



7x5mm LVPECL SMD Oscillator

O7PD
(former F4600A series)
DATASHEET

- LVPECL Output
- Stabilities to ± 20 PPM
- Temperature Ranges to -40°C to $+85^{\circ}\text{C}$
- Supply Voltages: 2.5V, 3.3V
- Pin 2 Enable/Disable

2.5V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	40.000 ~ 325.000 MHz
Storage Temperature Range (T_{STG})	$-55 \sim +125^{\circ}\text{C}$
Supply Voltage (V_{DD})	$2.5\text{V} \pm 10\%$
Input Current (I_{DD})	88mA
Standby Current	$30\mu\text{A}$
Output Symmetry (50% V_{P-P} level) 40.000 ~ 170.000 MHz >170.000 ~ 325.000 MHz	45% ~ 55% 40% ~ 60%
Rise Time (20%~80% V_{P-P})	1nS
Fall Time (80%~20% V_{P-P})	1nS
Output Voltage (V_{OL}) (V_{OH})	1.195V 1.415V Min.
Output Load	50 Ohms to $V_{DD} - 2.0\text{V}$
Start-up Time (T_S)	10mS
Output Disable Time ¹	200nS
Output Enable Time ¹	10mS
Phase Jitter (12kHz~20MHz BW)	0.3pS Typ.

ENABLE / DISABLE FUNCTION

Pin 2	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

• Available Options by Stability & Operating Temp for 2.5V ²

Frequency Stability ²	Operating Temperature ($^{\circ}\text{C}$)	Frequency Range (MHz)
$\pm 100\text{PPM}$	$-10 \sim +70$	40.000 ~ 325.000
$\pm 100\text{PPM}$	$-20 \sim +70$	40.000 ~ 325.000
$\pm 100\text{PPM}$	$-40 \sim +85$	40.000 ~ 325.000
$\pm 50\text{PPM}$	$-10 \sim +70$	40.000 ~ 325.000
$\pm 50\text{PPM}$	$-20 \sim +70$	40.000 ~ 325.000
$\pm 50\text{PPM}$	$-40 \sim +85$	40.000 ~ 325.000
$\pm 25\text{PPM}^*$	$-10 \sim +70$	40.000 ~ 325.000
$\pm 25\text{PPM}^*$	$-20 \sim +70$	40.000 ~ 325.000
$\pm 25\text{PPM}^*$	$-40 \sim +85$	40.000 ~ 280.000

¹ An internal pull-up resistor from pin 2 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, aging, shock, and vibration. (*Excludes shock and vibration)

	Title / Description: O7PD SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O7PD-DOC-1		Size: A
	Part Number:		Cage: 61429
	Draftsperson: BEC	Approved: MAJ	Revision Date: 05/05/2020



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3.3V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	40.000 ~ 325.000 MHz
Storage Temperature Range (T _{STG})	-55 ~ +125°C
Supply Voltage (V _{DD})	3.3V±10%
Input Current (I _{DD})	88mA
Standby Current	30µA
Output Symmetry (50%V _{P-P} level) 40.000 ~ 170.000MHz >170.000 ~ 325.000MHz	45% ~ 55% 40% ~ 60%
Rise Time (20%~80% V _{P-P})	1nS
Fall Time (80%~20% V _{P-P})	1nS
Output Voltage (V _{OL}) (V _{OH})	1.7V 2.2V Min.
Output Load	50 Ohms to VDD – 2.0V
Start-up Time (T _s)	10mS
Output Disable Time ¹	100nS
Output Enable Time ¹	10mS
Phase Jitter (12kHz~20MHz BW)	0.3pS Typ.

ENABLE / DISABLE FUNCTION

Pin 2	Out 1 (pin 4), Out 2 (pin 5)
OPEN ¹	Active
'1' Level V _{IH} ≥ 70%V _{DD}	Active
'0' Level V _{IL} ≤ 30%V _{DD}	High Z

