



IQXO-44x

Tight stability, hermetically sealed oscillator in a 2.5 x 2.0mm SMD package

Model Name	Description
IQXO-445	A 3.3V version
IQXO-446	A 3.0V version
IQXO-447	A 2.5V version

ISSUE 1; December 2017

Description

- Tight stability, hermetically sealed oscillator in a 2.5 x 2.0mm SMD package



Frequency Parameters

- Frequency 4.0MHz to 54.0MHz
- Frequency Stability $\pm 10.00\text{ppm}$ to $\pm 20.00\text{ppm}$
- Frequency Stability is inclusive of tolerance @ 25°C, operating temperature range, supply voltage variation, load variation and ageing in 1st year @ 25°C.
- Developed Frequencies: 8.0MHz, 10.0MHz, 25.0MHz, 26.0MHz, 40.0MHz, 50.0MHz, 54.0MHz.

Electrical Parameters

- Supply Voltage 3.3V $\pm 10\%$

Operating Temperature Ranges

- -20 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

Output Control

- Logic '1' ($\geq 70\%V_s$) to pad 1 enables oscillator output. Logic '0' ($\leq 30\%V_s$) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state. No connection to pad 1 enables oscillator output.
- Standby Current: 10 μ A max

Output Levels

- VoH: 90%Vs min
- VoL: 10%Vs max

Noise Parameters

- Period Jitter (RMS 1 σ): 3ps typ

Environmental Parameters

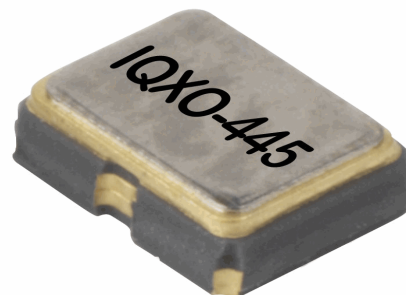
- Storage Temperature Range: -40 to 85°C
- Drop: 100cm drop (3 times) onto hard wooden board.
- Vibration: Frequency 10Hz-55Hz, amplitude 1.5mm (10Hz-36Hz), 4G (36Hz-55Hz), sweep time 1min/oct, duration 2hrs in 3 mutually perpendicular planes.

Manufacturing Details

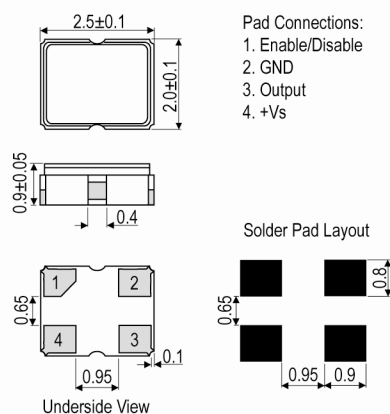
- Maximum Process Temperature: 260°C (10secs max)

Ordering Information

- Frequency*
Model*
Output Compatibility
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage
(*minimum required)
- Example
8.0MHz IQXO-445
CMOS $\pm 15\text{ppm}$ -40 to 85C 3.3V



Outline (mm)



ISSUE 1; December 2017

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: 1,000
- Pack Style: Cutt Cut tape
Pack Size: 100

Electrical Specification - maximum limiting values 3.3V \pm 10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
4.0MHz	54.0MHz	-20 to 70	\pm 10.0	7	5	45/55%
		-40 to 85	\pm 10.0	7	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 1; December 2017

Description

- Tight stability, hermetically sealed oscillator in a 2.5 x 2.0mm SMD package



Frequency Parameters

- Frequency 4.0MHz to 54.0MHz
- Frequency Stability $\pm 10.00\text{ppm}$ to $\pm 20.00\text{ppm}$
- Frequency Stability is inclusive of tolerance @ 25°C, operating temperature range, supply voltage variation, load variation and ageing in 1st year @ 25°C.
- Developed Frequencies: 8.0MHz, 10.0MHz, 25.0MHz, 26.0MHz, 40.0MHz, 50.0MHz, 54.0MHz.

Electrical Parameters

- Supply Voltage 3.0V $\pm 10\%$

Operating Temperature Ranges

- -20 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

Output Control

- Logic '1' ($\geq 70\%V_s$) to pad 1 enables oscillator output. Logic '0' ($\leq 30\%V_s$) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state. No connection to pad 1 enables oscillator output.
- Standby Current: 10 μ A max

Output Levels

- VoL: 10%Vs max
- VoH: 90%Vs min

Noise Parameters

- Period Jitter (RMS 1 σ): 3ps typ

Environmental Parameters

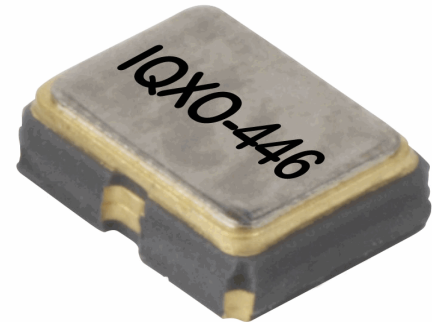
- Storage Temperature Range: -40 to 85°C
- Drop: 100cm drop (3 times) onto hard wooden board.
- Vibration: Frequency 10Hz-55Hz, amplitude 1.5mm (10Hz-36Hz), 4G (36Hz-55Hz), sweep time 1min/oct, duration 2hrs in 3 mutually perpendicular planes.

