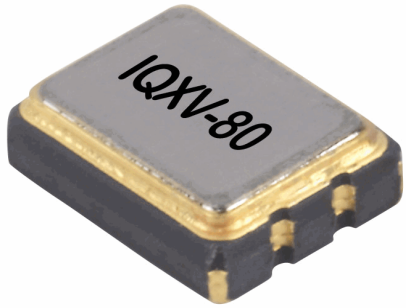
VCXO Specification

IQXV-80

ISSUE 1; March 2016

Description

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



Frequency Parameters

- Frequency 40.0MHz to 170.0MHz
- Frequency Stability ±25.00ppm to ±50.00ppm
- Ageing ±2ppm 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 ±5%

Frequency Adjustment

- Pulling ±100ppm min
- Control Voltage 1.65V ±1.5V
- Input Impedence 5MΩ min
- Transfer Sense: Positive

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C

Output Details

- Output Compatability LVPECL
- Drive Capability 50Ω Vs-2.0V
- Output Voltage Levels:
  '1' Level VoH: Vs-1.025V to Vs-0.88V
  '0' Level VoL: Vs-1.81V to Vs-1.62V

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

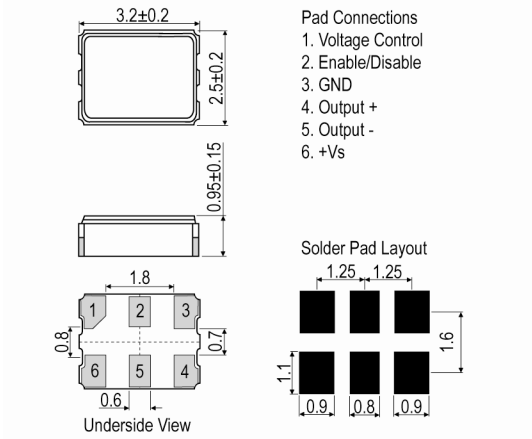
Noise Parameters

- Phase Noise (typ @ 77.76MHz, Vs=3.3V & VC=1.65V):
  -65dBc/Hz @ 10Hz
  -98dBc/Hz @ 100Hz
  -124dBc/Hz @ 1kHz
  -140dBc/Hz @ 10kHz
  -148dBc/Hz @ 100kHz
  -154dBc/Hz @ 1MHz
  -157dBc/Hz @ 10MHz
- 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)

Outline (mm)



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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.

Ordering Information

- Frequency*
  Model*
  Output
  Frequency Stability (over operating temperature range)*
  Operating Temperature Range*
  Supply Voltage
  Pulling
  (*minimum required)
- Example
  100.0MHz IQXV-80
  LVPECL ±50ppm -10 to 70C 3.3V ±100ppm 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	50	0.5	45/55%
		-40 to 85	±25.0	50	0.5	45/55%

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