



HCMOS 3.2x2.5mm SMD Oscillator O3HS DATASHEET

(Former F300, F310, F330, F340 Series)

- HCMOS Output
- Stabilities to ± 20 PPM
- Temperature Ranges as wide as -40°C to $+85^{\circ}\text{C}$
- Supply Voltages: 1.0V, 1.8V, 2.5V, 3.3V, Variable (1.7 ~ 3.63V)

1.0V 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})	1.0V $\pm 5\%$
Input Current (I_{DD})	
1.800 ~ 32.100 MHz	2.5 mA
$>32.100 \sim 50.000$ MHz	3.5 mA
Standby Current	100 μA
Output Symmetry (50% V_{DD})	40 % ~ 60 %
Rise/Fall Time (20%/80% V_{DD} Levels) (T_R/T_F)	
1.800 ~ 50.000 MHz	5 nS
Output Voltage (V_{OL})	20 % V_{DD}
(V_{OH})	80 % V_{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T_S)	10 mS
Output Disable Time ¹	50 μS
Output Enable Time ¹	10 mS

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 1.0V

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

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.

³ Inclusive of 25°C tolerance and operating temperature range

	Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O3HS-DOC-2		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019



HCMOS 3.2x2.5mm SMD Oscillator O3HS DATASHEET

(Former F300, F310, F330, F340 Series)

1.8V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F _O)	0.625 ~ 133.000 MHz
Storage Temperature Range (T _{STG})	-55 ~ +125°C
Supply Voltage (V _{DD})	1.8±5%
Input Current (I _{DD})	
0.625 ~ 32.000 MHz	6 mA
>32.000 ~ 80.000 MHz	15 mA
>80.000 ~ 133.000 MHz	20 mA
Standby Current	10 uA
Output Symmetry (50% V _{DD})	
0.625 ~ 84.999999MHz	45 % ~ 55 %
85.000 ~ 133MHz	40 % ~ 60 %
Rise/Fall Time (20%/80% V _{DD} Levels) (T _R /T _F)	
0.625 ~ 32.000 MHz	5 nS
>32.000 ~ 133.000 MHz	3.5 nS
Output Voltage (V _{OL})	20 % V _{DD}
(V _{OH})	80 % V _{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T _S)	10 mS
Output Disable Time ¹	300 nS
Output Enable Time ¹	10 mS

ENABLE / DISABLE FUNCTION

Pin1	Output (pin 3)
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 for 1.8V

Frequency Stability ²	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM	-10 ~ +70	0.625 ~ 133.000
±100PPM	-40 ~ +85	0.625 ~ 133.000
±50PPM	-10 ~ +70	0.625 ~ 133.000
±50PPM	-40 ~ +85	0.625 ~ 133.000
±25PPM	-10 ~ +70	0.625 ~ 133.000
±25PPM ³	-40 ~ +85	0.625 ~ 133.000
±20PPM ³	-10 ~ +70	0.625 ~ 133.000

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.

³ Inclusive of 25C tolerance and operating temperature range



Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
Drawing Number: O3HS-DOC-2		Size: A
Part Number:		Cage: 61429
Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019



2.5V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F _O)	0.625 ~ 170.000 MHz
Storage Temperature Range (T _{STG})	-55 ~ +125°C
Supply Voltage (V _{DD})	2.5±5%
Input Current (I _{DD})	
0.625 ~ 20.000 MHz	5 mA
>20.000 ~ 40.000 MHz	9 mA
>40.000 ~ 60.000 MHz	11 mA
>60.000 ~ 80.000MHz	20 mA
>80.000 ~ 170.000 MHz	30 mA
Standby Current	10 uA
Output Symmetry (50% V _{DD})	
0.625 ~ 84.99999MHz	45 % ~ 55 %
85.000 ~ 170MHz	40 % ~ 60 %
Rise/Fall Time (10%/90% V _{DD} Levels) (T _R /T _F)	6 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 _{IH} ≥ 70%V _{DD}	Active
'0' Level V _{IL} ≤ 30%V _{DD}	High Z

