



IQXO-64x

Standard 1.6 x 1.2mm crystal oscillator in a ceramic package with a seam sealed metal lid, hermetically sealed

Model Name	Description
IQXO-640	A 3.3V version
IQXO-641	A 2.5V version
IQXO-642	A 1.8V version

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Description

- Standard 1.6 x 1.2mm crystal oscillator in a ceramic package with a seam sealed metal lid, hermetically sealed

Frequency Parameters

- Frequency: 1.0MHz to 80.0MHz
- Frequency Stability: $\pm 30.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 5\text{ppm}$

Electrical Parameters

- Supply Voltage: 3.3V $\pm 10\%$
- Standby Current: 10 μA max

Operating Temperature Ranges

- 20 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

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

Environmental Parameters

- Shock: IEC 60068-2-27: 1000G, 1ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6: 1.5mm amplitude, 10Hz-55Hz, 1min in 3 mutually perpendicular planes, duration 2hrs each plane (total 6hrs)
- Storage Temperature Range: -40 to 85°C

Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage (*minimum required)
- Example
10.0MHz IQXO-640
CMOS $\pm 50\text{ppm}$ -20 to 70C 3.3V

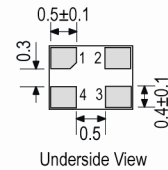
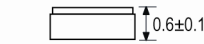
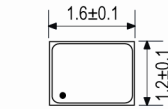
Compliance

- RoHS Status (2011/65/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

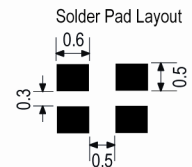
Packaging Details

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

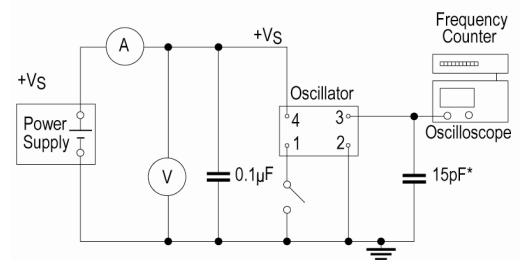
Outline (mm)



- Pad Connections
- Standby Operation
 - GND & Lid
 - Output
 - +V_S

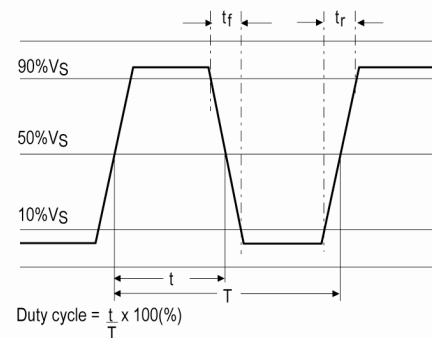


Test Circuit



* Inclusive of jigging and equipment capacitance

Wave Form





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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	%
1.0MHz	20.0MHz	-20 to 70	\pm 30.0	4	5	45/55%
		-40 to 85	\pm 50.0	4	5	45/55%
20.000001MHz	40.0MHz	-20 to 70	\pm 30.0	6	5	45/55%
		-40 to 85	\pm 50.0	6	5	45/55%
40.000001MHz	60.0MHz	-20 to 70	\pm 30.0	8	5	45/55%
		-40 to 85	\pm 50.0	8	5	45/55%
60.000001MHz	80.0MHz	-20 to 70	\pm 30.0	10	5	45/55%
		-40 to 85	\pm 50.0	10	5	45/55%

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Description

- Standard 1.6 x 1.2mm crystal oscillator in a ceramic package with a seam sealed metal lid, hermetically sealed

Frequency Parameters

- Frequency: 1.0MHz to 80.0MHz
- Frequency Stability: $\pm 30.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 5\text{ppm}$

Electrical Parameters

- Supply Voltage: $2.5\text{V} \pm 10\%$
- Standby Current: $10\mu\text{A}$ max

Operating Temperature Ranges

- 20 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

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

Environmental Parameters

- Shock: IEC 60068-2-27: 1000G, 1ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: IEC 60068-2-6: 1.5mm amplitude, 10Hz-55Hz, 1min in 3 mutually perpendicular planes, duration 2hrs each plane (total 6hrs)
- Storage Temperature Range: -40 to 85°C

Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage (*minimum required)
- Example: 10.0MHz IQXO-641 CMOS $\pm 50\text{ppm}$ -20 to 70C 2.5V

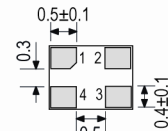
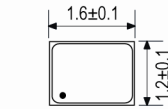
Compliance

- RoHS Status (2011/65/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

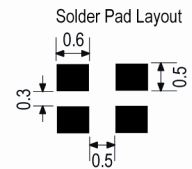
- Pack Style: Reel Tape & reel in accordance with EIA-481-D
- Pack Size: 3,000