Manufacturing Details

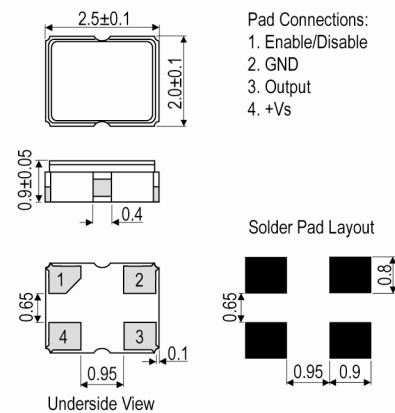
- Maximum Process Temperature: 260°C (10secs max)

Ordering Information

- Frequency*
- Model*
- Output Compatibility
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)
- Example
- 8.0MHz IQXO-446
- CMOS $\pm 15\text{ppm}$ -40 to 85C 3.0V



Outline (mm)



ISSUE 1; December 2017

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: 1,000
- Pack Style: Cutt Cut tape
Pack Size: 100

Electrical Specification - maximum limiting values 3.0V \pm 10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
4.0MHz	54.0MHz	-20 to 70	\pm 10.0	7	5	45/55%
		-40 to 85	\pm 10.0	7	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 1; December 2017

Description

- Tight stability, hermetically sealed oscillator in a 2.5 x 2.0mm SMD package



Frequency Parameters

- Frequency 4.0MHz to 54.0MHz
- Frequency Stability $\pm 10.00\text{ppm}$ to $\pm 20.00\text{ppm}$
- Frequency Stability is inclusive of tolerance @ 25°C, operating temperature range, supply voltage variation, load variation and ageing in 1st year @ 25°C.
- Developed Frequencies: 8.0MHz, 10.0MHz, 25.0MHz, 26.0MHz, 40.0MHz, 50.0MHz, 54.0MHz.

Electrical Parameters

- Supply Voltage 2.5V $\pm 10\%$

Operating Temperature Ranges

- -20 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

Output Control

- Logic '1' ($\geq 70\%V_s$) to pad 1 enables oscillator output. Logic '0' ($\leq 30\%V_s$) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state. No connection to pad 1 enables oscillator output.
- Standby Current: 10 μ A max

Output Levels

- VoL: 10%Vs max
- VoH: 90%Vs min

Noise Parameters

- Period Jitter (RMS 1 σ): 3ps typ

Environmental Parameters

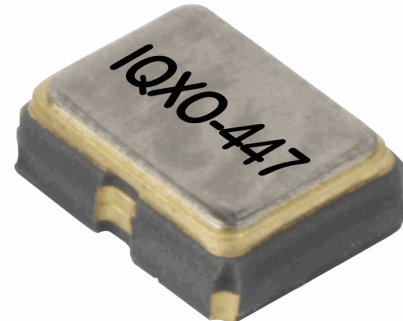
- Storage Temperature Range: -40 to 85°C
- Drop: 100cm drop (3 times) onto hard wooden board.
- Vibration: Frequency 10Hz-55Hz, amplitude 1.5mm (10Hz-36Hz), 4G (36Hz-55Hz), sweep time 1min/oct, duration 2hrs in 3 mutually perpendicular planes.

Manufacturing Details

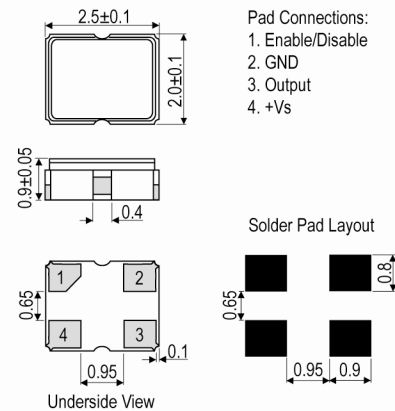
- Maximum Process Temperature: 260°C (10secs max)

Ordering Information

- Frequency*
Model*
Output Compatibility
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Supply Voltage
(*minimum required)
- Example
8.0MHz IQXO-447
CMOS $\pm 15\text{ppm}$ -40 to 85C 2.5V



Outline (mm)



ISSUE 1; December 2017

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: 1,000

Electrical Specification - maximum limiting values 2.5V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
4.0MHz	54.0MHz	-20 to 70	±10.0	7	5	45/55%
		-40 to 85	±10.0	7	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