



➤ **DATA SHEET**
(DOC No. HX8696-A01-DS)

➤ **HX8696-A01**
1200CH TFT LCD Gate Driver
Version 01 February, 2015

Revision History

February, 2015

Version	Date	Description of changes
01	2015/02/03	New setup.

Himax Confidential
Do Not Copy

1. General Description	4
2. Features	4
3. Block Diagram	5
4. Pin Description	6
5. Function Description	7
5.1 Device operation.....	7
5.2 Device power level.....	14
5.3 Power on/off sequence.....	14
6. DC Characteristics	15
6.1 Absolute maximum rating (VSS=0V).....	15
6.2 Recommended operating conditions (VSS=0V).....	15
6.3 Electrical characteristics (VSS=0V).....	15
7. AC Characteristics	16
8. Waveform	17
9. Pad Coordinates	18
9.1 HX8696-A01 gate driver bump location.....	18
9.2 Bump outline dimensions.....	18
9.3 Alignment mark.....	18
9.4 Bump center coordinates.....	19
9.5 Alignment mark center coordinates.....	33
10. Ordering Information	34

Himax Confidential
Do Not Copy

1. General Description

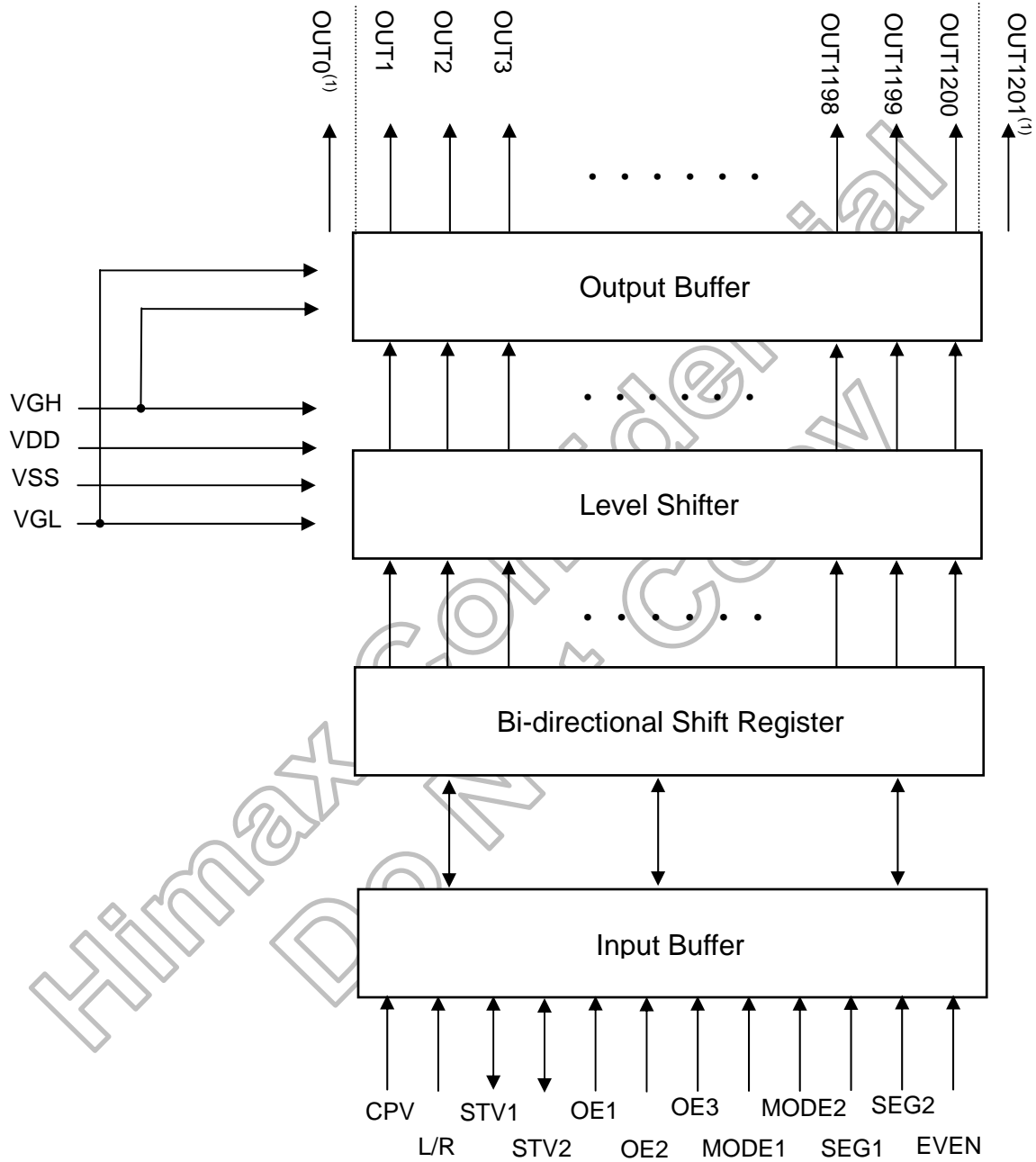
The HX8696-A01 is a 1200-channel outputs gate driver, which is used for driving the gate line of TFT LCD panel. It is designed for 2-level output with 40V LCD driving voltage range.

