

ISSUE 3; May 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: $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 5\text{ppm}$ max per year @ 25°C

Electrical Parameters

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

Operating Temperature Ranges

- 20 to 70°C
- 40 to 85°C

Output Details

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

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 (pad 1 at logic '0')

Output Levels

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

Environmental Parameters

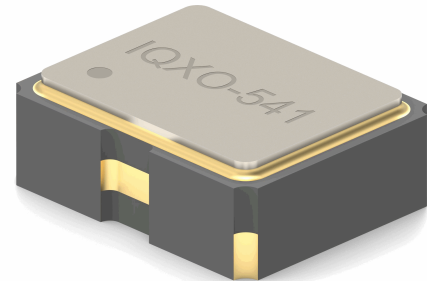
- Impact: Weight of 10g dropped to centre of part from a height of 6mm
- Vibration: IEC 60068-2-6: 1.5mm amplitude, 10Hz-55Hz, 1min in 3 mutually perpendicular planes, duration 2hrs each plane (total 6hrs)
- Storage Temperature Range: -40 to 85°C

Manufacturing Details

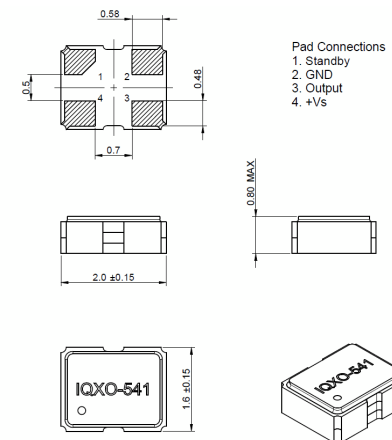
- RoHS Reflow: 250°C max for 10s max

Ordering Information

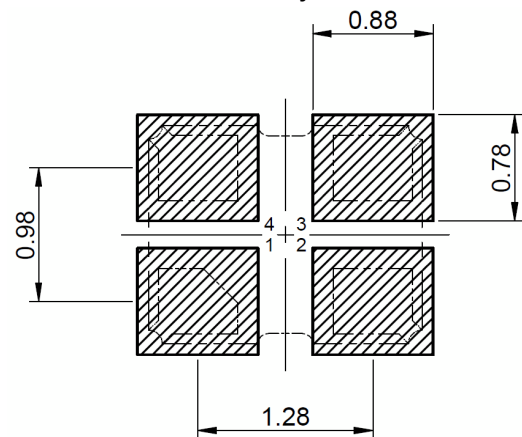
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
(*minimum required)
- Example
10.0MHz IQXO-541
CMOS $\pm 25\text{ppm}$ -20 to 70C 2.5V



Outline (mm)



Recommended Solder Pad Layout



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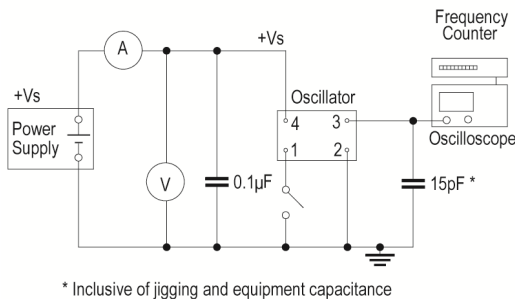
Compliance

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

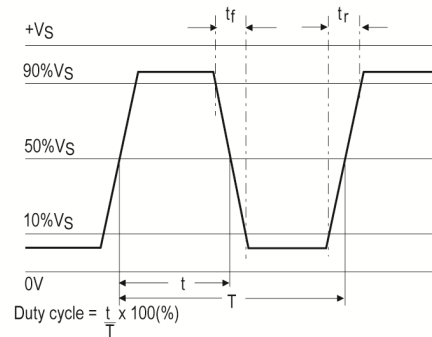
Packaging Details

- Pack Style: RL3K Tape & reel in accordance with EIA-481
Standard Pack Quantity: 3,000
- Pack Style: Cutt In tape, cut from a reel
Standard Pack Quantity: 100
- Pack Style: Reel Tape & reel in accordance with EIA-481
Standard Pack Quantity: 1,000

Test Circuit



Wave Form



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	%
1.0MHz	19.999999MHz	-20 to 70	±25.0	4	5	45/55%
		-40 to 85	±50.0	4	5	45/55%
20.0MHz	39.999999MHz	-20 to 70	±25.0	6	5	45/55%
		-40 to 85	±50.0	6	5	45/55%
40.0MHz	59.999999MHz	-20 to 70	±25.0	7	5	45/55%
		-40 to 85	±50.0	7	5	45/55%
60.0MHz	80.0MHz	-20 to 70	±25.0	10	5	45/55%
		-40 to 85	±50.0	10	5	45/55%

This document was correct at the time of printing; please contact your local sales office for the latest version.

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