

ISSUE 1; December 2023

Description

- Voltage controlled crystal oscillator (VCXO) in a ceramic package with a hermetically sealed metal lid.
- Developed Frequencies: 8MHz, 24.576MHz, 28.224MHz, 32.768MHz, 39MHz



Frequency Parameters

- Frequency 1.0MHz to 52.0MHz
- Frequency Stability $\pm 25.00\text{ppm}$
- Ageing $\pm 3\text{ppm}$ max per year @ 25°C
- Frequency Stability over operating temperature range: inclusive of tolerance at 25°C $\pm 3^\circ\text{C}$

Electrical Parameters

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

Frequency Adjustment

- Pulling $\pm 100\text{ppm}$ min
- Control Voltage 1.65V $\pm 1.5\text{V}$
- Input Impedance 2M Ω min
- Slope: Positive
- Linearity: $\pm 10\%$ max

Operating Temperature Ranges

- -40 to 85°C

Output Details

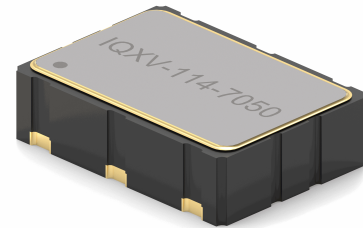
- Output Compatibility CMOS
- Drive Capability 15pF max
- Output Voltage High: 90%Vs min
Output Voltage Low: 10%Vs max

Output Control

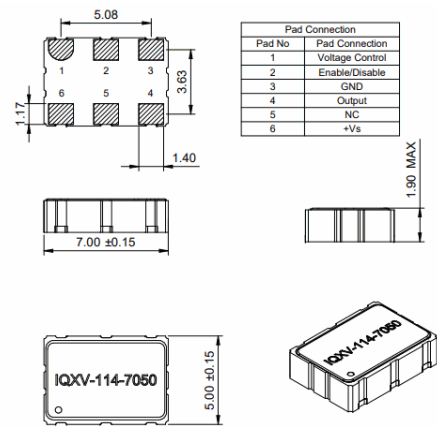
- Enable/Disable:
Logic '1' (>70% Vs) to pad 2 enables oscillator output.
Logic '0' (<30% Vs) to pad 2 disables oscillator output; the oscillator output goes to the high impedance state.
No connection to pad 2 enables oscillator output.
Current when in E/D mode: 2mA max @ 25°C

Noise Parameters

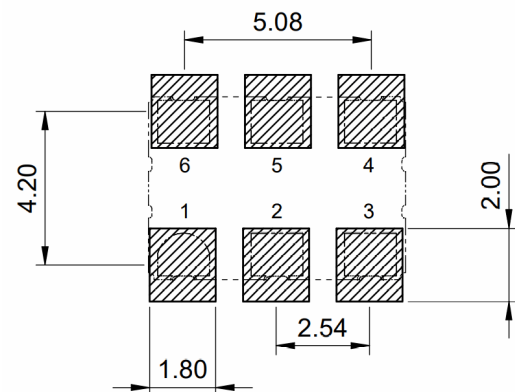
- Phase Noise (typ @ 25MHz & @ 25°C):
-79dBc/Hz @ 10Hz
-114dBc/Hz @ 100Hz
-132dBc/Hz @ 1kHz
-145dBc/Hz @ 10kHz
-150dBc/Hz @ 100kHz
-152dBc/Hz @ 1MHz



Outline (mm)



Recommended Solder Pad Layout



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Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Vibration (MIL-STD-883F:2007.3): frequency range 20~2000Hz, pk-pk amplitude 1.52mm, peak acceleration 20g, sweep time 20minutes/axis, total test time 4 hours.
- Drop Test (JIS-C0044): specimen is dropped from a height of 75cm min as a free fall object onto a hard wooden plate of 30mm min thickness.

Manufacturing Details

- RoHS Terminations Ni 1.27µm~8.89µm, Au 0.3µm~1.0µm
- RoHS Reflow 260°C max peak, 255°C for 30s max

Ordering Information

- Frequency*
 Model*
 Output
 Frequency Stability (over operating temperature range)*
 Operating Temperature Range*
 Supply Voltage
 Pullability
 (*minimum required)
- Example
 20.0MHz IQXV-114-7050 3.3V
 CMOS ±25ppm -40 to 85C ±100ppm min

Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 1

Packaging Details

- Tape & reel in accordance with EIA-481
 Quantities below the standard reel size to be supplied on cut tape.
 Standard Reel Quantity: 1,000 Pieces

Electrical Specification - maximum limiting values 3.3V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time (10-90%)	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	52.0MHz	-40 to 85	±25.0	30	5	40/60

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