

ISSUE 4; July 2024

Description

- Standard 2 x 1.6mm crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid



Frequency Parameters

- Frequency: 1.0MHz to 80.0MHz
- Frequency Stability: $\pm 50.00\text{ppm}$ 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

- 20 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max
- Start up time: 10ms max.
0.7ms typ to 90% of final amplitude (under ideal conditions @ 25°C)

Output Control

- Standby Operation: 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 μA max, 1.0 μA typ @ 25°C

Output Levels

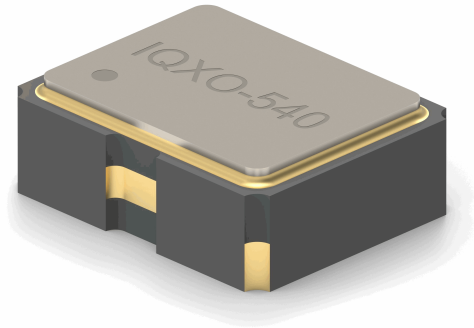
- Output High (VoH): 90% of V_s min
Output Low (VoL): 10% of V_s max

Environmental Parameters

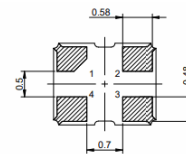
- Storage Temperature Range: -55 to 125°C
- Shock: Half sine shock pulse with peak acceleration 500g; Pulse duration: 0.3ms
- Vibration: MIL-STD-202 Method 204. 5g for 20 minutes, 12 cycles in each of the 3 orientations, 10 - 2000 Hz. As per Table 11 of AEC-Q200.

Manufacturing Details

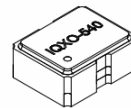
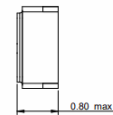
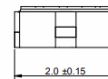
- RoHS Terminations: NiAu
- RoHS Reflow: 260°C max for 10s max



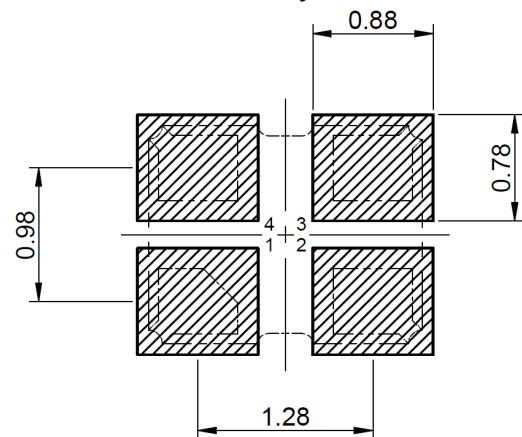
Outline (mm)



Pad No	Pad Connection
1	Enable/Disable
2	GND
3	Output
4	+Vs



Recommended Solder Pad Layout



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Ordering Information

- Frequency*
Model*
Output
Frequency Stability*
Operating Temperature Range*
Supply Voltage
(*minimum required)
- Example
10.0MHz IQXO-540
CMOS ± 25 ppm -20 to 70 C 3.3V

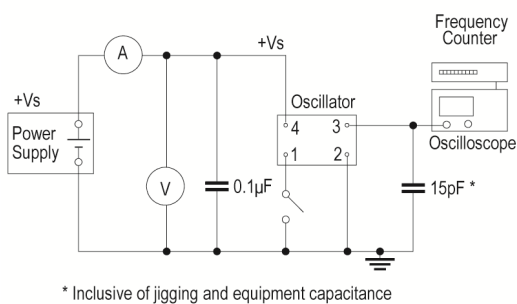
Compliance

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

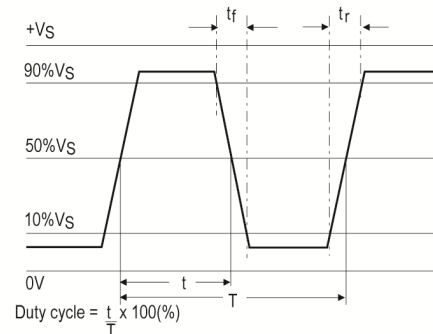
Packaging Details

- Tape & reel in accordance with EIA-481
Quantities below the standard reel size to be supplied on cut tape.
Standard Pack Quantity: 3,000

Test Circuit



Waveform



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
		$^{\circ}\text{C}$	ppm	mA	ns	%
1.0MHz	16.999999MHz	-20 to 70	± 50.0	7	7	40/60
		-40 to 85	± 50.0	7	7	40/60
17.0MHz	80.0MHz	-20 to 70	± 50.0	20	7	40/60
		-40 to 85	± 50.0	20	7	40/60

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