# 3.2x2.5mm LVPECL Oscillator

O3PS

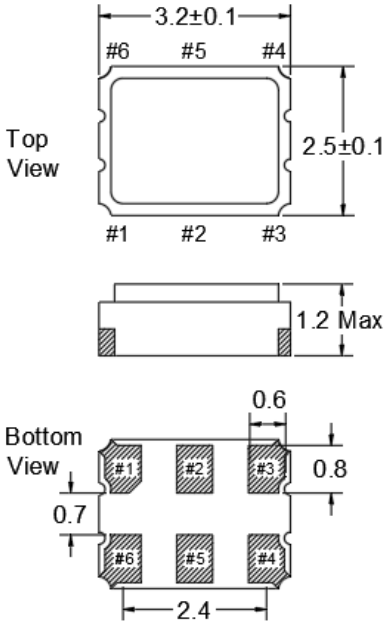
DATASHEET

- LVPECL Output
- Stabilities to ±20 PPM
- Temperature Ranges as wide as -40ºC to +85ºC
- Supply Voltages: 2.5V, 3.3V

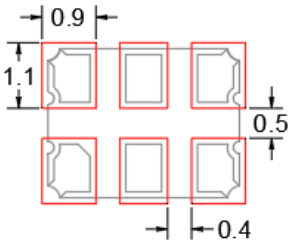
## Specifications

| PARAMETERS | MAX (unless otherwise noted) |
|---|---|
| Frequency Range | 13.5 ~ 156.25 MHz |
| Storage Temperature Range ($T_{STG}$) | -55 ~ +125°C |
| Supply Voltage ($V_{DD}$) | 2.5V±10% / 3.3V±10% |
| Input Current ($I_{DD}$) | 70 mA |
| Standby Current | 15 uA |
| Output Symmetry (50% $V_{P-P}$) | 45% ~ 55% |
| Rise Time (20%~80% $V_{P-P}$) | 0.5 nS |
| Fall Time (80%~20% $V_{P-P}$) | 0.5 nS |
| Output Voltage ($V_{OL}$)<br>($V_{OH}$) | VDD – 1.62V<br>VDD – 1.025V Min. |
| Output Load | 50 Ohms to VDD – 2.0V |
| Start-up Time ($T_S$) | 10 mS |
| Output Disable Time [1] | 200 nS |
| Output Enable Time [1] | 4 mS |
| Aging (@ 25C) | ±5 PPM first year |
| Phase Jitter (12kHz~20MH) | 0.5 pS |
| Maximum Soldering Temp / Time | 260°C / 10 Seconds |
| Moisture Sensitivity Level (MSL) | 1 |
| Termination Finish | Au over Ni |
| Seal Method | Seam Seal |
| Lead (Pb) Free | Yes |
| RoHS/REACH Compliant | Yes |

| ENABLE / DISABLE FUNCTION | |
|---|---|
| Pin1 | Out 1 (pin 4), Out 2 (pin 5) |
| OPEN [1] | Active |
| '1' Level $V_{IH} \geq 70\%V_{DD}$ | Active |
| '0' Level $V_{IL} \leq 30\%V_{DD}$ | High Z |




Recommended Solder Pad Layout




Pin Connections

| | |
|---|---|
| #1 E/D | #4 Output_1 |
| #2 NC | #5 Output_2 |
| #3 GND | #6 $V_{DD}$ |

- Available Options by Stability & Operating Temp

| Frequency Stability [2] | Operating Temperature (ºC) | Frequency Range (MHz) |
|---|---|---|
| ±100PPM | -20 ~ +70 | 13.500 ~ 156.250 |
| ±100PPM | -40 ~ +85 | 13.500 ~ 156.250 |
| ±50PPM | -20 ~ +70 | 13.500 ~ 156.250 |
| ±50PPM | -40 ~ +85 | 13.500 ~ 156.250 |
| ±25PPM | -20 ~ +70 | 13.500 ~ 156.250 |
| ±25PPM | -40 ~ +85 | 13.500 ~ 156.250 |
| ±20PPM | -20 ~ +70 | 13.500 ~ 156.250 |

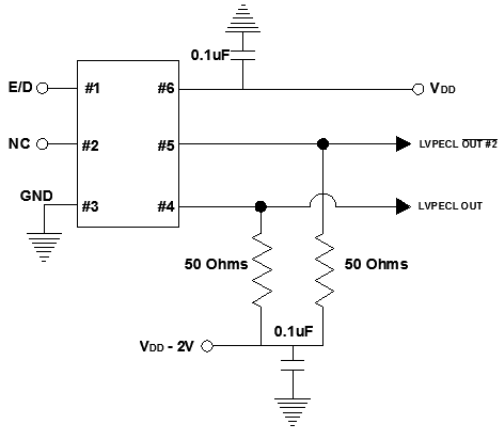
[1] An internal pull-up resistor from pin 1 to pin 6 allows active output if pin 1 is left open.
[2] Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, reflow.

