



HCMOS 3.2x2.5mm SMD Oscillator

O3HL

(former F330A Series)

DATASHEET

- HCMOS Output
- Stabilities to ± 100 PPM
- Temperature Ranges as wide as -40°C to $+85^{\circ}\text{C}$
- Supply Voltage: 3.3V

3.3V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F_0)	1.800 ~ 50.000 MHz
Storage Temperature Range (T_{STG})	$-55 \sim +125^{\circ}\text{C}$
Supply Voltage (V_{DD})	3.3V $\pm 5\%$
Input Current (I_{DD})	
1.800 ~ 32.000 MHz	2.5 mA
32.000+ ~ 50.000 MHz	3.5 mA
Standby Current	10 μA
Output Symmetry (50% V_{DD})	45% ~ 55%
Rise/Fall Time (10%/90% V_{DD} Levels) ($T_{\text{R}}/T_{\text{F}}$)	12 nS
Output Voltage (V_{OL})	10% V_{DD}
(V_{OH})	90% V_{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T_{S})	5 mS
Output Disable Time ¹	150 nS
Output Enable Time ¹	5 mS

ENABLE/DISABLE FUNCTION

Pin1	Output (pin 3)
OPEN ¹	Active
'1' Level $V_{\text{IH}} \geq 70\%V_{\text{DD}}$	Active
'0' Level $V_{\text{IL}} \leq 30\%V_{\text{DD}}$	High Z

• Available Options by Stability & Operating Temp for 3.3V

Frequency Stability	Operating Temperature ($^{\circ}\text{C}$)	Frequency Range (MHz)
$\pm 100\text{PPM}^2$	$-10 \sim +70$	1.800 ~ 50.000 MHz
$\pm 100\text{PPM}^2$	$-40 \sim +85$	1.800 ~ 50.000 MHz
$\pm 50\text{PPM}^2$	$-10 \sim +70$	1.800 ~ 50.000 MHz
$\pm 50\text{PPM}^2$	$-40 \sim +85$	1.800 ~ 50.000 MHz
$\pm 25\text{PPM}^2$	$-10 \sim +70$	1.800 ~ 50.000 MHz
$\pm 25\text{PPM}^3$	$-40 \sim +85$	1.800 ~ 50.000 MHz
$\pm 20\text{PPM}^3$	$-10 \sim +70$	1.800 ~ 50.000 MHz

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.

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





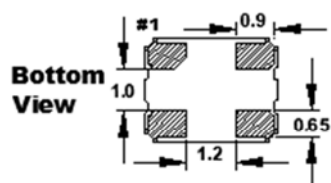
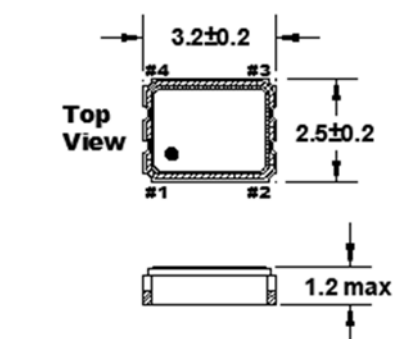
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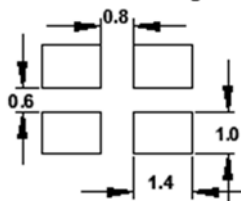
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DIMENSIONS / MECHANICAL SPECIFICATIONS



Recommended Solder Pad Layout



Dimensions are in millimeters

Pin Connections

#1 E/D #3 Output
#2 GND #4 VDD

Maximum Soldering Temp / Time	260°C/10 Seconds x2
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 VDD (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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Title / Description: O3HL SERIES STANDARD SPECIFICATIONS		
Drawing Number: O3HL-DOC-1		Size: A
Part Number:		Cage: 61429
Draftsperson: DG	Approved: BEC	Revision Date: 06/24/2019



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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
Ø1.55	4.0	4.0	3.5	8.0	1.3	-T3 = 3,000 -T2 = 2,000 -T1 = 1,000	2.0	Ø13	Ø21	Ø60	Ø180	9.0	1.2

Diagram illustrating the dimensions and specifications for the HCMOS 3.2x2.5mm SMD Oscillator tape and reel.

Available Options & Part Identification*

Example: **F O3HL B B M 25.0**

F	O3HL	B	B	M	25.0
Fox	Model Number	Voltage	Stability	Operating Temperature	Frequency(MHz)
		B = 3.3V±5%	A = ±100 PPM B = ±50 PPM D = ±25 PPM E = ±20 PPM	E = -10 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 for each V_{DD}.



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