• Available Options by Stability & Operating Temp for 2.5V

Frequency Stability ²	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM	-10 ~ +70	0.625 ~ 170.000
±100PPM	-20 ~ +70	0.625 ~ 170.000
±100PPM	-40 ~ +85	0.625 ~ 170.000
±50PPM	-10 ~ +70	0.625 ~ 170.000
±50PPM	-20 ~ +70	0.625 ~ 170.000
±50PPM	-40 ~ +85	0.625 ~ 170.000
±25PPM	-10 ~ +70	0.625 ~ 170.000
±25PPM	-20 ~ +70	0.625 ~ 170.000
±25PPM ³	-40 ~ +85	0.625 ~ 170.000
±20PPM ³	-10 ~ +70	0.625 ~ 170.000
±20PPM ³	-20 ~ +70	0.625 ~ 170.000

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.

³ Inclusive of 25C tolerance and operating temperature range

	Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O3HS-DOC-2		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019



3.3V ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F_O)	0.625 ~ 170 MHz
Storage Temperature Range (T_{STG})	-55 ~ +125°C
Supply Voltage (V_{DD})	3.3V±10%
Input Current (I_{DD})	
0.625 ~ 20.000 MHz	7 mA
>20.000 ~ 40.000 MHz	13 mA
>40.000 ~ 60.000 MHz	19 mA
>60.000 ~ 75.000 MHz	24 mA
>75.000 ~ 80.000 MHz	30 mA
>80.000 ~ 125.000 MHz	40 mA
>125.000 ~ 170.000 MHz	50 mA
Standby Current	10 uA
Output Symmetry (50% V_{DD})	
0.625 ~ 84.999999MHz	45 % ~ 55 %
85.000 ~ 170MHz	40 % ~ 60 %
Rise/Fall Time (10%/90% V_{DD} Levels) (T_R/T_F)	6 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 $V_{IH} \geq 70\%V_{DD}$	Active
'0' Level $V_{IL} \leq 30\%V_{DD}$	High Z

• Available Options by Stability & Operating Temp for 3.3V

Frequency Stability ²	Operating Temperature (°C)	Frequency Range (MHz)
±100PPM	-10 ~ +70	0.625 ~ 170.000
±100PPM	-20 ~ +70	0.625 ~ 170.000
±100PPM	-40 ~ +85	0.625 ~ 170.000
±50PPM	-10 ~ +70	0.625 ~ 170.000
±50PPM	-20 ~ +70	0.625 ~ 170.000
±50PPM	-40 ~ +85	0.625 ~ 170.000
±25PPM	-10 ~ +70	0.625 ~ 170.000
±25PPM	-20 ~ +70	0.625 ~ 170.000
±25PPM ³	-40 ~ +85	0.625 ~ 170.000
±20PPM ³	-10 ~ +70	0.625 ~ 170.000
±20PPM ³	-20 ~ +70	0.625 ~ 170.000

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.

³ Inclusive of 25C tolerance and operating temperature range

	Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O3HS-DOC-2		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019



- HCMOS Output
- Stabilities to ± 20 PPM
- Temperature Ranges as wide as -40°C to $+85^{\circ}\text{C}$
- Supply Voltages: 1.0V, 1.8V, 2.5V, 3.3V, Variable (1.7 ~ 3.63V)

VARIABLE VOLTAGE ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (F_0)	0.75 ~ 156.25 MHz
Storage Temperature Range (T_{STG})	$-55 \sim +125^{\circ}\text{C}$
Supply Voltage (V_{DD}) 1.25 ~ 135.0 MHz >135.0 ~ 156.25 MHz	1.7 ~ 3.63V 2.25 ~ 3.63V
Input Current (I_{DD}) 0.750 ~ 19.999 MHz 20.000 ~ 39.999 MHz 40.000 ~ 59.999 MHz 60.000 ~ 84.999 MHz 85.000 ~ 135.000 MHz >135.000 ~ 156.250 MHz	4 mA 6 mA 10 mA 15 mA 23 mA 30 mA
Standby Current	10 μA
Output Symmetry (50% V_{DD}) 0.75 ~ 84.999 MHz 85.0 ~ 156.25 MHz	45 % ~ 55 % 40 % ~ 60 %
Rise/Fall Time (10%/90% V_{DD} Levels) (T_R/T_F)	6 nS
Output Voltage (V_{OL}) (V_{OH})	10 % V_{DD} 90 % V_{DD} Min
Output Load (HCMOS)	15 pF
Start-up Time (T_S)	5 mS
Output Disable Time ¹	200 nS
Output Enable Time ¹	5 mS