2. Features

- 2-level output
- 1200/1152/1080/960 channel outputs selectable with 2 dummy outputs
- Various scan function can support various dual gate driving sequence
- Maximum 200KHz operation frequency
- Digital supply voltage: 1.62V to 3.6V
- LCD driving voltage range: 40V
- Bi-directional data shift capability
- Embedded with power off reset circuit
- High voltage CMOS process technology
- COG/COF package

Himax Confidential
Do Not Copy

3. Block Diagram



Note: (1) OUT0 and OUT1201 are LCD panel auxiliary pins; these pins always output VGL level.

4. Pin Description

Pin Name	I/O	Function	Description																				
CPV	In	Shift clock input	The clock for the internal shift registers.																				
L/R	In	Shift direction control pin	The shift direction of device internal shift register is controlled by this pin as shown below: Default L/R=L. L/R =H: STV1→OUT1→OUT2→...→OUT1200→STV2. L/R =L: STV2→OUT1200→...→OUT2→OUT1→STV1.																				
STV1 STV2	I/O	Start pulse input/output pin	L/R=H, STV1 is used for start pulse input; STV2 is used for start pulse output. L/R =L, STV2 is used for start pulse input; STV1 is used for start pulse output.																				
OE1 OE2 OE3	In	Output enable control	The OE signal controls the output enable. OE1~OE3=H: All driver outputs are fixed to VGL regardless of CPV. However, the content of shift register is not cleared. OE1~OE3=L: Normal operation.																				
/XAO	In	Output all-on control	When /XAO is set to L, all outputs are fixed to VGH. Note that this pin has higher priority than OE. However, the content of shift register is not cleared. /XAO is pulled high to VDD internally. When it is not used, connecting to VDD is recommended.																				
MODE1 MODE2	In	Channel mode selection	Channel mode selection, default MODE1=H, MODE2=H. <table border="1"> <thead> <tr> <th>Output channel</th> <th>Disable channel</th> <th>MODE1</th> <th>MODE2</th> </tr> </thead> <tbody> <tr> <td>960</td> <td>481~720</td> <td>L</td> <td>L</td> </tr> <tr> <td>1080</td> <td>541~660</td> <td>H</td> <td>L</td> </tr> <tr> <td>1152</td> <td>577~624</td> <td>L</td> <td>H</td> </tr> <tr> <td>1200</td> <td>-</td> <td>H</td> <td>H</td> </tr> </tbody> </table>	Output channel	Disable channel	MODE1	MODE2	960	481~720	L	L	1080	541~660	H	L	1152	577~624	L	H	1200	-	H	H
Output channel	Disable channel	MODE1	MODE2																				
960	481~720	L	L																				
1080	541~660	H	L																				
1152	577~624	L	H																				
1200	-	H	H																				
SEG1 SEG2	In	Scan function selection	Scan function selection, default SEG1=L, SEG2=L. <table border="1"> <thead> <tr> <th>Scan function</th> <th>SEG1</th> <th>SEG2</th> </tr> </thead> <tbody> <tr> <td>Z1</td> <td>L</td> <td>L</td> </tr> <tr> <td>Z1</td> <td>L</td> <td>H</td> </tr> <tr> <td>弓</td> <td>H</td> <td>L</td> </tr> <tr> <td>Z2</td> <td>H</td> <td>H</td> </tr> </tbody> </table>	Scan function	SEG1	SEG2	Z1	L	L	Z1	L	H	弓	H	L	Z2	H	H					
Scan function	SEG1	SEG2																					
Z1	L	L																					
Z1	L	H																					
弓	H	L																					
Z2	H	H																					
EVEN	In	Frame selection	Frame selection, default EVEN=L. <table border="1"> <thead> <tr> <th>Frame</th> <th>EVEN</th> </tr> </thead> <tbody> <tr> <td>Odd</td> <td>L</td> </tr> <tr> <td>Even</td> <td>H</td> </tr> </tbody> </table>	Frame	EVEN	Odd	L	Even	H														
Frame	EVEN																						
Odd	L																						
Even	H																						
OUT1~ OUT1200	Out	Driver output	The output is either VGH or VGL for driving the gate line of TFT LCD panel.																				
OUT0 OUT1201	Out	Auxiliary pins	These two pins always output VGL level.																				
VDD	In	Power supply	Digital power supply.																				
VSS	In	Power supply	Grounding for VDD.																				
VGH	In	Power supply	Power supply for Gate on output.																				
VGL	In	Power supply	Power supply for Gate off output.																				
PATH1~3	In	Internal link	Linked together internal.																				

