



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: 1.8V; 2.5V; 3.3V

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})	50 mA	
Standby Current	15 μA	
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	
Differential Output Voltage (V_{OD})	0.247V ~ 0.454V	
Differential Offset Voltage (V_{OS})	1.125V ~ 1.375V	
Differential Output Voltage Swing (V_{OPP})	0.25Vpp min	0.35Vpp min
Output Load	100 Ohms Typical	
Start-up Time (T_S)	10 mS	
Output Disable Time ¹	200 nS	
Output Enable Time ¹	10 mS	
Aging (per year @ 25C)	± 3 PPM	
Phase Jitter (12kHz~20MHz)	1 pS	

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)
$\pm 100\text{PPM}^2$	$-10 \sim +70$	13.500 ~ 250.000
$\pm 100\text{PPM}^2$	$-20 \sim +70$	13.500 ~ 250.000
$\pm 100\text{PPM}^2$	$-40 \sim +85$	13.500 ~ 250.000
$\pm 50\text{PPM}^2$	$-10 \sim +70$	13.500 ~ 250.000
$\pm 50\text{PPM}^2$	$-20 \sim +70$	13.500 ~ 250.000
$\pm 50\text{PPM}^2$	$-40 \sim +85$	13.500 ~ 250.000
$\pm 25\text{PPM}^2$	$-10 \sim +70$	13.500 ~ 250.000
$\pm 25\text{PPM}^2$	$-20 \sim +70$	13.500 ~ 250.000
$\pm 25\text{PPM}^3$	$-40 \sim +85$	13.500 ~ 250.000
$\pm 20\text{PPM}^3$	$-20 \sim +70$	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.



© Copyright 2020 Fox Electronics. All rights reserved

Title / Description: O5LS SERIES STANDARD SPECIFICATIONS		
Drawing Number: O5LS-DOC-1		Size: A
Part Number:		Cage: 61429
Draftsperson: BEC	Approved: MAJ	Revision Date: 05/06/2020



5.0x3.2mm SMD LVDS Oscillator

O5LS

(former F530D/F540D families)

DATASHEET

1.8V Specifications

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	100 ~ 170MHz
Storage Temperature Range (T _{STG})	-55 ~ +125°C
Supply Voltage (V _{DD})	1.8V±10%
Input Current (I _{DD})	66 mA
Standby Current	30 µA
Output Symmetry (50% V _{P-P})	45% ~ 55%
Rise Time (20%~80% V _{P-P})	0.7 nS
Fall Time (80%~20% V _{P-P})	0.7 nS
Differential Output Voltage (V _{OD})	0.33V typ
Differential Offset Voltage (V _{OS})	1.125V ~ 1.375V (1.25V typ)
Differential Output Voltage Swing (V _{OPP})	0.25V _{p-p} min
Output Load	100 Ohms Typical
Start-up Time (T _S)	10 mS
Output Disable Time ¹	200 nS
Output Enable Time ¹	10 mS
Aging (per year @ 25C)	±3 PPM
Phase Jitter (12kHz~20MHz)	1 pS (0.5pS typ)

ENABLE / DISABLE FUNCTION

Pin1	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

Frequency Stability	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM ²	-20 ~ +70	100.0 ~ 170.0
±100PPM ²	-40 ~ +85	100.0 ~ 170.0
±50PPM ²	-20 ~ +70	100.0 ~ 170.0
±50PPM ²	-40 ~ +85	100.0 ~ 170.0
±25PPM ²	-20 ~ +70	100.0 ~ 170.0
±25PPM ³	-40 ~ +85	100.0 ~ 170.0

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.



© Copyright 2020 Fox Electronics. All rights reserved

Title / Description: O5LS SERIES STANDARD SPECIFICATIONS		
Drawing Number: O5LS-DOC-1		Size: A
Part Number:		Cage: 61429
Draftsperson: BEC	Approved: MAJ	Revision Date: 05/06/2020



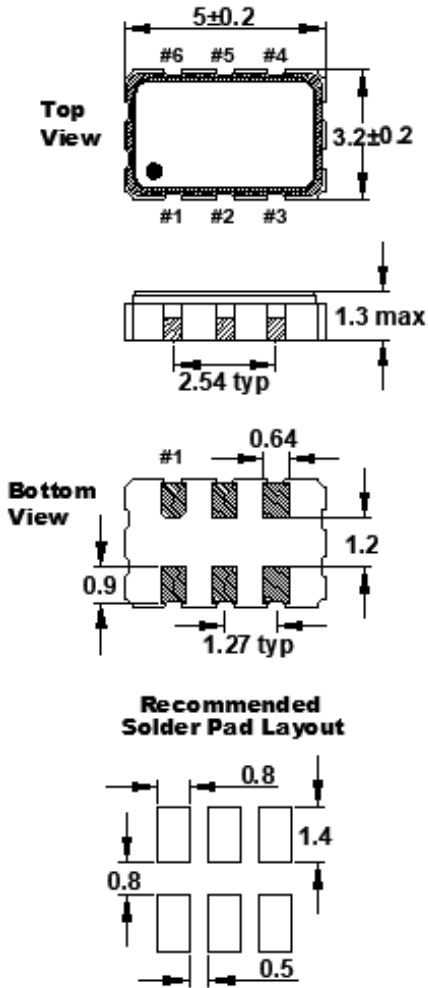
5.0x3.2mm SMD LVDS Oscillator

O5LS

(former F530D/F540D families)

DATASHEET

DIMENSIONS / MECHANICAL SPECIFICATIONS



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.



