (Voh): 90%Vs min
 - Duty Cycle @ 50% Vs: 48/52% max
 - R/F Time (@ 90%/10%): 3ns max
 - Phase Jitter (12kHz-20MHz): 0.5ps rms max
- Output Characteristics (LVPECL):
 - Load: 50Ω
 - Output Low (Vol): Vs-1.6V max
 - Output High (Voh): Vs-1.03V min
 - Duty Cycle (@ Vs-1.3V): 45/55% max
 - R/F Time (@ 80%/20%): 0.6ns max
 - Phase Jitter (12kHz-20MHz): 0.5ps rms max
- Output Characteristics (LVDS):
 - Load: 100Ω
 - Differential Output Voltage: 350mV
 - Duty Cycle (@ 1.25V): 45/55% max (600MHz+)
 - R/F Time: 0.6ns max
 - Phase Jitter (12kHz-20MHz): 0.5ps rms max

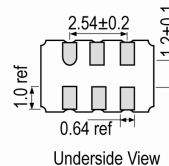
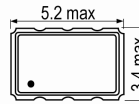
Outline (mm) 1.3mm package height



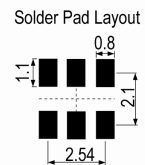
- Pad Connections
1. Enable/Disable or N/C
 2. Enable/Disable or N/C
 3. GND
 4. Output (CMOS)
 5. Output (LVPECL/LVDS) or N/C
 6. +Vs



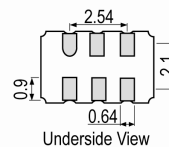
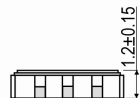
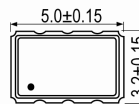
Outline (mm) 1.2mm package height



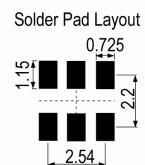
- Pad Connections
1. Enable/Disable or N/C
 2. Enable/Disable or N/C
 3. GND
 4. Output (CMOS)
 5. Output (LVPECL/LVDS) or NC
 6. +Vs



Outline (mm) = 1.2±0.15mm package height



- Pad Connections
1. Enable/Disable or N/C
 2. Enable/Disable or N/C
 3. GND
 4. Output (CMOS)
 5. Output (LVPECL/LVDS) or N/C
 6. +Vs



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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

- 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*
Output Type*
Pad 1 or 2 function*
Supply Voltage*
Frequency Stability*
Operating Temperature Range*

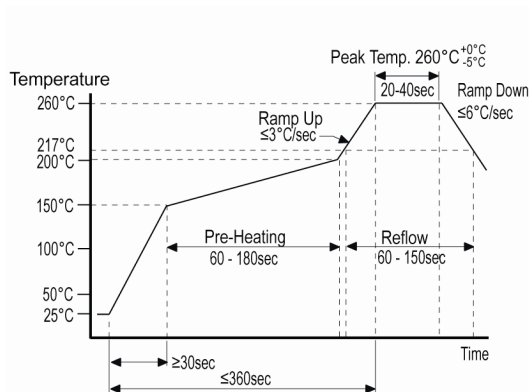
Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Bulk Loose in bulk pack
Pack Size: 1
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 2,000

Pb-Free Reflow



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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	%
8.0MHz	1.5GHz	-40 to 85	-	-	-	-

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