



5.0x3.2mm SMD LVDS Oscillator

O5LS

(former F530D/F540D families)

DATASHEET

- LVDS Output
- Stabilities to ± 20 PPM
- Operating Temperature Range to -40°C to $+85^{\circ}\text{C}$
- Supply Voltages: 2.5V, 3.3V

Specifications

PARAMETERS	MAX (unless otherwise noted)	
Frequency Range	13.5 ~ 250MHz	
Storage Temperature Range (T_{STG})	$-55 \sim +125^{\circ}\text{C}$	
Supply Voltage (V_{DD})	2.5V $\pm 10\%$	3.3V $\pm 10\%$
Input Current (I_{DD})	50mA	
Standby Current	15 μA	
Output Symmetry (50% V_{P-P})	45% ~ 55%	
Rise Time (20%~80% V_{P-P})	500pS	
Fall Time (80%~20% V_{P-P})	500pS	
Differential Output Voltage (V_{OD})	0.247V ~ 0.454V	
Differential Offset Voltage (V_{OS})	1.125V ~ 1.375V	
Output Load	100 Ohms Typical	
Start-up Time (T_s)	10mS	
Output Disable Time ¹	200nS	
Output Enable Time ¹	10mS	
Aging (per year @ 25C)	± 3 PPM	
Phase Jitter (12kHz~20MHz)	1pS	

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

• Available Options by Stability & Operating Temp

Frequency Stability	Operating Temperature ($^{\circ}\text{C}$)	Frequency Range (MHz)
± 100 PPM ²	$-20 \sim +70$	13.500 ~ 250.000
± 100 PPM ²	$-40 \sim +85$	13.500 ~ 250.000
± 50 PPM ²	$-20 \sim +70$	13.500 ~ 250.000
± 50 PPM ²	$-40 \sim +85$	13.500 ~ 250.000
± 25 PPM ²	$-20 \sim +70$	13.500 ~ 250.000
± 25 PPM ³	$-40 \sim +85$	13.500 ~ 250.000
± 20 PPM ³	$-20 \sim +70$	13.500 ~ 250.000

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, one-year aging, shock, and vibration.

³ Inclusive of 25°C tolerance, operating temperature range.



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Title / Description: O5LS SERIES STANDARD SPECIFICATIONS

Drawing Number: O5LS-DOC-1

Size: A

Part Number:

Cage: 61429

Draftsperson: BEC

Approved: MAJ

Revision Date: 11/14/2019



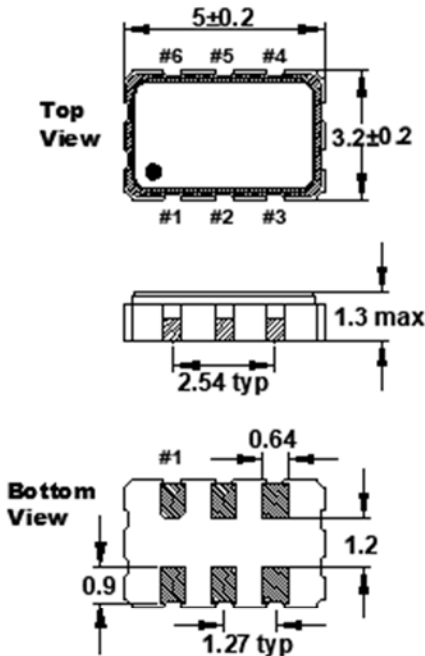
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DIMENSIONS / MECHANICAL SPECIFICATIONS



Recommended Solder Pad Layout

Dimensions in millimeters

Pin Connections

- #6 VDD #5 OutQN #4 OutQ
- #1 E/D #2 N.C. #3 Gnd

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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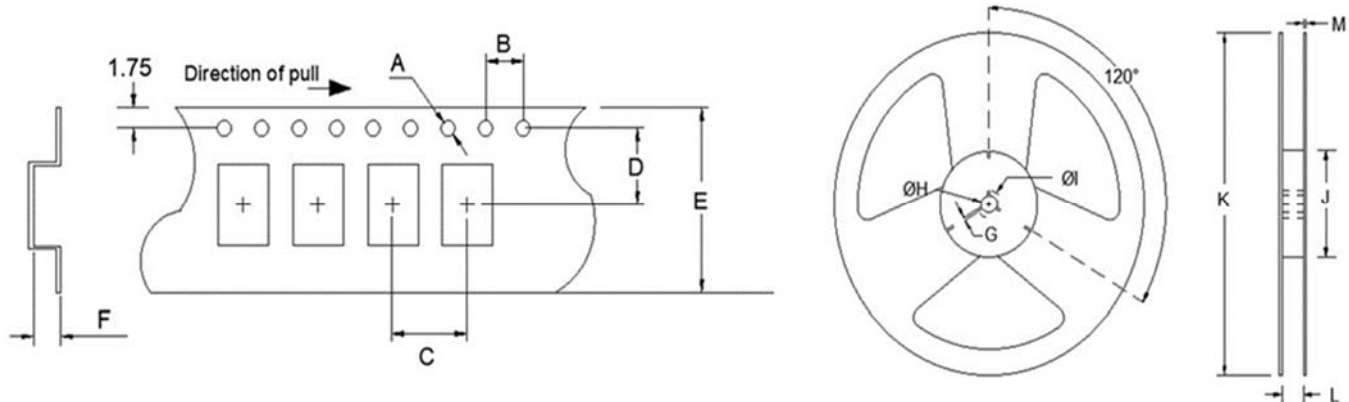
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Tape Specifications (millimeters)							Reel Specifications (millimeters)						
A	B	C	D	E	F	Reel Qty	G	H	I	J	K	L	M
Ø1.5	4.0	480	3.5	16.0	1.4	-T1 = 1,000	2.0	Ø13	Ø21	Ø60	Ø180	13.0	2.0



Available Options & Part Identification*

Example: **F O5LS C D M 125.0**

F	O5LS	C	D	M	125.0
Fox	Model Number	Voltage	Stability	Operating Temperature	Frequency(MHz)
		J = 2.5V±10% C = 3.3V±10%	A = ±100PPM B = ±50PPM D = ±25PPM E = ±20 PPM	E = -10 to +70°C F = -20 to +70°C M = -40 to +85°C	

*Not all frequencies in the frequency range, or every combination of stability, temp range, and voltage available. See stabilities and op temps table on page 1.



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