

ISSUE 2; April 2016

### Description

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

### Frequency Parameters

- Frequency: 1.0MHz to 80.0MHz
- Frequency Stability:  $\pm 30.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 5\text{ppm}$

### Electrical Parameters

- Supply Voltage:  $2.5\text{V} \pm 10\%$
- Standby Current:  $10\mu\text{A}$  max (pad 1 at logic '0')

### 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

### 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

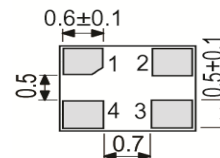
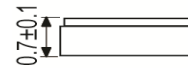
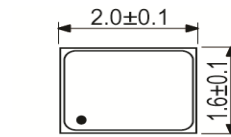
### Ordering Information

- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example  
10.0MHz IQXO-541  
CMOS  $\pm 50\text{ppm}$  -20 to 70C 2.5V

### Compliance

- RoHS Status (2011/65/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

### Outline (mm)



Underside View



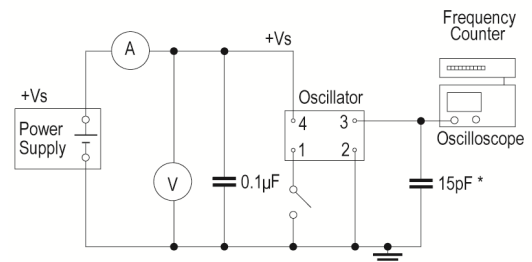
### Pad Connections

- Standby Operation
- GND
- Output
- +Vs

### Solder Pad Layout

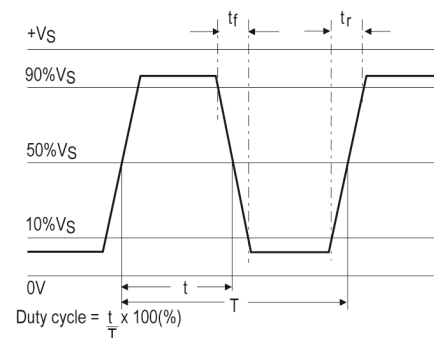


### Test Circuit



\* Inclusive of jiggling and equipment capacitance

### Wave Form



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**Packaging Details**

- Pack Style: Cutt      In tape, cut from a reel  
   Pack Size: 100
- Pack Style: Bulk      Loose in bulk pack  
   Pack Size: 100
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
   Pack Size: 1,000
- Pack Style: R250      Tape & reel in accordance with EIA-481-D  
   Pack Size: 250
- Pack Style: R500      Tape & reel in accordance with EIA-481-D  
   Pack Size: 500

**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	±30.0	4	5	45/55%
		-40 to 85	±50.0	4	5	45/55%
20.0MHz	39.999999MHz	-20 to 70	±30.0	6	5	45/55%
		-40 to 85	±50.0	6	5	45/55%
40.0MHz	59.999999MHz	-20 to 70	±30.0	7	5	45/55%
		-40 to 85	±50.0	7	5	45/55%
60.0MHz	80.0MHz	-20 to 70	±30.0	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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