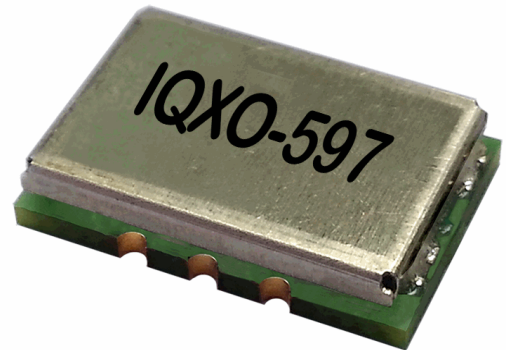


ISSUE 2; October 2018

Description

- The IQXO-597 is a very high frequency, ultra low jitter oscillator 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 1.0GHz to 2.2GHz
Sinewave, Differential Sinewave or LVPECL
Ultra-low RMS phase jitter
Lower temperature sensitivity than SAW
- APPLICATIONS:
100G/400G Data Communications
High Speed ADC/DAC/SerDes
Coherent Optical Modules



Frequency Parameters

- Frequency: 1.0GHz to 2.2GHz
- Frequency Stability: $\pm 20.00\text{ppm}$
- 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): $\pm 70\text{ppm max}$

Electrical Parameters

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

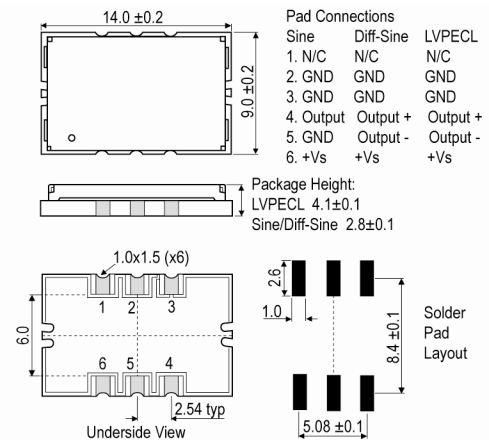
Operating Temperature Ranges

- -40 to 85°C

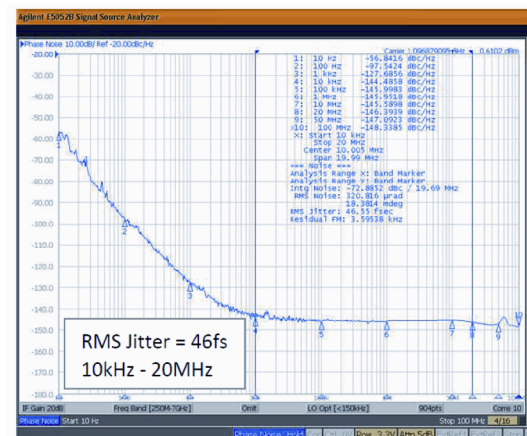
Output Details

- Output Compatibility: Sine/ Diff-Sine/ LVPECL
- Oscillator Output (sub-harmonics): -30dBc typ, -25dBc max
- 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)



1.096GHz LVPECL Output



Sales Office Contact Details:

UK: +44 (0)1460 270200
Germany: 0800 1808 443

France: 0800 901 383
USA: +1.760.318.2824

Email: info@iqdfrequencyproducts.com
Web: www.iqdfrequencyproducts.com

Noise Parameters

- Phase Noise (1.096GHz LVPECL, typ @ 3.3V, 25°C):
 - 97dBc/Hz @ 100Hz
 - 127dBc/Hz @ 1kHz
 - 144dBc/Hz @ 10kHz
 - 146dBc/Hz @ 100kHz
 - 146dBc/Hz @ 1MHz
 - 145dBc/Hz @ 10MHz
- Phase Noise (2.193GHz Sine, typ @ 3.3V, 25°C):
 - 83dBc/Hz @ 100Hz
 - 104dBc/Hz @ 1kHz
 - 125dBc/Hz @ 10kHz
 - 149dBc/Hz @ 100kHz
 - 149dBc/Hz @ 1MHz
 - 149dBc/Hz @ 10MHz
- Phase Jitter:
 - Sine: 12kHz to 20MHz: 15fs RMS typ @ 2.193GHz
 - LVPECL 10kHz to 20MHz: 46fs RMS min @ 1.096GHz

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.

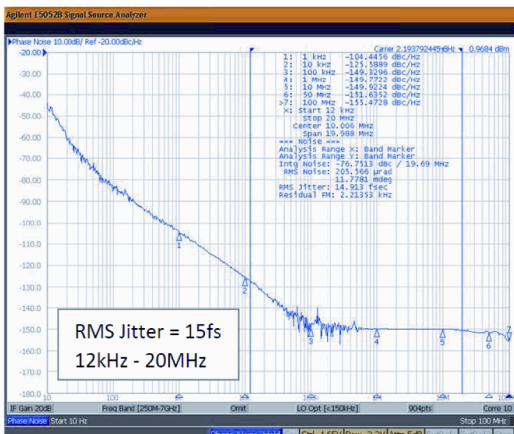
Compliance

- RoHS Status (2011/65/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

2.193GHz 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.](#)

Developed Frequencies

Frequency	IQD Model	IQD Part Number	Output Type		
1.0GHz	IQXO-597-1	LFSPXO080822Reel	LVPECL		
1.096875GHz	IQXO-597-2	LFSPXO080824Reel	LVPECL		
1.568979207G Hz	IQXO-597-3	LFSPXO080825Reel	LVPECL		
1.6GHz	IQXO-597-4	LFSPXO080826Reel	LVPECL		
1.63322449GHz	IQXO-597-5	LFSPXO080827Reel	LVPECL		
2.068964088G Hz	IQXO-597-6	LFSPXO080828Reel	LVPECL		
2.068964088G Hz	IQXO-597-7	LFSPXO080829Reel	LVPECL		
2.19375GHz	IQXO-597-8	LFSPXO080836Reel	LVPECL		

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