

# SIMPLE PACKAGED CRYSTAL OSCILLATOR

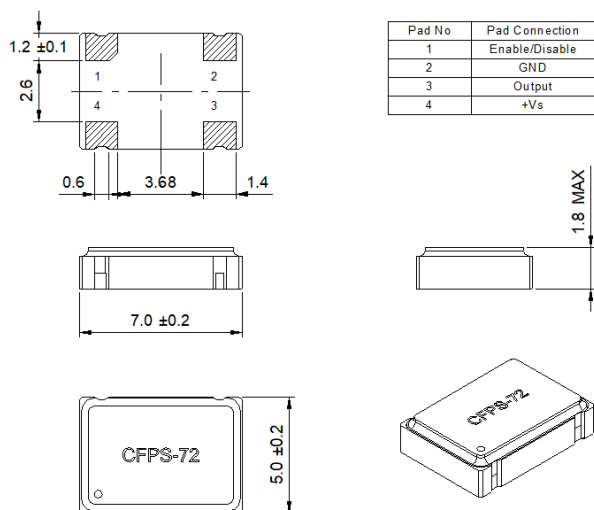
Part Number: 831020502 | CFPS-72

AKA Number: LFSPX0020502

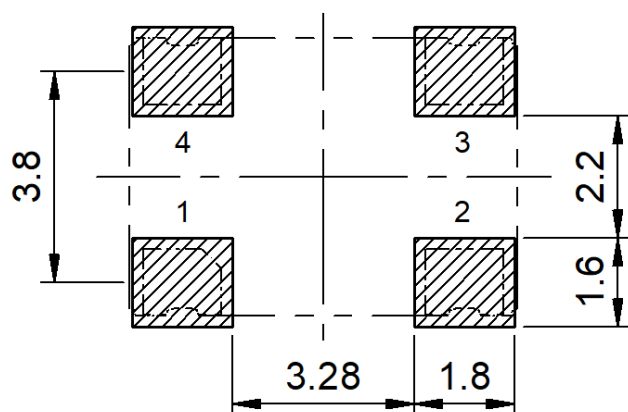
## General Information

Standard 7.0 x 5.0 mm crystal oscillator in a ceramic package with a seam sealed metal lid, hermetically sealed.

## Dimensions [mm]



## Recommended Land Pattern [mm]



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## Frequency Parameters

|                       |                       |
|-----------------------|-----------------------|
| Frequency             | 4.0 MHz               |
| Frequency Tolerance   | INCLUSIVE             |
| Frequency Stability   | ± 50 ppm              |
| Operating Temperature | -40 °C to 85 °C       |
| Ageing                | ± 5 ppm max. per year |

## Output Details

|                      |                        |
|----------------------|------------------------|
| Output Compatibility | CMOS                   |
| Drive Capability     | 15 pF typ., 30 pF max. |

Start up time: 10 ms max, 1.1 ms typ to 90 % of final amplitude (under ideal conditions @ 25 °C).

## 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 µA max, 2.3 µA typ @ 25 °C

## Material Parameters

|                                  |                |
|----------------------------------|----------------|
| Termination Finish               | Ni<br>Au       |
| Moisture Sensitivity Level (MSL) | Not Applicable |

## Manufacturing Details

Reflow: 260 °C max for 10 s max.

## Electrical Parameters

|                     |            |
|---------------------|------------|
| Supply Voltage      | 5 V ± 10 % |
| Current Consumption | 23 mA max. |
| Rise Time $t_r$     | 10 ns max. |
| Fall Time $t_f$     | 10 ns max. |
| Duty Cycle          | 40/60 %    |

Note: parameters are referenced to 15pF load.

## Environmental Parameters

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

## Technical Standards

|              |                           |
|--------------|---------------------------|
| RoHS Status  | 2015/863/EU - Compliant   |
| REACH Status | (EC)1907/2006 - Compliant |

## Packaging Details

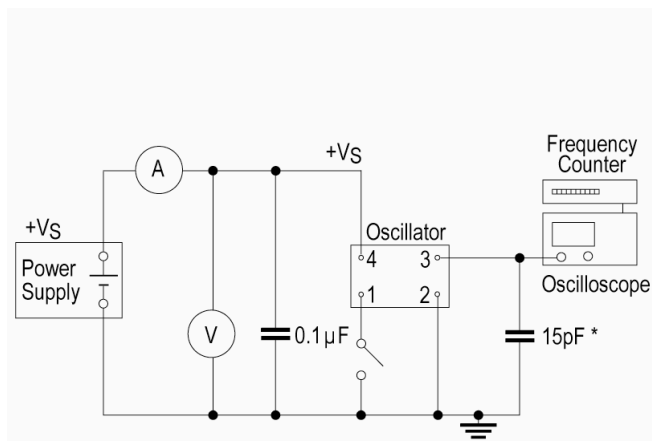
|                                                                     |                      |
|---------------------------------------------------------------------|----------------------|
| Packaging SPQ                                                       | Tape & Reel 1000 pcs |
| Tape & reel in accordance with EIA-481                              |                      |
| Quantities below the standard reel size to be supplied on cut tape. |                      |

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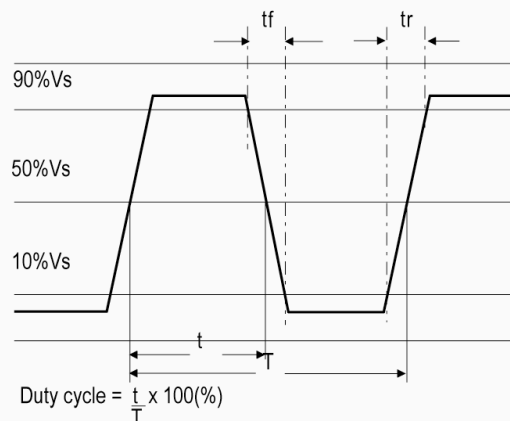
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## Test Circuit



\* Inclusive of jigging and equipment capacitance

## Waveform



## Company Address

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