



IQXO-58x AUTO

IQXO-58x AUTO

Model Name	Description
IQXO-581 AUTO	A 3.3V Version
IQXO-582 AUTO	A 2.5V Version
IQXO-583 AUTO	A 1.8V Version

ISSUE 1; January 2024

Description

- Ceramic package with a hermetically seam sealed metal lid suitable for automotive applications. Qualified to AEC-Q200 Rev D and with IATF-16949:2016 release. Not suitable for safety critical applications.



Frequency Parameters

- Frequency 1.0MHz to 135.0MHz
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 5\text{ppm}$ max per year @ 25°C

Electrical Parameters

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

Operating Temperature Ranges

- -40 to 85°C
- -40 to 125°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

Output Control

- Enable/Disable Operation:
Logic '1' (>70% Vs) to pad 1 enables oscillator output.
Logic '0' (<30% Vs) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state.
No connection to pad 1 enables oscillator output.
- Standby Current:
-40 to 85°C: 10 μ A max
-40 to 125°C: 20 μ A max

Output Levels

- Output High (VoH): 90% of Vs min
Output Low (VoL): 10% of Vs max

Environmental Parameters

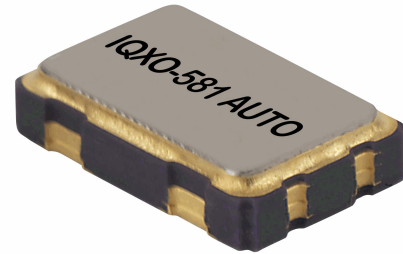
- Storage Temperature Range: -55 to 150°C
- Qualified to AEC-Q200 Rev D

Ordering Information

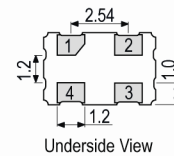
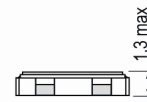
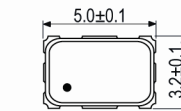
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
(*minimum required)
- Example
20.0MHz IQXO-581 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 3.3V

Compliance

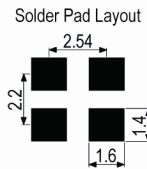
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable



Outline (mm)



Pad Connections
1. Enable/Disable
2. GND
3. Output
4. +Vs



Underside View



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Packaging Details

- Pack Style: Bulk Loose in bulk pack
Pack Size: 100
- Pack Style: Reel Tape & reel in accordance with EIA-481
Pack Size: 1,000
- Pack Style: Cutt Cut tape
Pack Size: 100

Electrical Specification - maximum limiting values 3.3V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	19.999999MHz	-40 to 85	±25.0	7	10	40/60%
		-40 to 125	±50.0	7	10	40/60%
20.0MHz	31.999999MHz	-40 to 85	±25.0	12	10	40/60%
		-40 to 125	±50.0	12	10	40/60%
32.0MHz	49.999999MHz	-40 to 85	±25.0	20	10	40/60%
		-40 to 125	±50.0	20	10	40/60%
50.0MHz	79.999999MHz	-40 to 85	±25.0	25	8	40/60%
		-40 to 125	±50.0	25	8	40/60%
80.0MHz	99.999999MHz	-40 to 85	±25.0	30	5	40/60%
		-40 to 125	±50.0	30	5	40/60%
100.0MHz	135.0MHz	-40 to 85	±25.0	40	4	40/60%
		-40 to 125	±50.0	40	4	40/60%

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Description

- Ceramic package with a hermetically seam sealed metal lid suitable for automotive applications. Qualified to AEC-Q200 Rev D and with IATF-16949:2016 release. Not suitable for safety critical applications.



Frequency Parameters

- Frequency: 1.0MHz to 75.0MHz
- Frequency Stability: $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 5\text{ppm}$ max per year @ 25°C

Electrical Parameters

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

Operating Temperature Ranges

- -40 to 85°C
- -40 to 125°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF

Output Control

- Enable/Disable Operation:
Logic '1' (>70% Vs) to pad 1 enables oscillator output.
Logic '0' (<30% Vs) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state.
No connection to pad 1 enables oscillator output.
- Standby Current:
-40 to 85°C: 10µA max
-40 to 125°C: 20µA max

