

ISSUE 1; January 2016

### Description

- The IQXO-942 combines very low RMS phase jitter and tight frequency stability in an industry standard 7 x 5mm SMD package.
- Applications:  
 Basestation  
 Communications  
 Consumer Products  
 DSL/ADSL  
 Ethernet (10G/40G/100G)  
 WiFi  
 WiMAX/WLAN
- Features:  
 0.5 ps integrated RMS phase jitter (12kHz to 20MHz)  
 Fast sample turnaround available  
 CMOS, LVPECL, or LVDS Output options  
 Wide frequency range  
 Low power differential outputs

### 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

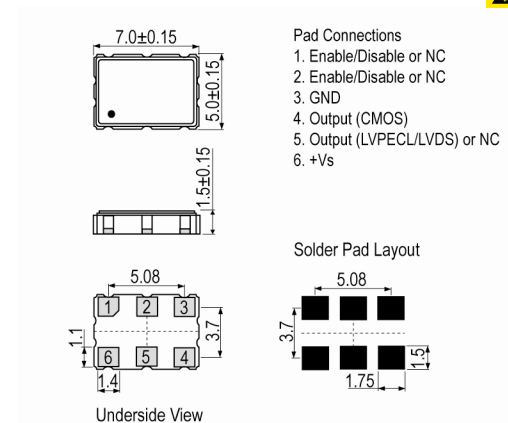
### Operating Temperature Ranges

- -40 to 85°C

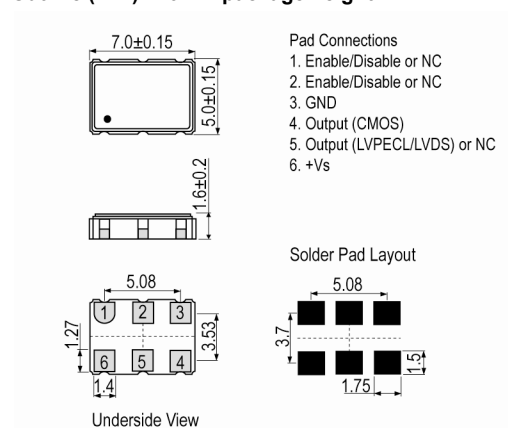
### Output Details

- 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 (over 600MHz)  
 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): 48/52% (45/55% over 150MHz)  
 R/F Time: 0.6ns max  
 Phase Jitter (12kHz-20MHz): 0.5ps rms max

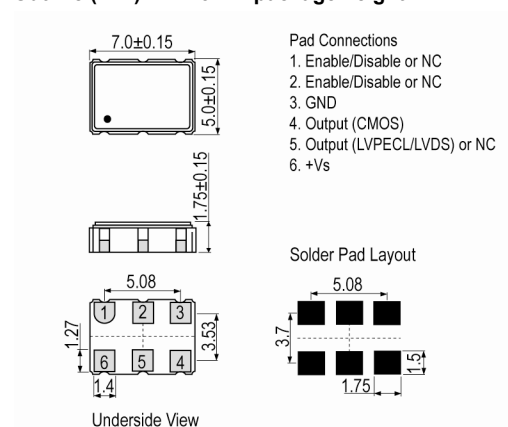
### Outline (mm) 1.5mm package height



### Outline (mm) 1.6mm package height



### Outline (mm) = 1.75mm package height



### Sales Office Contact Details:

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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\*

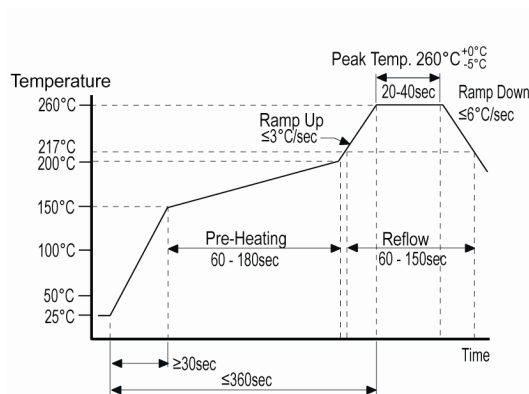
### Compliance

- RoHS Status (2011/65/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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