Notes:
*A 0.01µF capacitor should be placed between $V_{DD}$ (Pin 6) and GND (Pin3) to minimize power supply line noise.
*Dimensional drawing is for reference to critical specifications defined by size measurements.
Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary

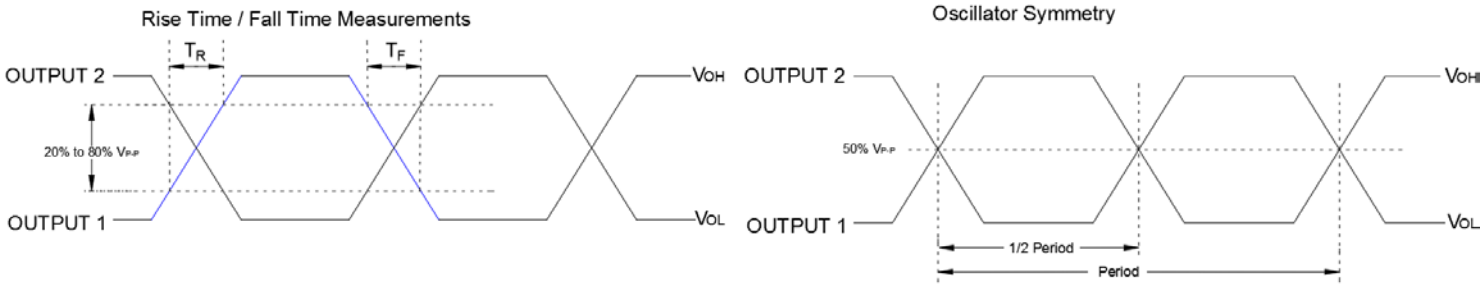


| | | |
|---|---|---|
| **Title / Description:** O3PS SERIES STANDARD SPECIFICATIONS | | |
| **Drawing Number:** 101134 | | **Size:** A |
| **Part Number:** | | **Cage:** 61429 |
| **Draftsperson:** CMR | **Approved:** BEC | **Revision Date:** 07/28/2017 |

- **RECOMMENDED CIRCUIT**

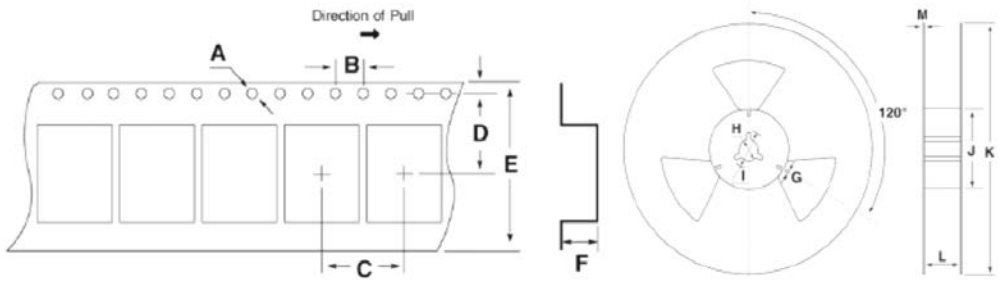



- **WAVEFORM CHARACTERISTICS**




- **TAPE/REEL SPECIFICATIONS**

| Tape Specifications (millimeters) | | | | | | | | Reel Specifications (millimeters) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **A** | **B** | **C** | **D** | **E** | **F** | **Std Reel Qty** | | **G** | **H** | **I** | **J** | **K** | **L** | **M** |
| Φ1.5 | 4.0 | 4.0 | 3.5 | 8.0 | 1.4 | 2,000 | | 2.0 | Φ13 | Φ21 | Φ60 | Φ180 | 9.0 | 1.2 |



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## Available Options & Part Identification

**Example: F O3PS C B M 25.0**

| F | O3PS | C | B | M | 25.0 |
|---|---|---|---|---|---|
| **Fox** | **Model Number** | **Voltage**<br>J = 2.5V±10%<br>**C = 3.3V±10%** | **Stability**<br>A = 100PPM<br>**B = 50PPM**<br>D = 25PPM<br>E = 20PPM* | **Operating Temperature**<br>F = -20 to +70°C<br>**M = -40 to +85°C** | **Frequency** |

*20 PPM available for -20~+70°C only.


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**For datasheet type definitions and a glossary of common terms, visit http://www.foxonline.com/tgcrystals.html .**



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