HCSL 7x5mm SMD Oscillator

O7SL

(former F730SL, F740SL Series)

DATASHEET

- HCSL Differential Output
- Stabilities to ±25 PPM
- Temperature Ranges as wide as -40ºC to +85ºC
- Supply Voltages: 2.5V, 3.3V

2.5V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F_O)	15.000 ~ 160.000 MHz
Storage Temperature Range (T_{STG})	-55 ~ +125°C
Supply Voltage (V_{DD})	2.5±5%
Input Current (I_{DD})	40 mA
Standby Current	10 µA
Output Symmetry (50% V_{DD})	45 % ~ 55 %
Rise/Fall Time (20~80% V_{OPP}) (T_R/T_F) 15.000 ~ 99.999999 MHz >100.000~ 160.000 MHz	 1.0 nS 0.7 nS
Output Voltage (V_{OL}) (V_{OH})	-0.15 ~ 0.15V 0.58 ~ 0.85V
Output Swing (V_{OPP})	0.6V Min
Output Termination	50 Ohms to GND
Start-up Time (T_S)	10 mS
Output Disable Time [1]	200 nS
Output Enable Time [1]	10 mS
Aging (per year @25°C)	±3 PPM
Phase Jitter (12kHz ~ 20MHz)	1pS RMS

ENABLE / DISABLE FUNCTION	
Pin1	Output (pin 3)
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 (ºC)	Frequency Range (MHz)
±100PPM	0 ~ +70	15.000 ~ 160.000
±100PPM	-40 ~ +85	15.000 ~ 160.000
±50PPM	0 ~ +70	15.000 ~ 160.000
±50PPM	-40 ~ +85	15.000 ~ 160.000
±25PPM	0 ~ +70	15.000 ~ 160.000
±25PPM	-40 ~ +85	15.000 ~ 160.000

[1] An internal pull-up resistor from pin 1 to pin 4 allows active output if pin 1 is left open

[2] Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, shock, vibration, reflow, and one-year aging.

Title / Description: O7SL SERIES STANDARD SPECIFICATIONS			
Drawing Number: O7SL-DOC-1			**Size:** A
Part Number:			**Cage:** 61429
Draftsperson: DG	**Approved:** BEC		**Revision Date:** 5/3/2019

3.3V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F_O)	15.000 ~ 160.000 MHz
Storage Temperature Range (T_{STG})	-55 ~ +125°C
Supply Voltage (V_{DD})	3.3V±10%
Input Current (I_{DD})	40 mA
Standby Current	10 µA
Output Symmetry (50% V_{DD})	45% ~ 55%
Rise/Fall Time (20~80% V_{OPP}) (T_R/T_F) 15.000 ~ 99.999999 MHz >100.000 ~ 160.000 MHz	 1.0 nS 0.7 nS
Output Voltage (V_{OL}) (V_{OH})	-0.15 ~ 0.15V 0.66 ~ 0.85V
Output Swing (V_{OPP})	0.65V Min
Output Termination	50 Ohms to GND
Start-up Time (T_S)	10 mS
Output Disable Time [1]	200 nS
Output Enable Time [1]	10 mS
Aging (per year @25°C)	±3 PPM
Phase Jitter (12kHz ~ 20MHz)	1 pS RMS

ENABLE / DISABLE FUNCTION	
Pin1	Output (pin 3)
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 3.3V[2]

Frequency Stability[2]	Operating Temperature (ºC)	Frequency Range (MHz)
±100PPM	0 ~ +70	15.000 ~ 160.000
±100PPM	-40 ~ +85	15.000 ~ 160.000
±50PPM	0 ~ +70	15.000 ~ 160.000
±50PPM	-40 ~ +85	15.000 ~ 160.000
±25PPM	-0 ~ +70	15.000 ~ 160.000
±25PPM	-40 ~ +85	15.000 ~ 160.000

[1] An internal pull-up resistor from pin 1 to pin 4 allows active output if pin 1 is left open
[2] Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, shock, vibration, reflow, and one-year aging.

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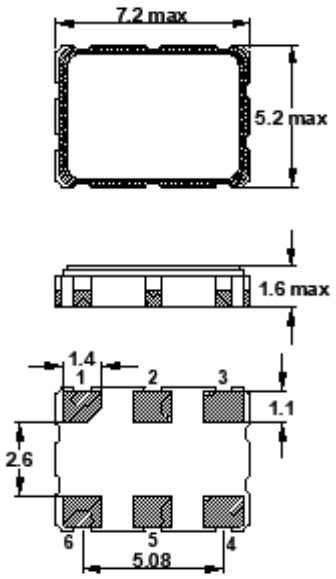
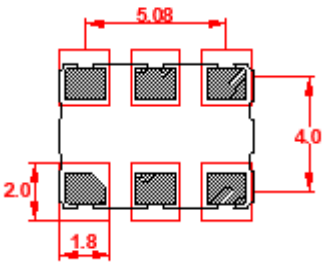
DIMENSIONS / MECHANICAL SPECIFICATIONS



Recommended Solder Pad Layout



Pin Connections

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

All dimensions are in millimeters.

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 4) and GND (Pin2) 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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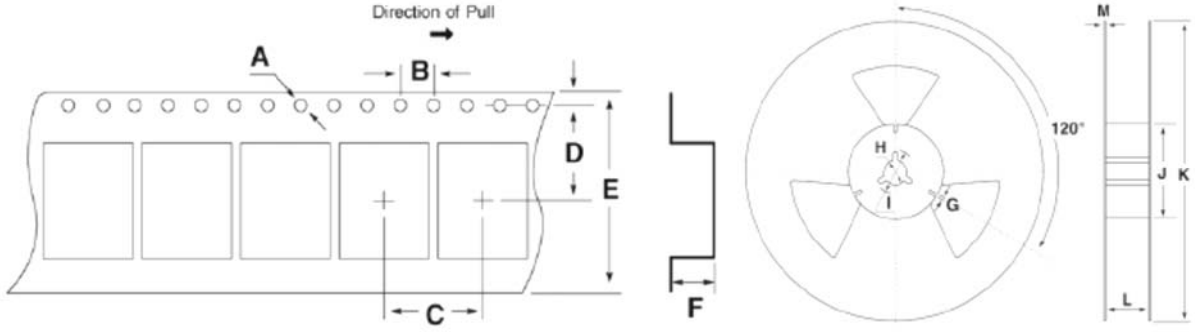
Tape Specifications (millimeters)								Reel Specifications (millimeters)						
A	B	C	D	E	F	Std Reel Qty		G	H	I	J	K	L	M
Ø1.55	4.0	8.0	7.5	16.0	2.0	-T1 = 1,000 -T2 = 2,000		2.5	Ø13.2	Ø21	Ø60.5	Ø180	17.0	1.5



Available Options & Part Identification*

Example: F O7SL C B M 25.0

F	O7SL	C	B	M	25.0
Fox	**Model Number**	**Voltage**	**Stability**	**Operating Temperature**	**Frequency(MHz)**
		H = 2.5V±5%	A = 100 PPM	C = 0 to +70°C	
		C = 3.3V±10%	**B = 50 PPM**	**M = -40 to +85°C**	
			D = 25 PPM		

*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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