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

Frequency Stability ²	Operating Temperature ($^{\circ}\text{C}$)	Frequency Range (MHz)
$\pm 100\text{PPM}$	$-20 \sim +70$	0.75 ~ 156.25
$\pm 100\text{PPM}$	$-40 \sim +85$	0.75 ~ 156.25
$\pm 50\text{PPM}$	$-20 \sim +70$	0.75 ~ 156.25
$\pm 50\text{PPM}$	$-40 \sim +85$	0.75 ~ 156.25
$\pm 25\text{PPM}$	$-20 \sim +70$	0.75 ~ 156.25
$\pm 25\text{PPM}^3$	$-40 \sim +85$	0.75 ~ 156.25
$\pm 20\text{PPM}^3$	$-20 \sim +70$	0.75 ~ 156.25

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

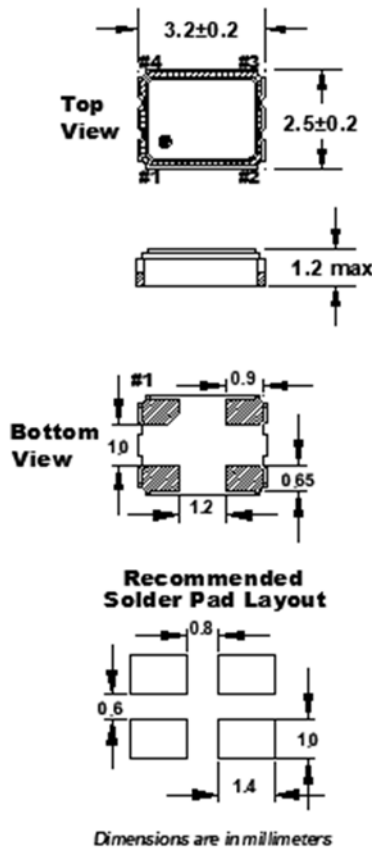
² Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, shock, vibration, reflow, and one-year aging.

³ Inclusive of 25C tolerance and operating temperature range

	Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O3HS-DOC-2		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019



DIMENSIONS / MECHANICAL SPECIFICATIONS



Pin Connections

#1 E/D #3 Output
#2 GND #4 V_{DD}

Maximum Soldering Temp / Time	260°C / 10 Seconds x2
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni
Seal Method	Seam Seal
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

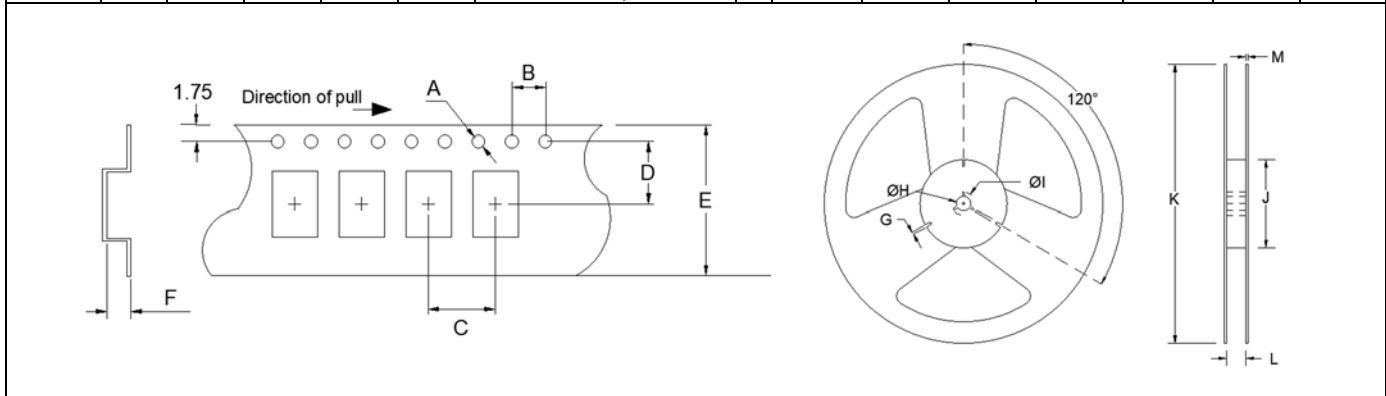
	Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O3HS-DOC-2		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019



