



IQXO-62x

IQXO-62x

**LVPECL output crystal oscillator using a high frequency fundamental crystal to give very low jitter.
Hermetically sealed ceramic package with a seam sealed metal lid.**

Model Name	Description
IQXO-623	A 2.5V Version
IQXO-624	A 3.3V Version

ISSUE 2; September 2021

Description

- LVPECL output crystal oscillator using a high frequency fundamental crystal to give very low jitter. Hermetically sealed ceramic package with a seam sealed metal lid.
- Developed Frequencies: 25.0MHz, 27.0MHz, 100.0MHz, 125.0MHz and 156.250MHz
- Note: Operating temperature ranges -40 to 105°C and -40 to 125°C are intended for industrial use and not for safety critical applications such as automotive. Please contact IQD for alternative options.



Frequency Parameters

- Frequency 13.50MHz to 156.250MHz
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 3\text{ppm}$ max per year @ 25°C

Electrical Parameters

- Supply Voltage 2.5V $\pm 5\%$

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -40 to 105°C
- -40 to 125°C

Output Details

- Output Compatibility LVPECL
- Drive Capability 50Ω terminated to Vs-2.0V
- Output Voltage Levels:
Output Low (VOL): 1.095V max
Output High (VOH): 1.475V min

Output Control

- Standby Operation:
Logic '1' (70% Vs min) to pad 1 enables oscillator output.
Logic '0' (30% Vs max) to pad 1 disables oscillator output.
No connection to pad 1 enables oscillator output due to internal pull-up resistor.
- Standby Current: 10μA max
- Start-up Time: 10ms max

Noise Parameters

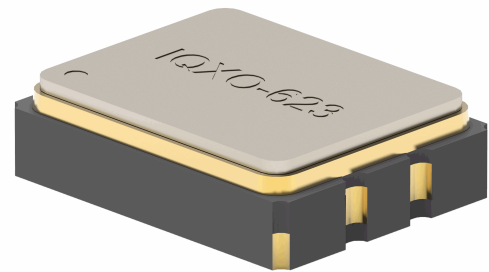
- Phase Jitter (12kHz to 20MHz): 1ps rms max
Phase Jitter (12kHz to 20MHz): 0.171ps rms typ @ 100MHz

Environmental Parameters

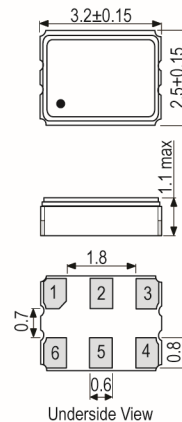
- Storage Temperature Range: -55 to 125°C
- Shock: 1500G, 0.5ms, 3 times for each surface, total 18 times.
- Vibration: Freq. range: 20~2000Hz, peak to peak amplitude: 1.52mm, peak acceleration: 20G (196m/s²), 3 direction(X, Y,Z), each cycle: 20min, 4 cycles for each direction.

Ordering Information

- *Minimum info required
Frequency*
Model*
Output
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage
- Example
156.25MHz IQXO-623
LVPECL $\pm 50\text{ppm}$ -40 to 85C 2.5V

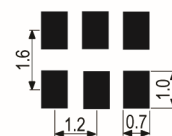


Outline (mm)



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

Solder Pad Layout



ISSUE 2; September 2021

Compliance

- RoHS Status (2015/863/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: 3,000
- Pack Style: Cutt In tape, cut from a reel
 Pack Size: 100

Electrical Specification - maximum limiting values 2.5V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability Min	Current Draw	Rise and Fall Time (20-80%)	Duty Cycle
		°C	ppm	mA	ns	%
13.5MHz	99.999999MHz	-10 to 70	±25.0	50	1	45/55%
		-40 to 85	±30.0	50	1	45/55%
		-40 to 125	±70.0	50	1	45/55%
		-40 to 105	±50.0	50	1	45/55%
100.0MHz	156.25MHz	-10 to 70	±25.0	50	0.5	45/55%
		-40 to 85	±30.0	50	0.5	45/55%
		-40 to 125	±70.0	50	0.5	45/55%
		-40 to 105	±50.0	50	0.5	45/55%