5. Function Description

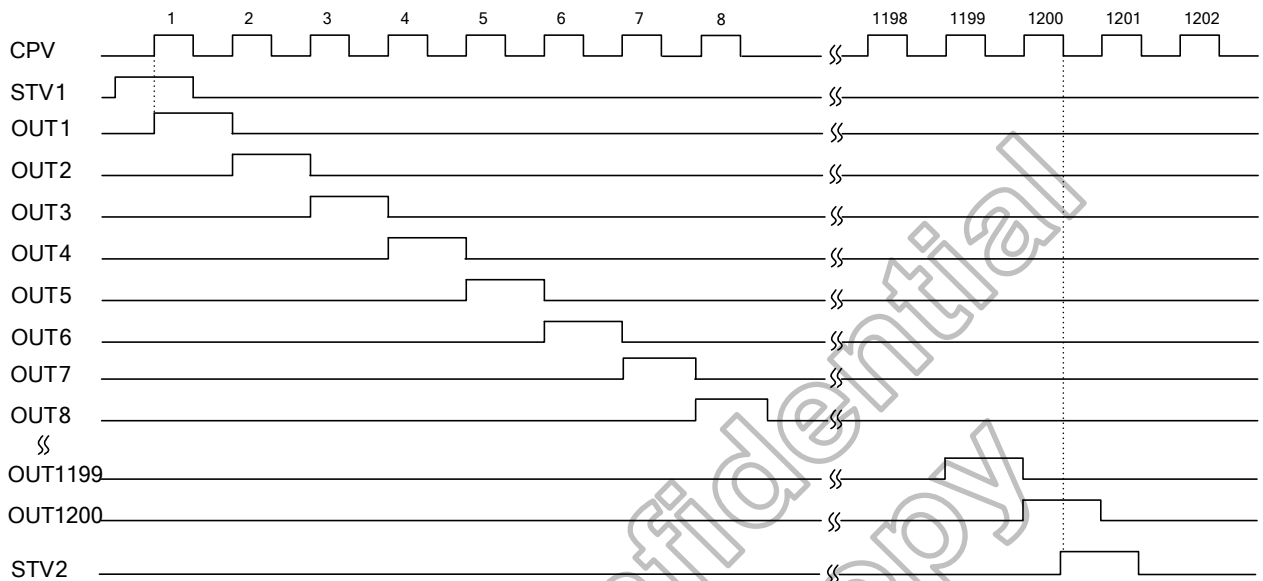
5.1 Device operation

When L/R=H, MODE1=H and MODE2=H, the STV1 start pulse input is sensed on the rising edge of CPV and stored in the first stage of shift register, which makes the first scan signal output from the OUT1 pin. While stored data is transferred to the next stage shift register on the rising edge of next CPV, new data of STV1 is sensed and stored simultaneously.

