

### Description

- Standard 2.0 x 1.6mm crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid.
- Model IQXO-540
- Model Issue number 5

### Frequency Parameters

- Frequency 12.0MHz
- Frequency Stability  $\pm 50.00\text{ppm}$
- Operating Temperature Range  $-40.00$  to  $85.00^\circ\text{C}$
- Ageing  $\pm 5\text{ppm}$  max per year @  $25^\circ\text{C}$

### Electrical Parameters

- Supply Voltage  $3.3\text{V} \pm 10\%$
- Current Draw  $7.000\text{mA}$  max

### Output Details

- Output Compatibility CMOS
- Drive Capability  $15\text{pF}$  max
- Rise and Fall Time  $7.0\text{ns}$  max
- Duty Cycle  $40/60$  max
- Start up time:  $10\text{ms}$  max,  $0.7\text{ms}$  typ to 90% of final amplitude (under ideal conditions @  $25^\circ\text{C}$ ).

### 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:  $10\mu\text{A}$  max,  $1.0\mu\text{A}$  typ @  $25^\circ\text{C}$ .

### Output Levels

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

### Environmental Parameters

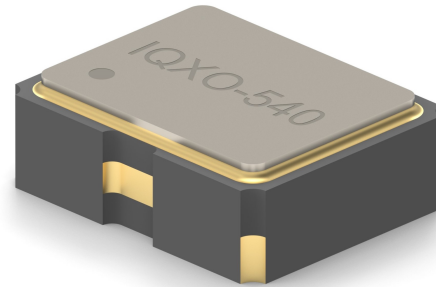
- Storage Temperature Range:  $-55$  to  $125^\circ\text{C}$
- Shock: Half sine shock pulse with peak acceleration  $500\text{g}$ ;  
Pulse duration:  $0.3\text{ms}$
- Vibration: MIL-STD-202 Method 204.  $5\text{g}$  for 20 minutes, 12 cycles in each of the 3 orientations, 10 - 2000 Hz. As per Table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

### Manufacturing Details

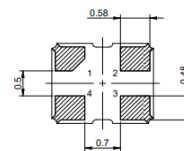
- RoHS Terminations NiAu
- RoHS Reflow Temp  $260^\circ\text{C}$  max for 10s max

### Compliance

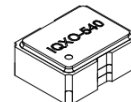
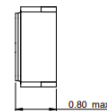
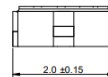
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable



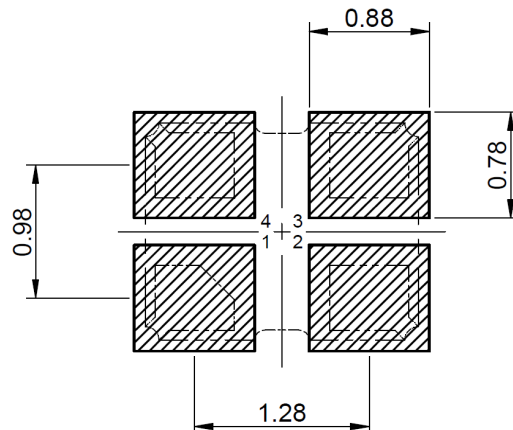
### Outline (mm)



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



### Recommended Solder Pad Layout



### CONTACT INFORMATION:

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### Packaging Details

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

### USEFUL LINKS

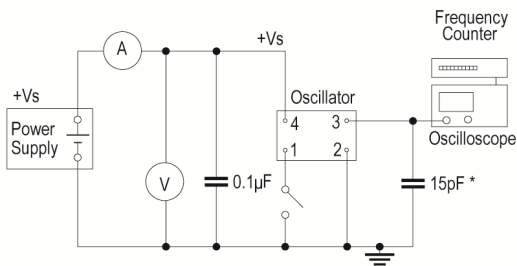
**Toolbox:**

[www.we-online.com/toolbox](http://www.we-online.com/toolbox)

**Product Catalog:**

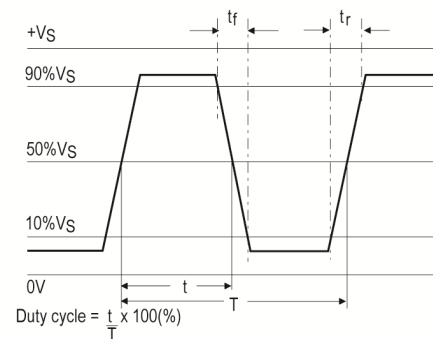
[www.we-online.com/products](http://www.we-online.com/products)

### Test Circuit



\* Inclusive of jigging and equipment capacitance

### Waveform



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