© Copyright 2020 Fox Electronics. All rights reserved

Title / Description: O5LS SERIES STANDARD SPECIFICATIONS		
Drawing Number: O5LS-DOC-1		Size: A
Part Number:		Cage: 61429
Draftsperson: BEC	Approved: MAJ	Revision Date: 05/06/2020



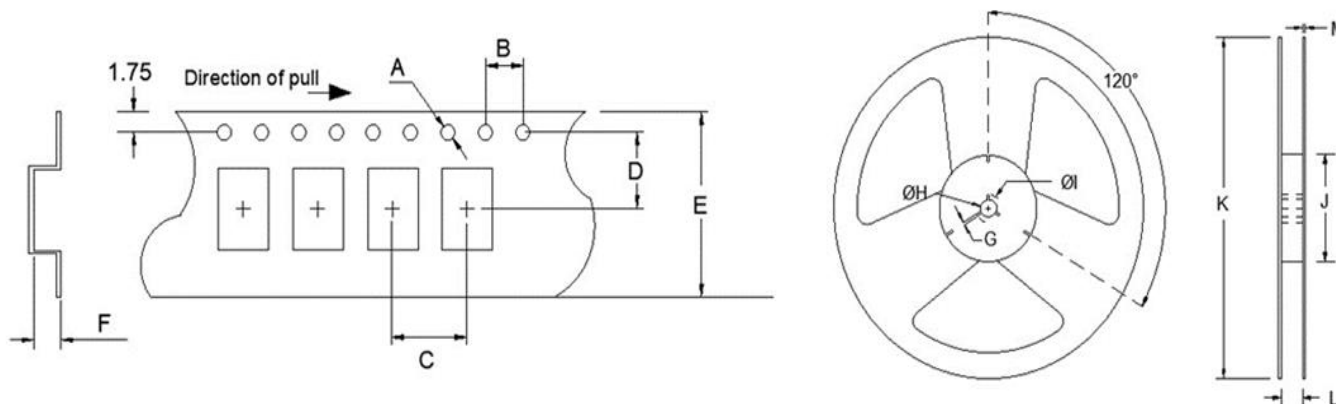
5.0x3.2mm SMD LVDS Oscillator

O5LS

(former F530D/F540D families)

DATASHEET

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)
		K = 1.8V±5% 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.



Corporate Headquarters

5570 Enterprise Parkway
Fort Myers, FL 33905
<http://www.FOXONLINE.com>

Sales

1-888-GET-2-FOX (1-888-438-2369)
or
1-239-693-0099
<http://www.FOXONLINE.com/repdisty>

Tech Support

<http://www.FOXONLINE.com/email>

Product use: Fox Electronics reserves the right to modify the products and/or specifications described herein at any time and at Fox Electronics' sole discretion. All information in this document, including descriptions of product features and performance, is subject to change without notice. Performance specifications and the operating parameters of the described products are determined in the independent state and are not guaranteed to perform the same way when installed in customer products. The information contained herein is provided without representation or warranty of any kind, whether express or implied, including, but not limited to, the suitability of Fox Electronics' products for any particular purpose, an implied warranty of merchantability, or non-infringement of the intellectual property rights of others. This document is presented only as a guide and does not convey any license under intellectual property rights of Fox Electronics or any third parties.

Fox Electronics' products are not intended for use in applications involving extreme environmental conditions or in life support systems or similar devices where the failure or malfunction of a Fox Electronics product can be reasonably expected to significantly affect the health or safety of users. Anyone using a Fox Electronics product in such a manner does so at their own risk, absent an express, written agreement by Fox Electronics.

Fox Electronics and the Fox logo are registered trademarks of Fox Electronics. Product specification is subject to change without notice. Other trademarks and service marks used herein, including protected names, logos and designs, are the property of Fox Electronics or their respective third-party owners.



© Copyright 2020 Fox Electronics. All rights reserved

Title / Description: O5LS SERIES STANDARD SPECIFICATIONS		
Drawing Number: O5LS-DOC-1	Size: A	
Part Number:	Cage: 61429	
Draftsperson: BEC	Approved: MAJ	Revision Date: 05/06/2020