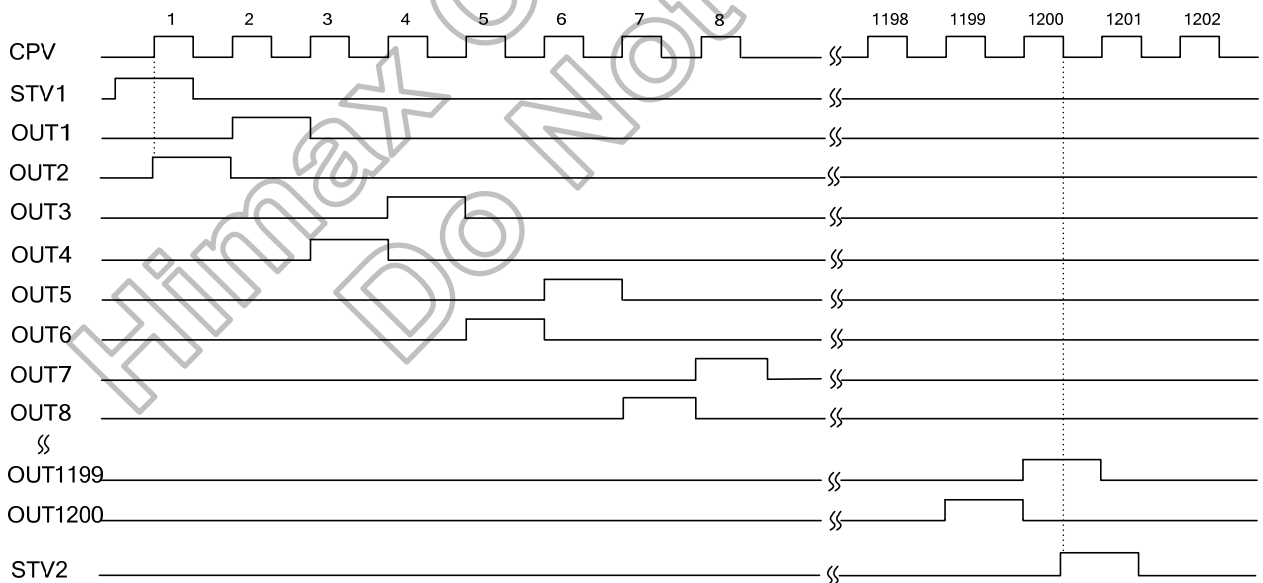
The output pin (**OUT1 to OUT1200**) supplies VGH voltage or VGL voltage to the LCD panel depending on the data stored in the shift register. For normal operation, a VGH voltage is outputted one by one from OUT1 to OUT1200 in synchronization with CPV pulse. According to EVEN pins setting, it is possible to get other different output sequence as the following waveform.

After 1200 CPV rising edge, the STV2 goes up to high level on the 1200th falling edge of CPV and goes down to low level on the 1201st falling edge of CPV. This STV2 output signal becomes the STV1 start pulse input of next cascaded gate driver. When OEx=H, the corresponding output channels are fixed to VGL level regardless of CPV. The channel output returns to normal status as soon as OE goes back to L.

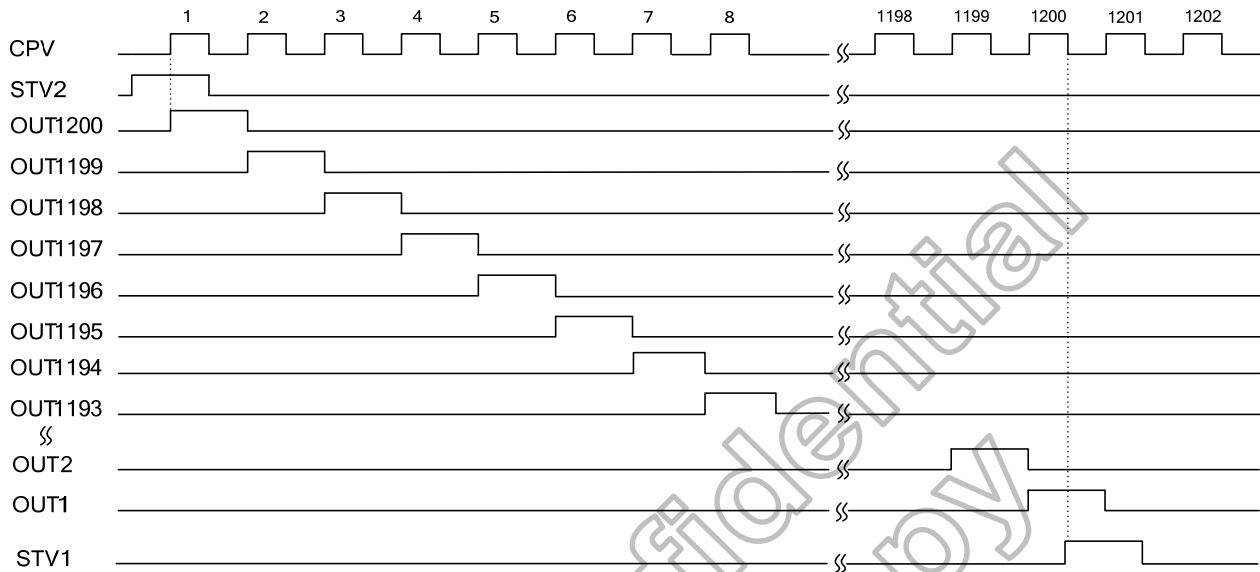
**A. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=L, SEG2=L, EVEN=L, L/R=H)**



