

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

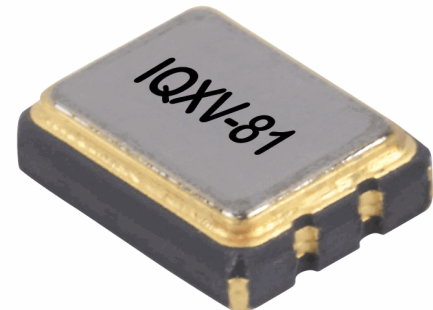
- Phase Jitter (12kHz to 20MHz): 1ps rms max

Environmental Parameters

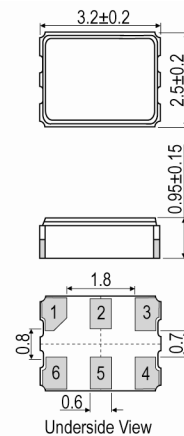
- Storage Temperature Range: -55 to 125°C
- Drop: 75cm drop (3 times) onto hard wooden board
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

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.

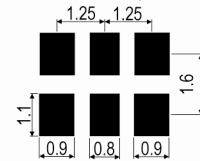


Outline (mm)



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

Solder Pad Layout



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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 (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.

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