



## **IQXO-58x AUTO**

IQXO-58x AUTO

<b>Model Name</b>	<b>Description</b>
<b>IQXO-581 AUTO</b>	<b>A 3.3V Version</b>
<b>IQXO-582 AUTO</b>	<b>A 2.5V Version</b>
<b>IQXO-583 AUTO</b>	<b>A 1.8V Version</b>

ISSUE 1; March 2022

### Description

- Ceramic package with a hermetically seam sealed metal lid suitable for automotive applications. Qualified to AEC-Q200 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: 10µA max  
-40 to 125°C: 20µA max

### Output Levels

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

### Environmental Parameters

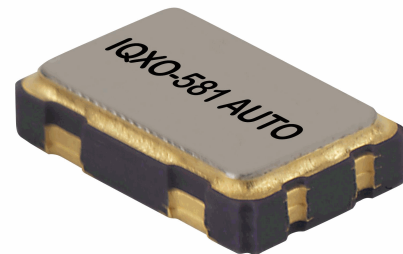
- Storage Temperature Range: -55 to 150°C
- Qualified to AEC-Q200

### Ordering Information

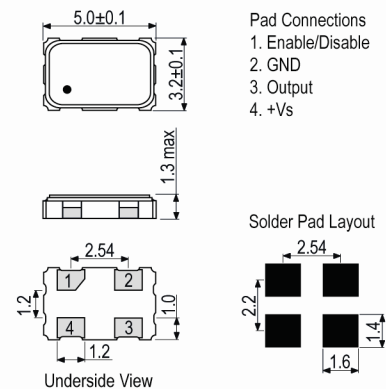
- Frequency\*
- Model\*
- Output
- Frequency Stability\*
- Operating Temperature Range\*
- Supply Voltage  
(\*minimum required)
- Example  
20.0MHz IQXO-581 AUTO  
CMOS  $\pm 100\text{ppm}$  -40 to 125C 3.3V

### Compliance

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



### Outline (mm)



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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-D  
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 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: 10 $\mu$ A max  
-40 to 125°C: 20 $\mu$ A max

### Environmental Parameters

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

### Ordering Information

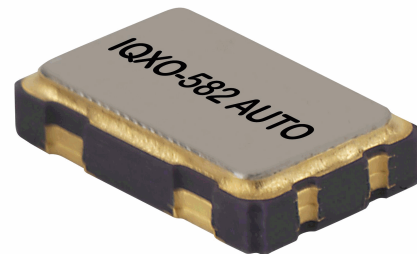
- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example  
20.0MHz IQXO-582 AUTO  
CMOS  $\pm 100\text{ppm}$  -40 to 125C 2.5V

### Compliance

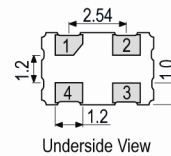
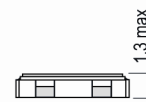
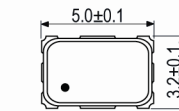
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

### Packaging Details

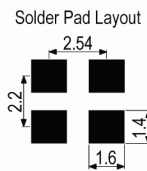
- Pack Style: Bulk Loose in bulk pack  
Pack Size: 100
- Pack Style: Reel Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000



### Outline (mm)



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



Underside View



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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 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 $\mu$ A max  
-40 to 125°C: 20 $\mu$ A max

### Environmental Parameters

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

### Ordering Information

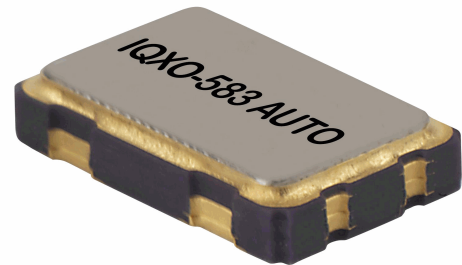
- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example  
20.0MHz IQXO-583 AUTO  
CMOS  $\pm 100\text{ppm}$  -40 to 125C 1.8V

### Compliance

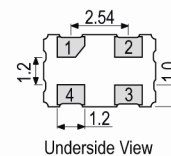
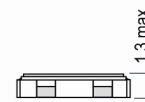
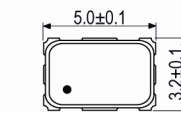
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

### Packaging Details

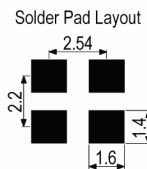
- Pack Style: Reel Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000
- Pack Style: Bulk Loose in bulk pack  
Pack Size: 100



### Outline (mm)



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



Underside View

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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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