

ISSUE 1; June 2017

### Description

- Low voltage crystal oscillator (SPXO) in a hermetically sealed 3.2 x 2.5mm surface mount ceramic package.



### Frequency Parameters

- Frequency: 10.0MHz to 50.0MHz
- Frequency Stability:  $\pm 20.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max in 1st year @ 25°C

### Electrical Parameters

- Supply Voltage (Vs) options are:  
0.9V as model IQXO-691 3225-09  
1.2V as model IQXO-691 3225-12  
1.5V as model IQXO-691 3225-15

Note: Vs  $\pm 5\%$

### Operating Temperature Ranges

- 20 to 70°C
- 0 to 70°C
- 40 to 85°C

### Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF
- Output Voltage Levels:  
Output Low (VoL): 10%Vs max  
Output High (VoH): 90%Vs min
- Start Up Time: 10ms max

### Output Control

- Enable/Disable:  
Logic '0' ( $\leq 30\%$  Vs) to pad 1 disables oscillator output, output goes to high impedance state.  
Logic '1' ( $\geq 70\%$  Vs) or no connection (internal pull-up resistor) to pad 1 enables oscillator output.
- Stand-by Current: 100 $\mu$ A max

### Noise Parameters

- Phase Jitter (12kHz to 20MHz): 1.0ps RMS max

### Environmental Parameters

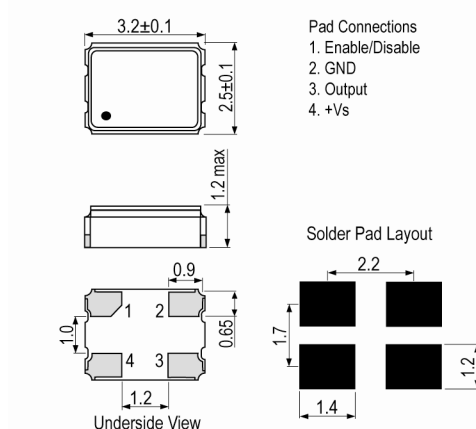
- Storage Temperature Range: -55 to 125°C
- Mechanical Shock: MIL-STD-883, Method 2002, Condition B.
- Vibration: MIL-STD-883, Method 2007, Condition A.
- Moisture Resistance: MIL-STD-883, Method 1004.
- Thermal Cycling: MIL-STD-883, Method 1010, Condition B.
- Solderability: MIL-STD-883, Method 2003.
- Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition K.
- Fine Leak Test: MIL-STD-883, Method 1014, Condition A.
- Gross Leak Test: MIL-STD-883, Method 1014, Condition C.

### Manufacturing Details

- Maximum Process Temperature: 260°C (10secs max)
- Note: Please connect a bypass capacitor of 0.1 $\mu$ F between +Vs and circuit ground.



### Outline (mm)



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#### Compliance

- RoHS Status (2011/65/EU) Compliant
- REACh Status Compliant
- MSL Rating (JDEC-STD-033): 1

#### Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481D  
Pack Size: 1,000
- Pack Style: Cutt Cut tape  
Pack Size: 100

#### Electrical Specification - maximum limiting values

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
10.0MHz	50.0MHz	0 to 70	±20.0	10	5	45/55%
		-20 to 70	±20.0	10	5	45/55%
		-40 to 85	±25.0	10	5	45/55%

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