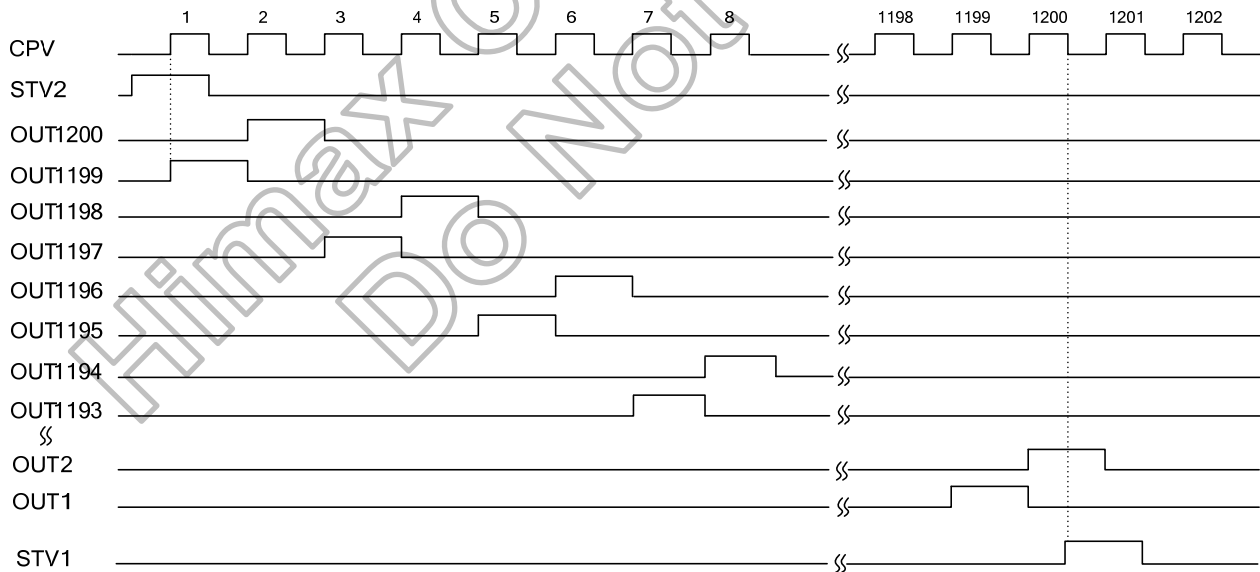
**B. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=L, SEG2=L, EVEN=H, L/R=H)**