*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.](#)*

ISSUE 2; March 2022

Description

- LVPECL output crystal oscillator using a high frequency fundamental crystal to give very low jitter. Hermetically sealed ceramic package with a seam sealed metal lid.
- Developed Frequencies: 25.0MHz, 27.0MHz, 100.0MHz, 125.0MHz and 156.250MHz
- Note: Operating temperature ranges -40 to 105°C and -40 to 125°C are intended for industrial use and not for safety critical applications such as automotive. Please contact IQD for alternative options.



Frequency Parameters

- Frequency 13.50MHz to 156.250MHz
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 3\text{ppm}$ max per year @ 25°C

Electrical Parameters

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

Operating Temperature Ranges

- -10 to 70°C
- -40 to 85°C
- -40 to 105°C
- -40 to 125°C

Output Details

- Output Compatibility LVPECL
- Drive Capability 50Ω terminated to Vs-2.0V
- Output Voltage Levels:
Output Low (VOL): 1.680V max
Output High (VOH): 2.275V min

Output Control

- Standby Operation:
Logic '1' (70% Vs min) to pad 1 enables oscillator output.
Logic '0' (30% Vs max) to pad 1 disables oscillator output.
No connection to pad 1 enables oscillator output due to internal pull-up resistor.
- Standby Current: 10μA max
- Start-up Time: 10ms max

Noise Parameters

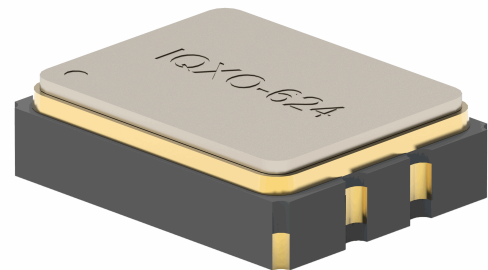
- Phase Jitter (12kHz to 20MHz): 1ps rms max
Phase Jitter (12kHz to 20MHz): 0.171ps rms typ @ 100MHz

Environmental Parameters

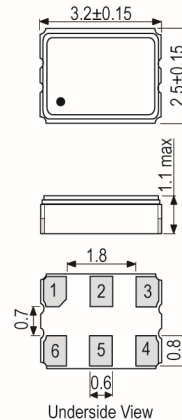
- Storage Temperature Range: -55 to 125°C
- Shock: 1500G, 0.5ms, 3 times for each surface, total 18 times.
- Vibration: Freq. range: 20~2000Hz, peak to peak amplitude: 1.52mm, peak acceleration: 20G (196m/s²), 3 direction(X, Y,Z), each cycle: 20min, 4 cycles for each direction.

Ordering Information

- Frequency*
Model*
Output
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage
(*minimum required)
- Example
156.25MHz IQXO-624
LVPECL $\pm 50\text{ppm}$ -40 to 85C 3.3V

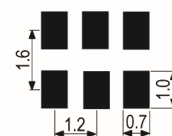


Outline (mm)



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

Solder Pad Layout



ISSUE 2; March 2022

Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Cutt In tape, cut from a reel
Pack Size: 100
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 3,000

Electrical Specification - maximum limiting values 3.3V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability Min	Current Draw	Rise and Fall Time (20-80%)	Duty Cycle
		°C	ppm	mA	ns	%
13.5MHz	99.999999MHz	-10 to 70	±25.0	50	1	45/55%
		-40 to 85	±30.0	50	1	45/55%
		-40 to 125	±70.0	50	1	45/55%
		-40 to 105	±50.0	50	1	45/55%
100.0MHz	156.25MHz	-10 to 70	±25.0	50	0.5	45/55%
		-40 to 85	±30.0	50	0.5	45/55%
		-40 to 125	±70.0	50	0.5	45/55%
		-40 to 105	±50.0	50	0.5	45/55%

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.](#)

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