

### Customer Part:

#### 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  $7.000\text{mA}$

#### Output Details

- Output Compatibility CMOS
- Drive Capability  $15\text{pF}$  max
- Rise and Fall Time  $7.0\text{ns}$  max
- Duty Cycle 40/60
- 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

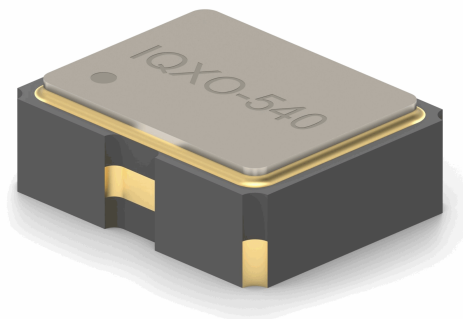
- Storage Temperature Range:  $-55$  to  $125^\circ\text{C}$
- Shock: Half sine shock pulse with peak acceleration  $500g$ ; Pulse duration:  $0.3\text{ms}$
- Vibration: MIL-STD-202 Method 204.  $5g$  for 20 minutes, 12 cycles in each of the 3 orientations, 10 - 2000 Hz. As per Table 11 of AEC-Q200.

#### Manufacturing Details

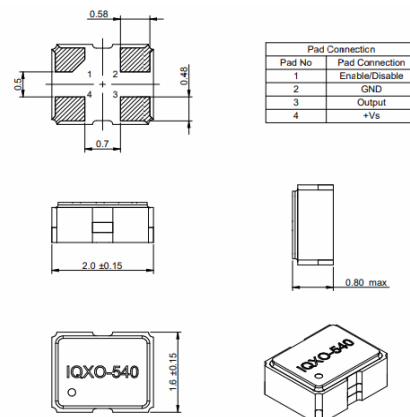
- RoHS Terminations NiAu
- RoHS Reflow Temp  $260^\circ\text{C}$  max for 10s max

#### Compliance

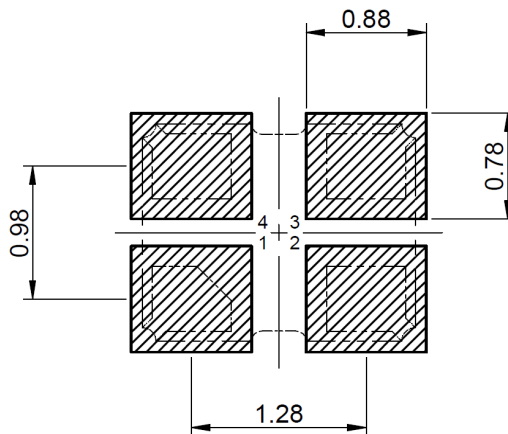
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable



#### Outline (mm)



#### Recommended Solder Pad Layout



#### Sales Office Contact Details:

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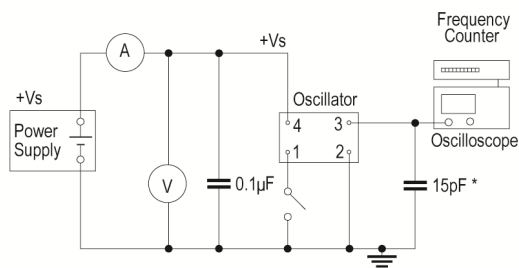
### Customer Part:

#### Packaging Details

- Tape & reel in accordance with EIA-481  
Quantities below the standard reel size to be supplied on cut tape.

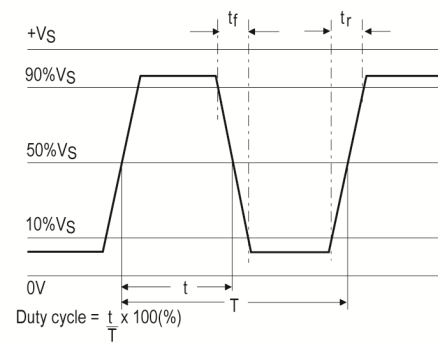
Standard Pack Quantity: 3,000

### Test Circuit



\* Inclusive of jigging and equipment capacitance

### Waveform



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