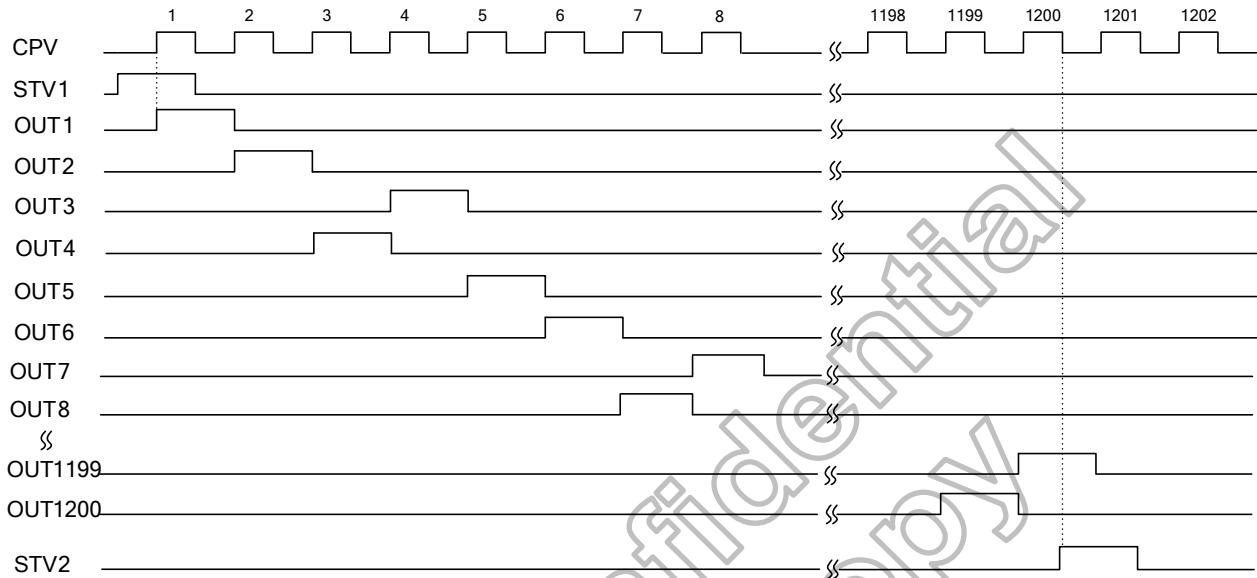
**C. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=L, SEG2=H, EVEN=L, L/R=L)**



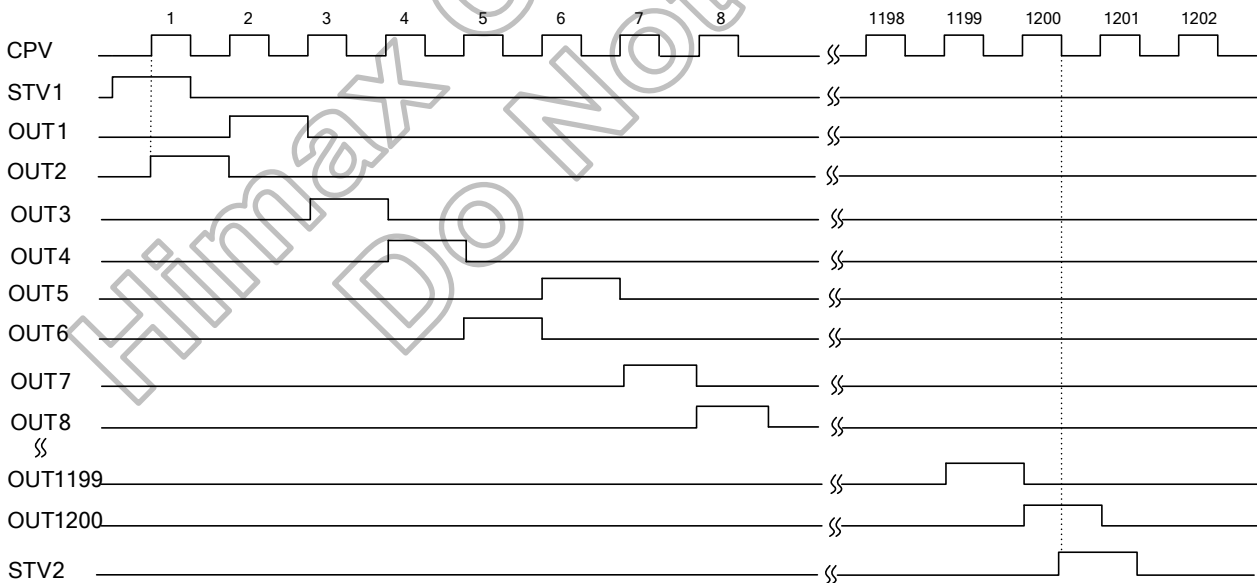
**D. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=L, SEG2=H, EVEN=H, L/R=L)**



