

ISSUE 1; March 2016

Description

- Voltage controlled crystal oscillator in a ceramic package with a hermetically sealed metal lid

Frequency Parameters

- Frequency: 1.0MHz to 60.0MHz
- Frequency Stability: $\pm 20.00\text{ppm}$ to $\pm 50.00\text{ppm}$
- Ageing (@ 25°C): $\pm 3\text{ppm}$ max

Electrical Parameters

- Supply Voltage: 3.3V $\pm 5\%$

Frequency Adjustment

- Pulling: $\pm 100\text{ppm}$ min
- Control Voltage: 1.65V $\pm 1.35\text{V}$
- Input Impedance: 100k Ω min
- Linearity: $\pm 10\%$ max

Operating Temperature Ranges

- 0 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility: HCMOS
- Drive Capability: 15pF max
- Start Up Time: 10ms max

Output Control

- Standby Operation:
Logic '1' (>70% Vs) to pad 2 enables oscillator output
Logic '0' (<30% Vs) to pad 2 disables oscillator output: when disabled the oscillator output goes to the high impedance state
No connection pad 2 enables oscillator output

Output Levels

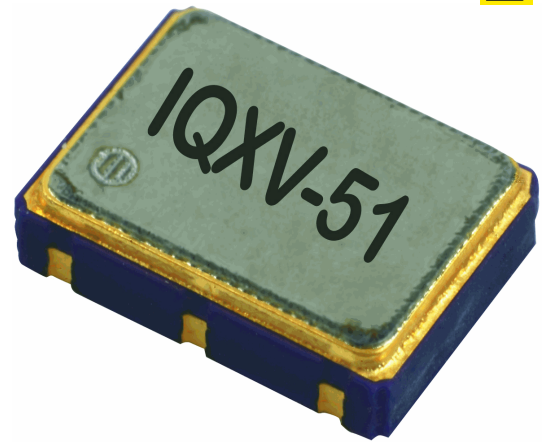
- VoH: >90% of Vs
- VoL: <10% of Vs

Noise Parameters

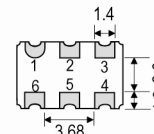
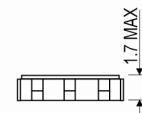
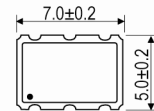
- Period Jitter (pk-pk): 100ps max
- Period Jitter (one sigma): 25ps max

Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Drop: 1.2m drop (3 times) onto a hard surface
- Vibration: 1.5mm amplitude, 10-55-10Hz, full sine wave, 2mins in 3 mutually perpendicular planes, duration 2hrs in each plane



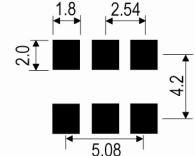
Outline (mm)



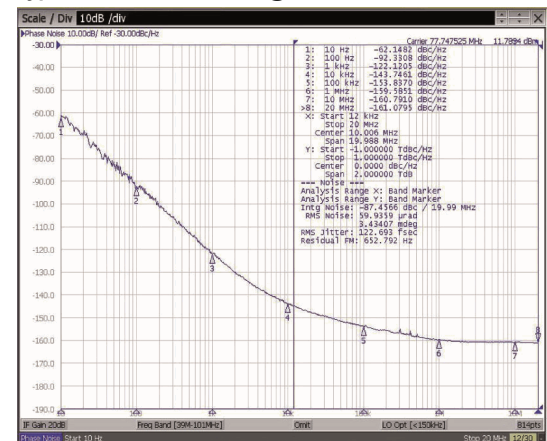
Underside View

- Pad Connections
1. Voltage Control
 2. Standby Operation
 3. GND
 4. Output
 5. N/C
 6. +Vs

Solder Pad Layout



Typical Phase Noise Plot @ 77.76MHz



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Ordering Information

- Example
10.0MHz IQXV-51
HCMOS ±50ppm -40 to 85C 3.3V ±100ppm min
- Frequency*
Model*
Output
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage
Pullability
(*minimum required)

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: 1,000

Electrical Specification - maximum limiting values 3.3V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	20.0MHz	0 to 70	±20.0	10	10	45/55%
		-40 to 85	±25.0	10	10	45/55%
20.000001MHz	40.0MHz	0 to 70	±20.0	15	8	45/55%
		-40 to 85	±25.0	15	8	45/55%
40.000001MHz	60.0MHz	0 to 70	±20.0	25	5	45/55%
		-40 to 85	±25.0	25	5	45/55%

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