

ISSUE 2; April 2016

### Description

- LVDS output crystal oscillator using a high frequency fundamental crystal to give very low jitter. Hermetically sealed ceramic package with a seam sealed metal lid. Replacement for model CFPS-61.



### Frequency Parameters

- Frequency: 15.0MHz to 160.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max per year at 25°C

### Electrical Parameters

- Supply Voltage: 2.5V  $\pm 5\%$

### Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

### Output Details

- Output Compatibility: LVDS
- Drive Capability: 100 $\Omega$
- Differential Output Voltage (VoD): 0.247V min, 0.330V typ, 0.454V max.
- Offset Voltage (VOS): 1.125V min, 1.250V typ, 1.375V max.
- Output Voltage Levels:  
Output Low (VoL): 0.9V min  
Output High (VoH): 1.6V max

### Output Control

- Enable/Disable:  
Logic '1' ( $\geq 70\%$  Vs) to pad 1 enables oscillator output.  
Logic '0' ( $\leq 30\%$  Vs) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state.  
No connection to pad 1 enables oscillator output.  
Standby Current: 10 $\mu\text{A}$  max

### Noise Parameters

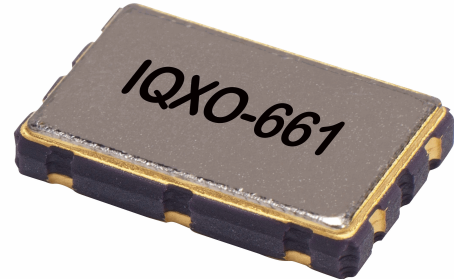
- Phase Jitter (12kHz to 20MHz): 1ps rms max

### Environmental Parameters

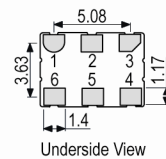
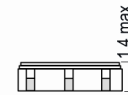
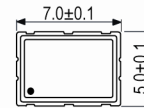
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202, Method 213, Condition E: 1000G, 0.5ms, half sine wave.
- Vibration: MIL-STD-883, Method 2007, Condition A: 20G

### Ordering Information

- Frequency\*
- Model\*
- Output
- Frequency Stability (over operating temperature range)\*
- Operating Temperature Range\*
- Supply Voltage  
(\*minimum required)
- Example  
100.0MHz IQXO-661  
LVDS  $\pm 50\text{ppm}$  -10 to 70C 2.5V



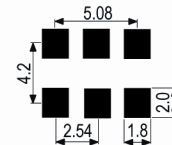
### Outline (mm)



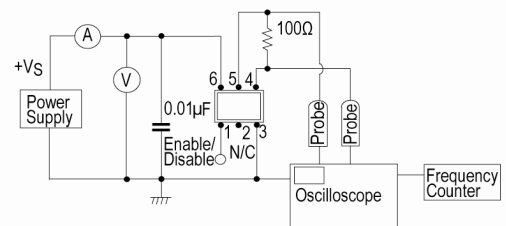
### Pad Connections

1. Enable/Disable
2. N/C
3. GND
4. Output +
5. Output -
6. +Vs

### Solder Pad Layout



### Test Circuit



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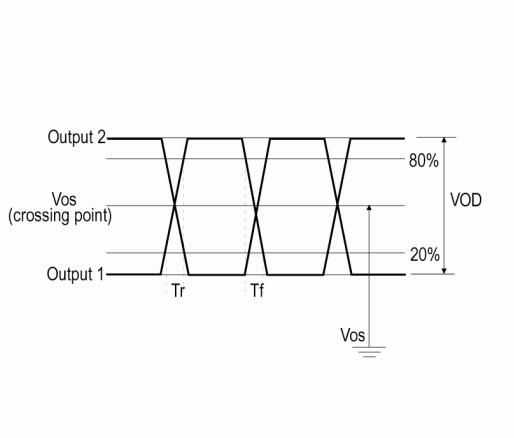
**Compliance**

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

**Packaging Details**

- Pack Style: Bulk      Loose in bulk pack  
   Pack Size: 100
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
   Pack Size: 1,000

**Wave Form**



**Electrical Specification - maximum limiting values 2.5V ±5%**

Frequency Min	Frequency Max	Temperature Range	Stability Min	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
15.0MHz	99.999999MHz	-10 to 70	±25.0	50	1	45/55%
		-40 to 85	±25.0	50	1	45/55%
100.0MHz	160.0MHz	-10 to 70	±25.0	50	0.5	45/55%
		-40 to 85	±25.0	50	0.5	45/55%

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

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