



# HCSL 5x3.2mm SMD Oscillator

O5SL  
(former F530SL Series)  
DATASHEET

- HCSL Differential Output
- Stabilities to  $\pm 25$  PPM
- Temperature Ranges as wide as  $-40^{\circ}\text{C}$  to  $+105^{\circ}\text{C}$
- Supply Voltage: 3.3V

## 3.3V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range ( $F_0$ )	13.500 ~ 160.000 MHz
Storage Temperature Range ( $T_{STG}$ )	$-55 \sim +125^{\circ}\text{C}$
Supply Voltage ( $V_{DD}$ )	$3.3\text{V} \pm 10\%$
Input Current ( $I_{DD}$ )	40 mA
Standby Current	10 $\mu\text{A}$
Output Symmetry (50% $V_{OPP}$ )	45% ~ 55%
Rise/Fall Time (20%/80% $V_{PP}$ Levels) ( $T_R/T_F$ )	
13.500 ~ 99.999999 MHz	1.0 nS
100.000 ~ 160.000 MHz	0.7 nS
Output Voltage ( $V_{OL}$ )	$-0.15\text{V} \sim 0.15\text{V}$
( $V_{OH}$ )	$0.55\text{V} \sim 0.85\text{V}$
Output Swing ( $V_{OPP}$ )	0.65V Min
Output Load	50 Ohms to GND
Start-up Time ( $T_S$ )	10 mS
Output Disable Time <sup>1</sup>	200 nS
Output Enable Time <sup>1</sup>	10 mS
Aging (per year @ $25^{\circ}\text{C}$ )	$\pm 3$ PPM
Phase Jitter RMS (12 kHz ~ 20 MHz)	1 pS RMS

### ENABLE / DISABLE FUNCTION <sup>1</sup>

Pin1	Out 1 (pin 4), Out 2 (pin 5)
OPEN <sup>1</sup>	Active
'1' Level $V_{IH} \geq 70\%V_{DD}$	Active
'0' Level $V_{IL} \leq 30\%V_{DD}$	High Z

<sup>1</sup> An internal pull-up resistor from pin 1 to pin 4 allows active output if pin 1 is left open

### • Available Options by Stability & Operating Temperature

Frequency Stability	Operating Temperature ( $^{\circ}\text{C}$ )	Frequency Range (MHz)
$\pm 100\text{PPM}^2$	$-20 \sim +70$	13.500 ~ 160.000
$\pm 100\text{PPM}^2$	$-40 \sim +85$	13.500 ~ 160.000
$\pm 100\text{PPM}^2$	$-40 \sim +105$	13.500 ~ 160.000
$\pm 50\text{PPM}^2$	$-20 \sim +70$	13.500 ~ 160.000
$\pm 50\text{PPM}^2$	$-40 \sim +85$	13.500 ~ 160.000
$\pm 50\text{PPM}^2$	$-40 \sim +105$	13.500 ~ 160.000
$\pm 25\text{PPM}^2$	$-20 \sim +70$	13.500 ~ 160.000
$\pm 25\text{PPM}^3$	$-40 \sim +85$	13.500 ~ 160.000

<sup>2</sup> Inclusive of  $25^{\circ}\text{C}$  tolerance, operating temperature range, input voltage change, load change, shock, vibration, reflow, and one-year aging.

<sup>3</sup> Inclusive of  $25^{\circ}\text{C}$  tolerance and operating temperature range



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Title / Description: O5SL SERIES STANDARD SPECIFICATIONS

Drawing Number: O5SL-DOC-1

Size: A

Part Number:

Cage: 61429

Draftsperson: BEC

Approved: MAJ

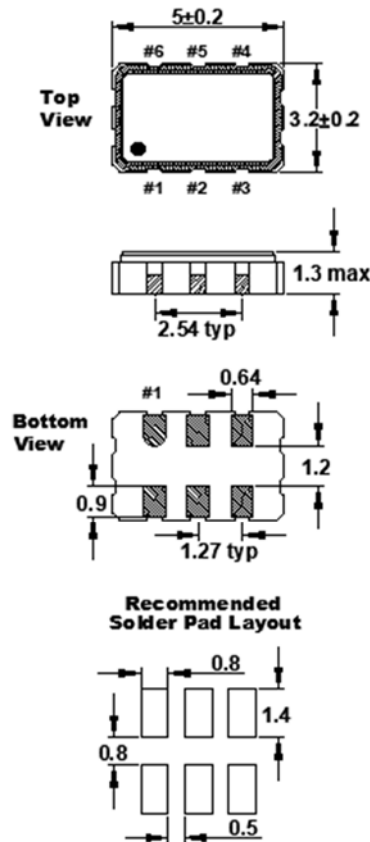
Revision Date: 6/7/2019



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## 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<sub>DD</sub> (Pin 6) and GND (Pin3) to minimize power supply line noise.

\*Dimensional drawing is for reference to critical specifications defined by size measurements.

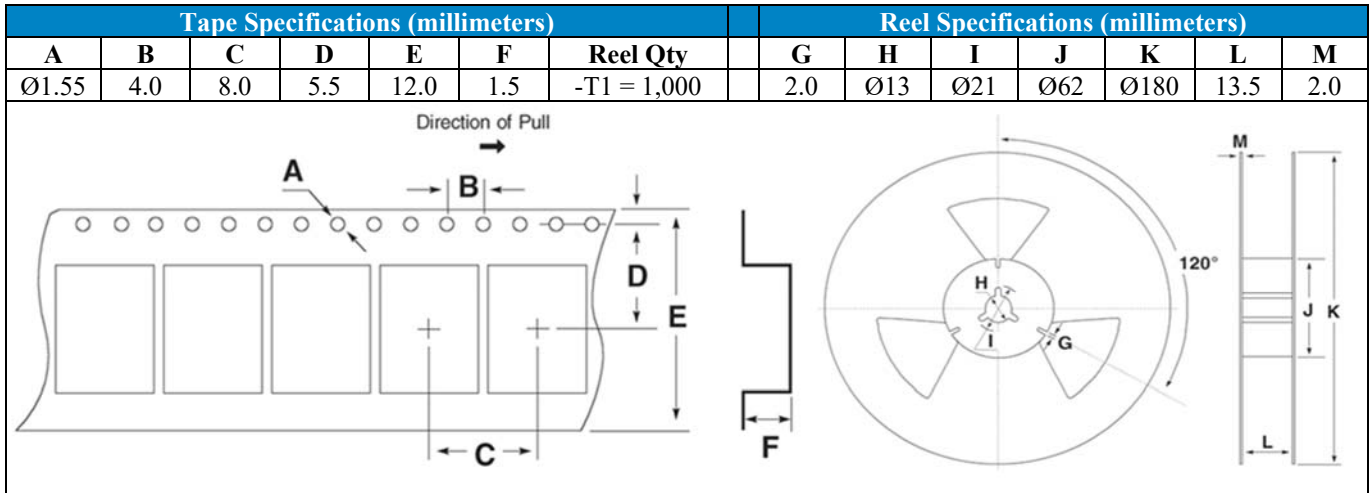
Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary

	<b>Title / Description:</b> O5SL SERIES STANDARD SPECIFICATIONS	
	<b>Drawing Number:</b> O5SL-DOC-1	<b>Size:</b> A
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	<b>Draftsperson:</b> BEC	<b>Approved:</b> MAJ
		<b>Revision Date:</b> 6/7/2019



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## Available Options & Part Identification for O5SL\*

Example: **F O5SL C B F 125.0**

F	O5SL	B	B	C	125.0
Fox	Model Number	Voltage	Stability	Operating Temperature	Frequency (MHz)
		C = 3.3V±10%	A = ±100 PPM B = ±50 PPM D = ±25 PPM	F = -20 to +70°C M = -40 to +85°C P = -40 to +105°C	

\*Not all frequencies in the frequency range, or every combination of stability, temp range may be available.



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