



5.0x3.2mm LVDS Oscillator

O5LS DATASHEET (Former F540D, F530D series)

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

Specifications

PARAMETERS	MAX (unless otherwise noted)
Frequency Range	25.000 ~ 170.000 MHz
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 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
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)	10 mS
Output Disable Time ¹	200 nS
Output Enable Time ¹	10 mS
Aging (per year @ 25C)	± 3 PPM
Phase Jitter (12kHz~20MHz)	0.5 pS
Maximum Soldering Temp / Time	260 $^{\circ}\text{C}$ / 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

Available Options by Stability & Operating Temp²

Frequency Stability ²	Operating Temperature ($^{\circ}\text{C}$)	Frequency Range (MHz)
$\pm 100\text{PPM}$	$-20 \sim +70$	25.000 ~ 170.000
$\pm 100\text{PPM}$	$-40 \sim +85$	25.000 ~ 170.000
$\pm 50\text{PPM}$	$-20 \sim +70$	25.000 ~ 170.000
$\pm 50\text{PPM}$	$-40 \sim +85$	25.000 ~ 170.000
$\pm 25\text{PPM}$	$-20 \sim +70$	25.000 ~ 170.000
$\pm 25\text{PPM}$	$-40 \sim +85$	25.000 ~ 170.000
$\pm 20\text{PPM}$	$-20 \sim +70$	25.000 ~ 170.000

¹ An internal pull-up resistor from pin 1 to pin 6 allows active output if pin 1 is left open.

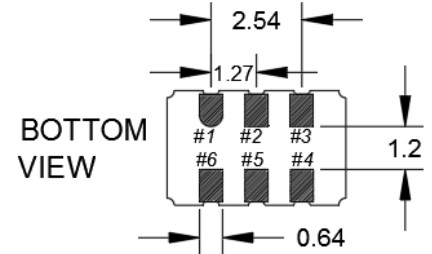
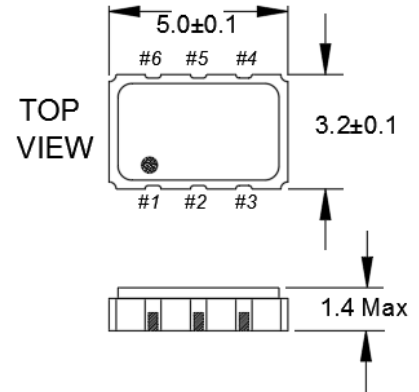
² Inclusive of 25°C tolerance, and operating temperature range.

Notes:

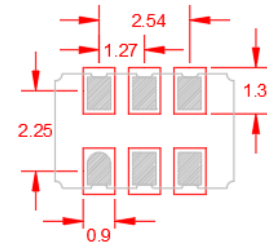
A 0.01 μF capacitor should be placed between V_{DD} (Pin 6) and GND (Pin3) to minimize power supply line noise.

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



Recommended Solder Pad Layout



Dimensions are in millimeters.

Pin Connections

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

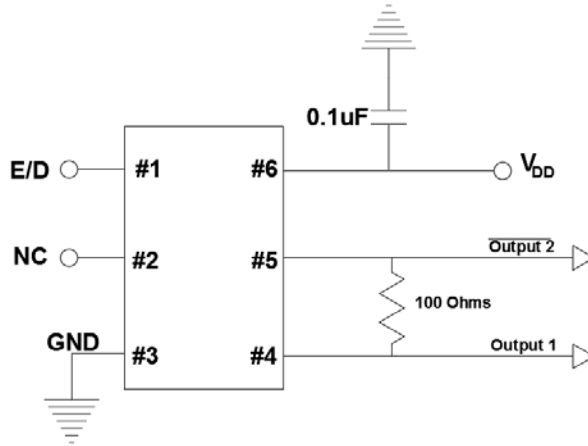
Reference / Comments	Title / Description: O5LS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: 101137		Size: A
	Part Number:		Cage: 61429
	Draftsperson: CMR		Approved: BEC
			Date: 08/21/2017



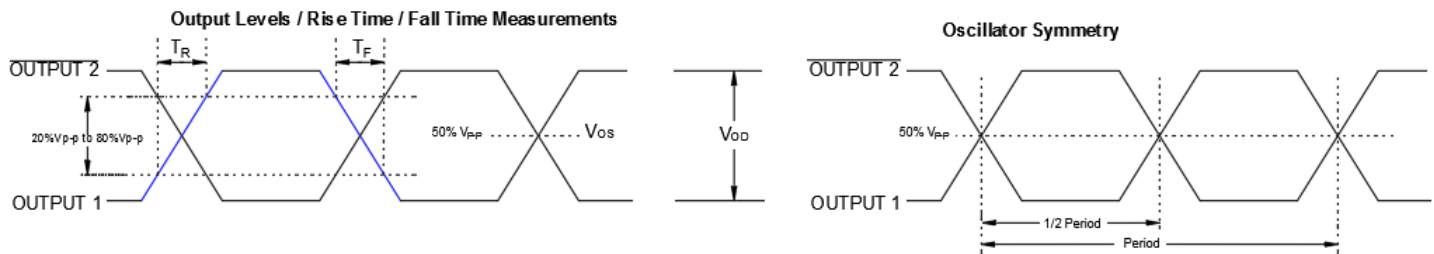
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RECOMMENDED CIRCUIT

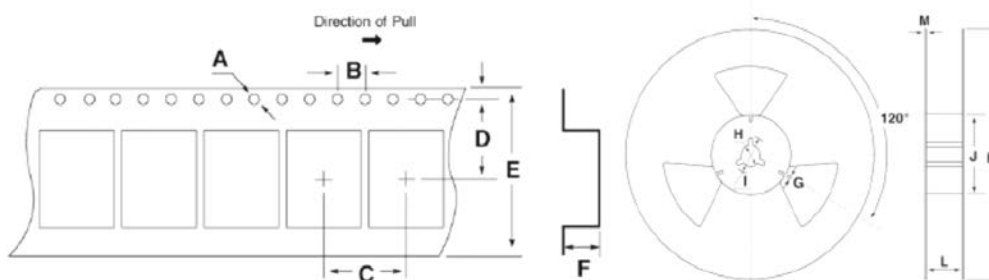


WAVEFORM CHARACTERISTICS



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	8.0	5.5	12.0	1.5	1,000	2.0	Φ13	Φ21	Φ62	Φ180	13.5	2.0	



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Ordering Information - Available Options & Part Identification*

Example: F O5LS C D M 125.0

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

*Not all frequencies in the frequency range, or every combination of stability, temp range, and voltage available.



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