HCMOS 3.2x2.5mm SMD Oscillator O3HS DATASHEET

(Former F300, F310, F330, F340 Series)

Tape Specifications (millimeters)							Reel Specifications (millimeters)						
A	B	C	D	E	F	Reel Qty Options	G	H	I	J	K	L	M
Ø1.55	4.0	4.0	3.5	8.0	1.4	-T2 = 2,000 (default) -T1 = 1,000 -T3 = 3,000	2.0	Ø13	Ø21	Ø60	Ø180	9.0	1.2



Available Options & Part Identification*

Example: **F O3HS C B M 25.0**

F	O3HS	C	B	M	25.0
Fox	Model Number	Voltage	Stability	Operating Temperature	Frequency (MHz)
		M = 1.0V±5% K = 1.8V±5% H = 2.5V±5% C = 3.3V±10% V = 1.7 to 3.63V W = 2.25 to 3.63V	A = ±100 PPM B = ±50 PPM D = ±25 PPM 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 for each V_{DD}.



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.

<p>© Copyright 2019 Fox Electronics. All rights reserved</p>	Title / Description: O3HS SERIES STANDARD SPECIFICATIONS		
	Drawing Number: O3HS-DOC-2		Size: A
	Part Number:		Cage: 61429
	Draftsperson: MAJ	Approved: BEC	Revision Date: 06/14/2019

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [fox manufacturer](#):

Other Similar products are found below :

[278LF-20-29](#) [218-20-17966](#) [278LF-5-11](#) [589-33.33-3 TR](#) [218-25-94](#) [FD-25](#) [FOXLF049-20](#) [FOXSDLF/240F-20](#) [FXO-HC736R-125](#)
[FO5LSCDM100.00](#) [FOX924B-10.000](#) [FOXSDLF/240F-20/TR](#) [F4105R-250](#) [HC49ULF-11.0592MHz](#) [FOXSDLF/040R/TR](#) [VCS25AXT-447](#)
[FO7HSCAM8.0](#) [FOXLF098-20](#) [70M15A](#) [FO7HHAAM32.0](#) [FO7HHAAM20.0-BULK](#) [FO7HSCDM50.0](#) [FC7BSCCMM6.0-T1](#)
[FOXSLF/120-20](#) [VCS25AXT-270 27.000MHZ](#) [FOX801BELF-160](#) [FOXLF250F-20](#) [FOXSDLF/049-20/TR](#) [FXO-LC735RGB-156.25](#)
[FOXSDLF/245FR-20/TR](#) [FOXSDLF/200-20/TR](#) [FO7HSCBM3.579545-BULK](#) [FC3VREEEM38.4-T1](#) [FOX923CH-19.20M](#) [FXO-HC735-48](#)
[FO7HSCAE48.0-BULK](#) [FOXSDLF/184-20](#) [F1100E-48.000MHZ](#) [FOXLF221-20](#) [FO7HSCDM20.0-BULK](#) [FOXSLF/245F-20](#) [FOXSLF/073-20-](#)
[LF](#) [FXO-PC536R-150](#) [FOXSLF041](#) [F4100-75.00](#) [FOXSLF/160-20](#) [FOXSLF/240F-20](#) [FOXLF05A](#) [NC38LF-327](#) [FXU-LC536R-212.50](#)