Environmental Parameters

- Storage Temperature Range: -55 to 150°C
- Qualified to AEC-Q200 Rev D

Ordering Information

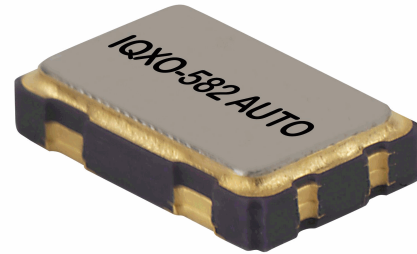
- Frequency*
Model*
Output
Frequency Stability*
Operating Temperature Range*
Supply Voltage
(*minimum required)
- Example
20.0MHz IQXO-582 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 2.5V

Compliance

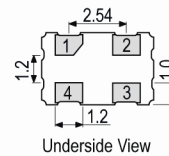
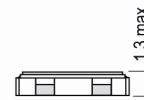
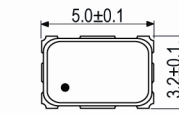
- RoHS Status (2015/863/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

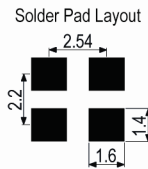
- Pack Style: Bulk: Loose in bulk pack
Pack Size: 100
- Pack Style: Reel: Tape & reel in accordance with EIA-481
Pack Size: 1,000



Outline (mm)



Pad Connections
 1. Enable/Disable
 2. GND
 3. Output
 4. +Vs





Crystal Clock Oscillator Specification IQXO-582 AUTO

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Electrical Specification - maximum limiting values 2.5V \pm 5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	9.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	6 6	5 5	40/60% 40/60%
10.0MHz	19.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	8 8	5 5	40/60% 40/60%
20.0MHz	31.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	8 8	5 5	40/60% 40/60%
32.0MHz	49.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	20 20	5 5	40/60% 40/60%
50.0MHz	75.0MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	20 20	4 4	40/60% 40/60%

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Description

- Ceramic package with a hermetically seam sealed metal lid suitable for automotive applications. Qualified to AEC-Q200 Rev D and with IATF-16949:2016 release. Not suitable for safety critical applications.



Frequency Parameters

- Frequency 1.0MHz to 50.0MHz
- Frequency Stability $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing $\pm 5\text{ppm}$ max per year @ 25°C

Electrical Parameters

- Supply Voltage 1.8V $\pm 5\%$

Operating Temperature Ranges

- -40 to 85°C
- -40 to 125°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

Output Control

- Enable/Disable Operation:
Logic '1' (>70% Vs) to pad 1 enables oscillator output.
Logic '0' (<30% Vs) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state.
No connection to pad 1 enables oscillator output.
- Standby Current:
-40 to 85°C: 10 μ A max
-40 to 125°C: 20 μ A max

Environmental Parameters

- Storage Temperature Range: -55 to 150°C
- Qualified to AEC-Q200 Rev D

Ordering Information

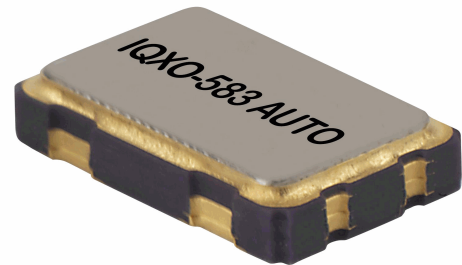
- Frequency*
Model*
Output
Frequency Stability*
Operating Temperature Range*
Supply Voltage
(*minimum required)
- Example
20.0MHz IQXO-583 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 1.8V

Compliance

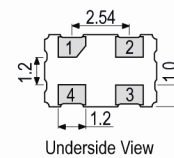
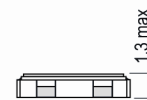
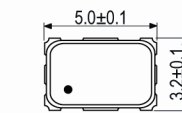
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

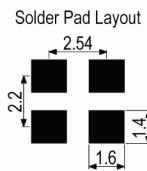
- Pack Style: Reel Tape & reel in accordance with EIA-481
Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack
Pack Size: 100



Outline (mm)



Pad Connections
 1. Enable/Disable
 2. GND
 3. Output
 4. +Vs



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Electrical Specification - maximum limiting values 1.8V \pm 5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	9.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	5 5	5 5	40/60% 40/60%
10.0MHz	19.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	6 6	5 5	40/60% 40/60%
20.0MHz	31.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	6 6	5 5	40/60% 40/60%
32.0MHz	50.0MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	15 15	5 5	40/60% 40/60%

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