

ISSUE 1; September 2021

### 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

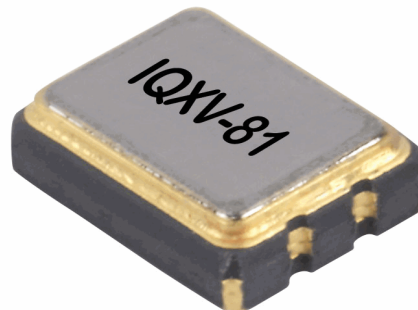
- Phase Jitter (12kHz to 20MHz): 1ps rms max

### Environmental Parameters

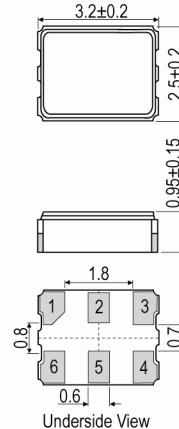
- Storage Temperature Range: -55 to 125°C
- Drop: 75cm drop (3 times) onto hard wooden board
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### 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.

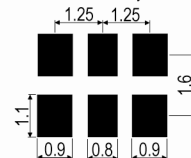


### Outline (mm)



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

### Solder Pad Layout



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

**Packaging Details**

- Pack Style: Cutt            In tape, cut from a reel
- Pack Size: 100
- Pack Style: Reel            Tape & reel in accordance with EIA-481-D
- Pack Size: 3,000

**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.*  
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