Outline (mm)

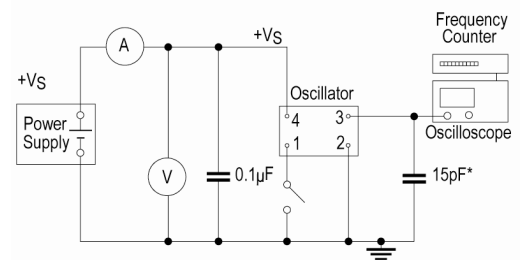


Underside View

- Pad Connections
- Standby Operation
 - GND & Lid
 - Output
 - +V_S

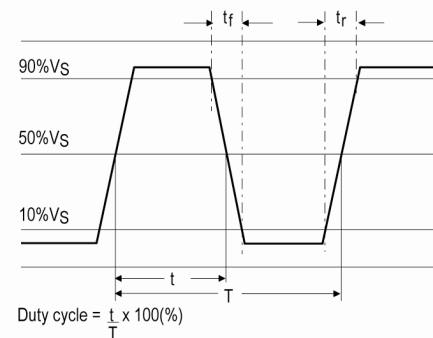


Test Circuit



* Inclusive of jigging and equipment capacitance

Wave Form





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Electrical Specification - maximum limiting values 2.5V \pm 10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	20.0MHz	-20 to 70	\pm 30.0	3	5	45/55%
		-40 to 85	\pm 50.0	3	5	45/55%
20.000001MHz	40.0MHz	-20 to 70	\pm 30.0	5	5	45/55%
		-40 to 85	\pm 50.0	5	5	45/55%
40.000001MHz	60.0MHz	-20 to 70	\pm 30.0	7	5	45/55%
		-40 to 85	\pm 50.0	7	5	45/55%
60.000001MHz	80.0MHz	-20 to 70	\pm 30.0	9	5	45/55%
		-40 to 85	\pm 50.0	9	5	45/55%

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Description

- Standard 1.6 x 1.2mm crystal oscillator in a ceramic package with a seam sealed metal lid, hermetically sealed

Frequency Parameters

- Frequency: 1.0MHz to 80.0MHz
- Frequency Stability: $\pm 30.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 5\text{ppm}$

Electrical Parameters

- Supply Voltage: $1.8\text{V} \pm 10\%$
- Standby Current: $10\mu\text{A}$ max

Operating Temperature Ranges

- 20 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

Output Control

- Logic '1' ($\geq 70\%V_S$) to pad 1 enables oscillator output
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Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage (*minimum required)
- Example: 10.0MHz IQXO-642 CMOS $\pm 50\text{ppm}$ -20 to 70C 1.8V

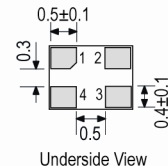
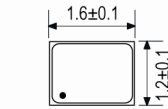
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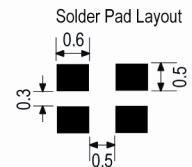
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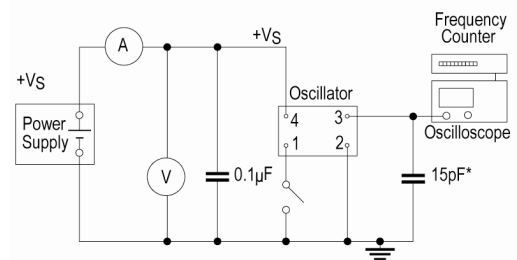
Outline (mm)



- Pad Connections
- Standby Operation
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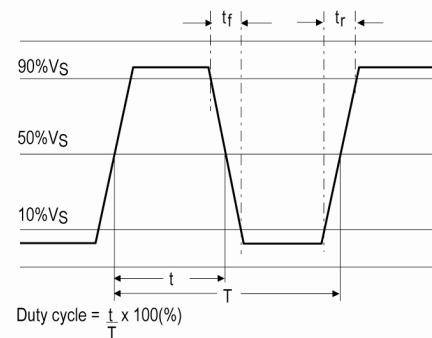


Test Circuit



* Inclusive of jigging and equipment capacitance

Wave Form



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Electrical Specification - maximum limiting values $1.8V \pm 10\%$

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	20.0MHz	-20 to 70	± 30.0	3	5	45/55%
		-40 to 85	± 50.0	3	5	45/55%
20.000001MHz	40.0MHz	-20 to 70	± 30.0	4	5	45/55%
		-40 to 85	± 50.0	4	5	45/55%
40.000001MHz	60.0MHz	-20 to 70	± 30.0	5	5	45/55%
		-40 to 85	± 50.0	5	5	45/55%
60.000001MHz	80.0MHz	-20 to 70	± 30.0	7	5	45/55%
		-40 to 85	± 50.0	7	5	45/55%

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