

ISSUE 5; June 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:  $\pm 5\text{ppm}$  per year

### Electrical Parameters

- Supply Voltage:  $1.8\text{V} \pm 10\%$

### 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

### 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 $\mu\text{A}$  max

### Output Levels

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

### Environmental Parameters

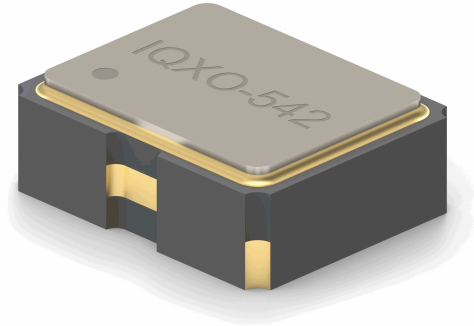
- Storage Temperature Range: -55 to 125°C
- Shock: Half sine shock pulse with peak acceleration 500g; Pulse duration: 0.3ms
- Vibration: MIL-STD-202 Method 204. 5g for 20 minutes, 12 cycles each of 3 orientations, 10 - 2000 Hz. As per Table 11 of AEC-Q200.

### Manufacturing Details

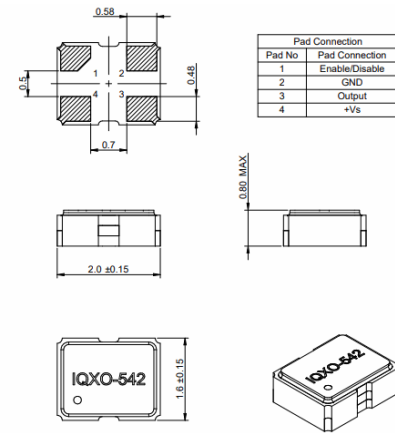
- RoHS Reflow: 260°C max for 10s max

### Ordering Information

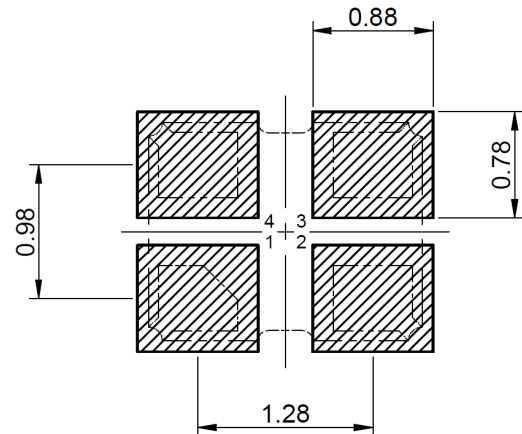
- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example  
10.0MHz IQXO-542  
CMOS  $\pm 25\text{ppm}$  -20 to 70°C 1.8V



### Outline (mm)



### Recommended Solder Pad Layout



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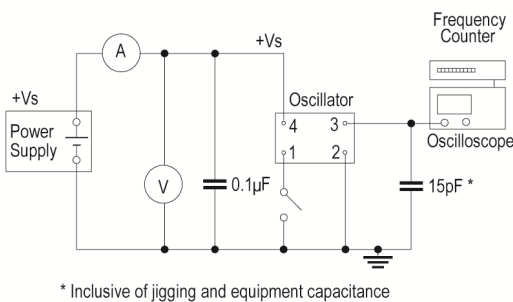
### Compliance

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

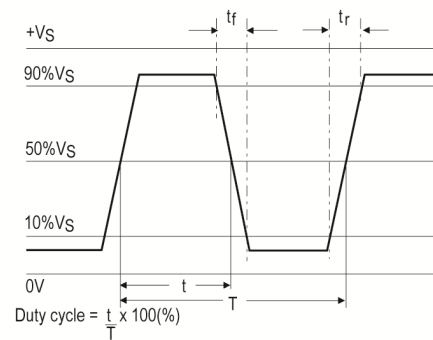
### Packaging Details

- 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 1.8V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°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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