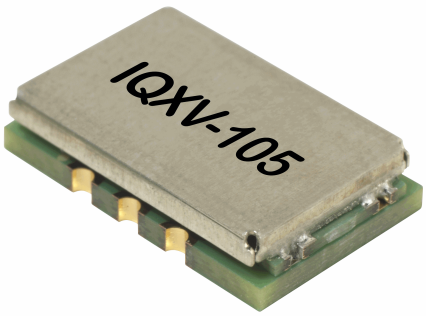
ISSUE 1; November 2017

Description

- The IQXV-105 is a very high frequency, ultra low jitter Voltage Controlled Crystal Oscillator (VCXO) suitable for Optical Coherent Networking and high speed ADC/DAC/SerDes clocking. Please contact one of IQD's sales offices to discuss your particular specification requirements.
- FEATURES:
  Frequency range from 1GHz to 2.2GHz
  Sinewave, Differential Sinewave or LVPECL
  Ultra-low RMS phase jitter
  Lower temperature sensitivity than SAW
- APPLICATIONS:
  Coherent Optical Modules
  Base Station Remote Radiohead Units



Frequency Parameters

- Frequency 1.0GHz to 2.2GHz
- Frequency Stability ±20.00ppm
- Frequency Stability: Over operating temperature range only.
- Overall Frequency Stability (including Frequency Tolerance @ 25°C, operating temperature range, supply voltage variation, load variation and 10yrs ageing @ 25°C): ±70ppm max

Electrical Parameters

- Supply Voltage 3.3V ±5%
- Supply Current:
  Sine: 70 mA max
  Differential Sine: 80mA max
  LVPECL: 120mA max

Frequency Adjustment

- Pulling ±25ppm min APR
- Control Voltage 1.65V ±1.65V
- Input Impedance 5MΩ min
- Total Pulling Range (frequency shift from minimum to maximum control voltage): ±100ppm min, ±200ppm max
- Linearity: ±5% typ, ±10% max
- Modulation Bandwidth (BW): 15kHz min

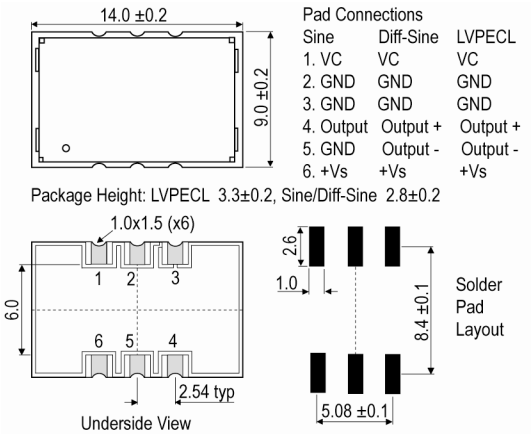
Operating Temperature Ranges

- -40 to 85°C

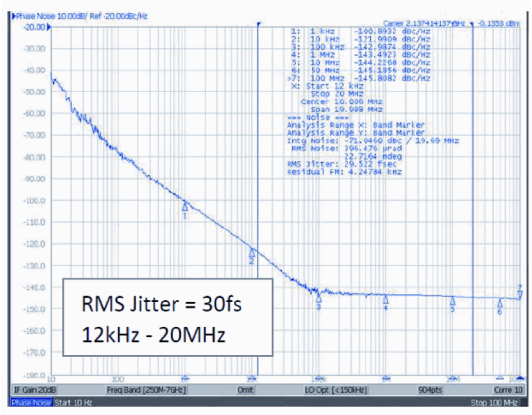
Output Details

- Output Compatibility Sine/Diff-Sine/LVPECL
- Oscillator Output (sub-harmonics): -30dBc typ
- Sine Output (50Ω load): 2dBm min, 4dBm typ, 6dBm max
- Differential Sine Output: 0.6V min, 1.6V max
- LVPECL Output (differential swing): 1.1V min, 1.6V typ

Outline (mm)



2.137GHz LVPECL Output



Sales Office Contact Details:
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Email: info@iqdfrequencyproducts.com
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Noise Parameters

- Phase Noise (1.4GHz Sine, typ @ 3.3V, 25°C):
  -80dBc/Hz @ 100Hz
  -106dBc/Hz @ 1kHz
  -127dBc/Hz @ 10kHz
  -143dBc/Hz @ 100kHz
  -151dBc/Hz @ 1MHz
  -151dBc/Hz @ 10MHz
- Phase Noise (2.137GHz LVPECL, typ @ 3.3V, 25°C):
  -78dBc/Hz @ 100Hz
  -100dBc/Hz @ 1kHz
  -121dBc/Hz @ 10kHz
  -142dBc/Hz @ 100kHz
  -143dBc/Hz @ 1MHz
  -144dBc/Hz @ 10MHz
- Phase Jitter:
  Sine: 10kHz to 20MHz: 26fs RMS typ @ 1.4GHz
  Sine: 12kHz to 20MHz: 16fs RMS typ @ 1.88GHz
  Sine: 12kHz to 20MHz: 15fs RMS typ @ 1.96GHz
  LVPECL: 12kHz to 20MHz: 30fs RMS min @ 2.137GHz

Environmental Parameters

- Mechanical Shock: JESD22-B104, Condition B: Half sine-wave acceleration of 1500G peak amplitude, 0.5ms duration, 5 shocks in 6 axis (total 30 shocks).
- Vibration: JESD22-B103, Section 4.2.2: 20G peak acceleration for 4mins per sweep, 4 sweeps in each of the 3 orientations, tested from 20-2000Hz.

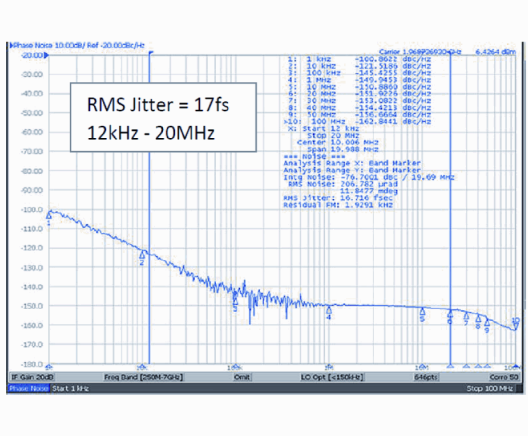
Compliance

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

Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D
  Pack Size: 1,000

1.968GHz Sine Output



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Electrical Specification - maximum limiting values 3.3V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0GHz	2.2GHz	-40 to 85	±20.0	-	-	-

This document was correct at the time of printing; please contact your local sales office for the latest version.
Click to view latest version on our website.

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