• Available Options by Stability & Operating Temp for 3.3V ²

Frequency Stability ²	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM	-10 ~ +70	40.000 ~ 325.000
±100PPM	-20 ~ +70	40.000 ~ 325.000
±100PPM	-40 ~ +85	40.000 ~ 325.000
±50PPM	-10 ~ +70	40.000 ~ 325.000
±50PPM	-20 ~ +70	40.000 ~ 325.000
±50PPM	-40 ~ +85	40.000 ~ 325.000
±25PPM	-10 ~ +70*	40.000 ~ 325.000
±25PPM	-20 ~ +70*	40.000 ~ 325.000
±25PPM	-40 ~ +85*	40.000 ~ 280.000
±20PPM	-10 ~ +70*	40.000 ~ 280.000
±20PPM	-20 ~ +70*	40.000 ~ 280.000

¹ An internal pull-up resistor from pin 2 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, aging, shock, and vibration. (*Excludes shock and vibration)

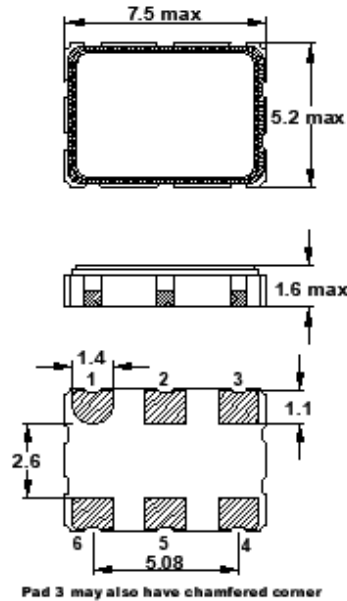




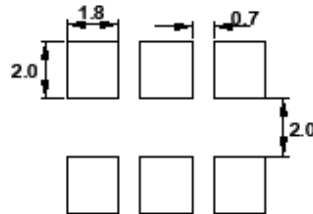
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DIMENSIONS / MECHANICAL SPECIFICATIONS



Recommended Solder Pad Layout



Dimensions are in millimeters.

Pin Connections

- #1 N.C.
- #2 E/D
- #3 GND
- #4 Output_1
- #5 Output_2
- #6 VDD

Maximum Soldering Temp / Time	260°C / 10 Seconds x 2
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni
Seal Method	Seam
Lead (Pb) Free	Yes
RoHS/REACH Compliant	Yes

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

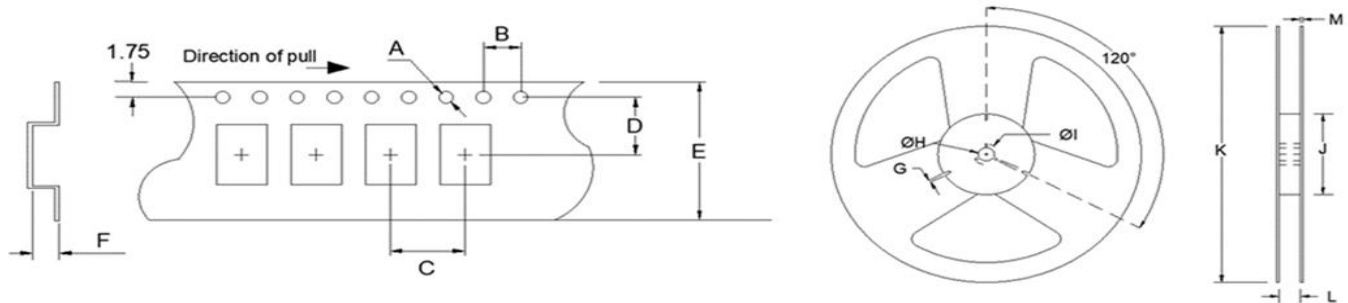
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Tape Specifications (millimeters)							Reel Specifications (millimeters)						
A	B	C	D	E	F	Reel Qty	G	H	I	J	K	L	M
Ø1.5	4.0	8.0	7.5	16.0	2.15	-T1 = 1,000 -T2 = 2,000	2.0	Ø13	Ø21	Ø80	Ø255	17.5	2.0



Available Options & Part Identification*

Example: **F O7PD C B M 62.5**

F	O7PD	C	B	M	62.5
Fox	Model Number	Voltage J = 2.5V±10% C = 3.3V±10%	Stability A = ±100PPM B = ±50PPM D = ±25PPM E = ±20PPM	Operating Temperature E = -10 to +70°C F = -20 to +70°C M = -40 to +85°C	Frequency

*Not all frequencies in the frequency range, or every combination of stability, temp range, and voltage available. See stabilities and op temps for each V_{DD}.



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