

ISSUE 1; March 2016

### Description

- Voltage Controlled Crystal Oscillator (VCXO) with a LVDS output in a hermetically sealed ceramic package with a metal lid.



### Frequency Parameters

- Frequency: 40.0MHz to 170.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 50.00\text{ppm}$
- Ageing:  $\pm 2\text{ppm}$  max per year @ 25°C
- Frequency Stability: Inclusive of tolerance @ 25°C, operating temperature range, supply voltage variation and load variation, with VC = 1.65V.

### Electrical Parameters

- Supply Voltage: 3.3V  $\pm 5\%$
- Start Up Time: 10ms max

### Frequency Adjustment

- Pulling:  $\pm 80\text{ppm}$  min
- Control Voltage: 1.65V  $\pm 1.5\text{V}$
- Transfer Sense: Positive

### Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C

### Output Details

- Output Compatibility: LVDS
- Drive Capability: 100Ω
- Differential Output Voltage (Vod): 0.247V to 0.454V
- Differential Output Voltage Swing (Vopp): 0.35V pk-pk min
- Offset Voltage (Vos): 1.125 to 1.375V (1.25V typ)

### Output Control

- Logic '1' (>70% Vs) to pad 2 enables oscillator output
- Logic '0' (<30% Vs) to pad 2 disables oscillator output; the oscillator output goes to the high impedance state
- No connection to pad 2 enables oscillator output
- Standby Current: 60μA max

### Noise Parameters

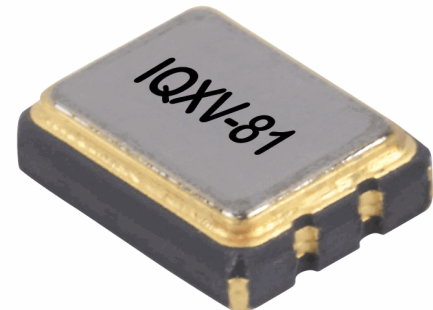
- Phase Jitter (12kHz to 20MHz): 1ps rms max

### Environmental Parameters

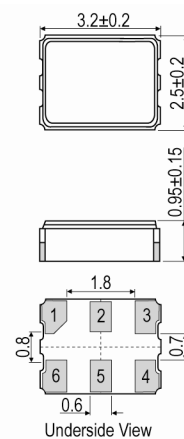
- Storage Temperature Range: -55 to 125°C
- Drop: 75cm drop (3 times) onto hard wooden board
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### Manufacturing Details

- A suitable decoupling capacitor should be located as near to the oscillator as possible for power supply noise reduction. A large electrolytic capacitor should also be included at the power supply.



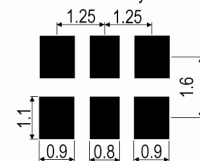
### Outline (mm)



### Pad Connections

1. Voltage Control
2. Enable/Disable
3. GND
4. Output +
5. Output -
6. +Vs

### Solder Pad Layout



### Sales Office Contact Details:

UK: +44 (0)1460 270200

Germany: 0800 1808 443

France: 0800 901 383

USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)

Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

**Ordering Information**

- Frequency\*  
Model\*  
Output  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Supply Voltage  
Pulling  
(\*minimum required)
- Example  
100.0MHz IQXV-81  
LVDS ±50ppm -10 to 70C 3.3V ±80ppm min

**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: 2,000

**Electrical Specification - maximum limiting values 3.3V ±5%**

Frequency Min	Frequency Max	Temperature Range	Stability Min	Current Draw	Rise & Fall Time (80/20%)	Duty Cycle
		°C	ppm	mA	ns	%
40.0MHz	170.0MHz	-10 to 70	±25.0	25	0.4	45/55%
		-40 to 85	±25.0	25	0.4	45/55%

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

[Click to view latest version on our website.](#)

**Sales Office Contact Details:**

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)