



## Crystal Clock Oscillator Specification

IQD Part No. + Packaging: LFSPX0019966Reel

Würth Part No. 831019966



### Description

- Standard 7 x 5mm crystal oscillator in a ceramic package with a seam sealed metal lid, hermetically sealed.
- Model CFPS-73
- Model Issue number 13

### Frequency Parameters

- Frequency 12.0MHz
- Frequency Stability  $\pm 50.00\text{ppm}$
- Operating Temperature Range  $-40.00$  to  $85.00^\circ\text{C}$
- Ageing  $\pm 3\text{ppm}$  per year max

### Electrical Parameters

- Supply Voltage  $3.3\text{V} \pm 10\%$
- Current Draw  $7.000\text{mA}$
- Note: parameters are referenced to  $15\text{pF}$  load

### Output Details

- Output Compatibility HCMOS
- Drive Capability  $15\text{pF}$  std,  $50\text{pF}$  max
- Rise and Fall Time  $10.0\text{ns}$  max
- Duty Cycle 45/55

### Output Control

- Standby Operation:  
Logic '1' ( $>70\%$  VS) to pad 1 enables oscillator output  
Logic '0' ( $<30\%$  VS) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state  
No connection to pad 1 enables oscillator output  
Standby Current:  $10\mu\text{A}$  max

### Noise Parameters

- Phase Noise @125MHz (typical):  
10Hz  $-54\text{dBc}$   
100Hz  $-92\text{dBc}$   
1kHz  $-130\text{dBc}$   
10kHz  $-149\text{dBc}$   
100kHz  $-159\text{dBc}$   
1MHz  $-163\text{dBc}$
- RMS Phase Jitter @125MHz: 52fs typical

### Environmental Parameters

- Shock: MIL-STD-202, Method 213, Condition E
- Vibration: MIL-STD-883, Method 2007, Condition A
- Storage Temperature Range:  $-55$  to  $125^\circ\text{C}$

### Manufacturing Details

- RoHS Terminations NiAu
- RoHS Reflow Temp  $260\text{degC}$  10s

### Compliance

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

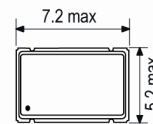
### CONTACT INFORMATION:

Würth Elektronik eiSos GmbH & Co. KG  
Max-Eyth-Str. 1, 74638 Waldenburg, Germany  
Tel: +49(0) 7942 945-0

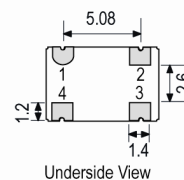
Email: eiSos@we-online.de  
Web: www.we-online.com



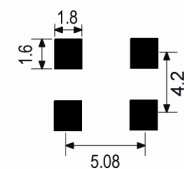
### Outline (mm)



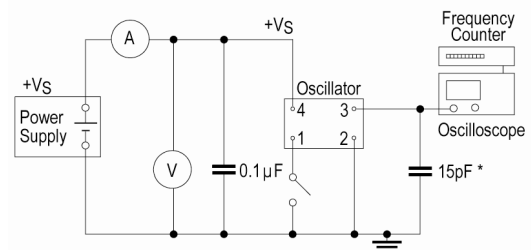
- Pad Connections
- Standby Operation
  - GND
  - Output
  - +VS



### Solder Pad Layout



### Test Circuit



\* Inclusive of jigging and equipment capacitance



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### Packaging Details

- Pack Style: Reel     Tape & reel in accordance with EIA-481-D  
Pack Size: 1,000
- Alternative packing option available

### USEFUL LINKS

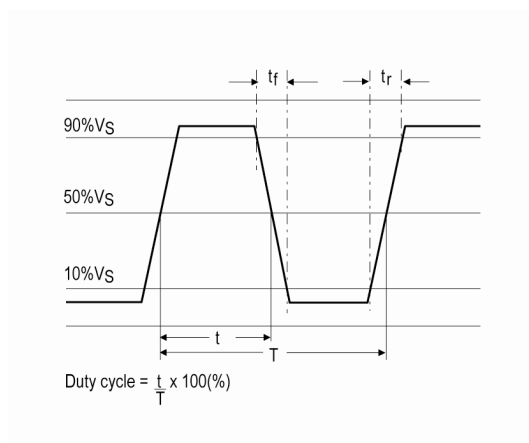
#### Toolbox:

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

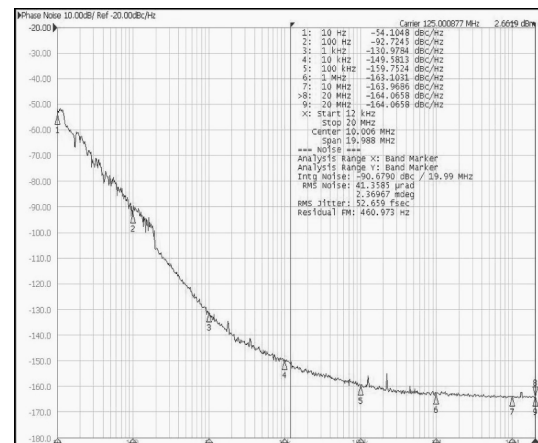
#### Product Catalog:

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

### Wave Form



### Phase Noise / Jitter



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