



ISSUE 2; September 2014 - RoHS 2011/65/EU

**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: ±30.00ppm to ±100.00ppm
- Ageing: ±5ppm

**Electrical Parameters**

- Supply Voltage: 2.5V ±10%
- Standby Current: 10µA 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' (≥70%VS) to pad 1 enables oscillator output  
Logic '0' (≤30%VS) 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

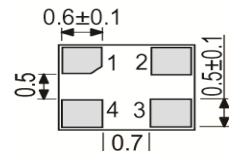
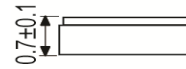
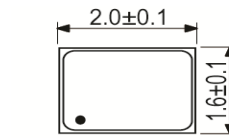
**Ordering Information**

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

**Compliance**

- RoHS Status: Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

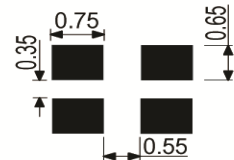
**Outline (mm)**



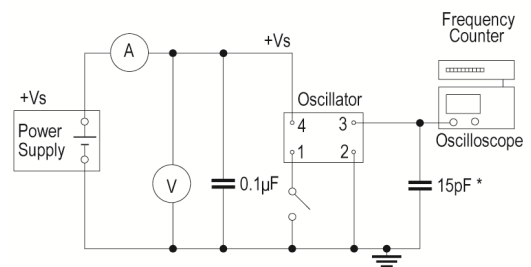
Underside View

- Pad Connections**
- Standby Operation
  - GND
  - Output
  - +Vs

**Solder Pad Layout**

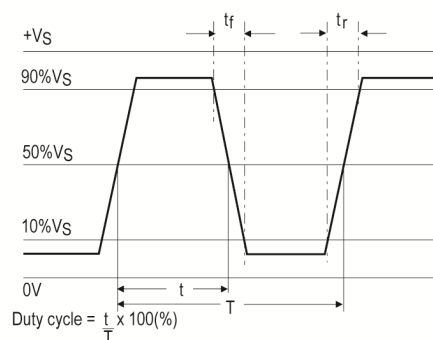


**Test Circuit**



\* Inclusive of jigging and equipment capacitance

**Wave Form**



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**Packaging Details**

- Pack Style: Bulk      Loose in bulk pack  
Pack Size: 100
- Pack Style: Reel      Tape & reel in accordance with EIA-481-D  
Pack Size: 3,000

**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      |

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