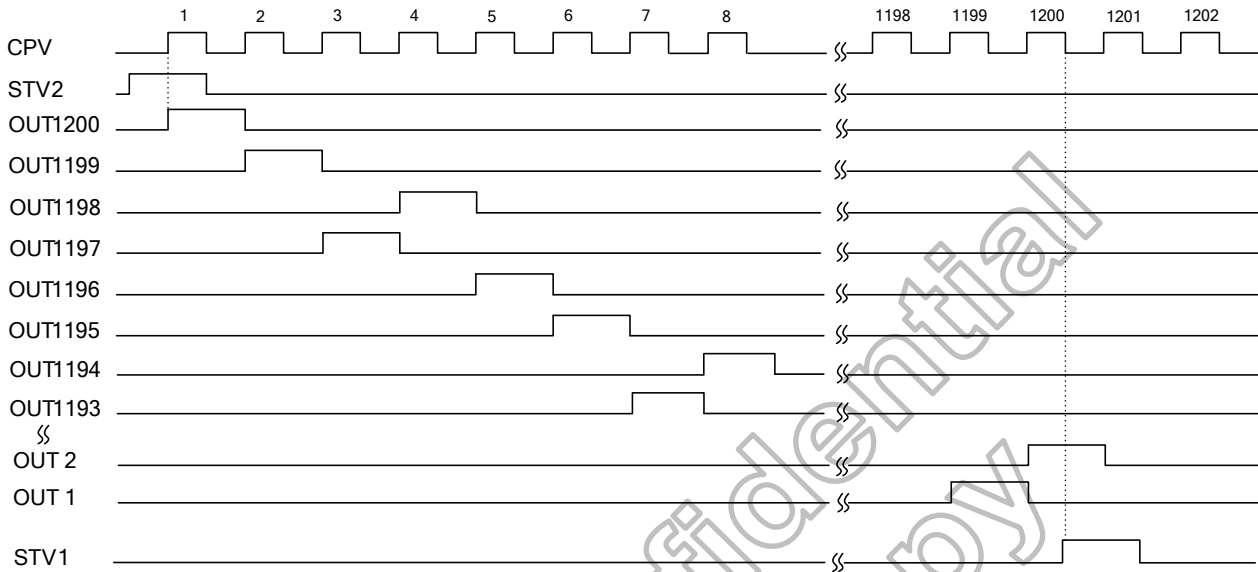
**E. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H, SEG2=L, EVEN=L, L/R=H)**



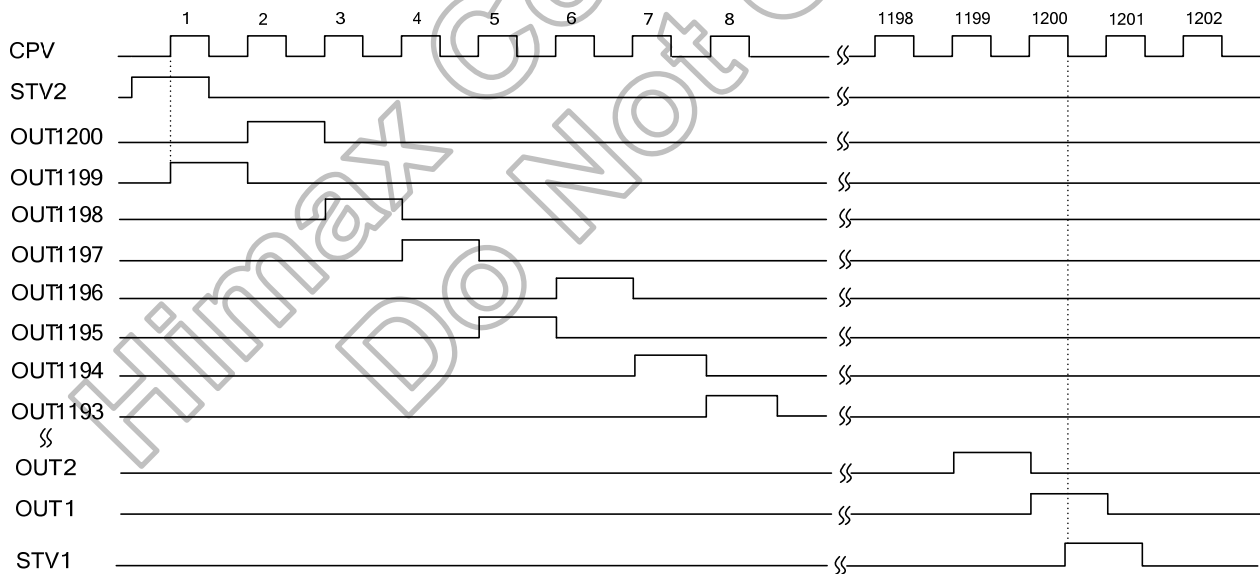
**F. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H, SEG2=L, EVEN=H, L/R=H)**



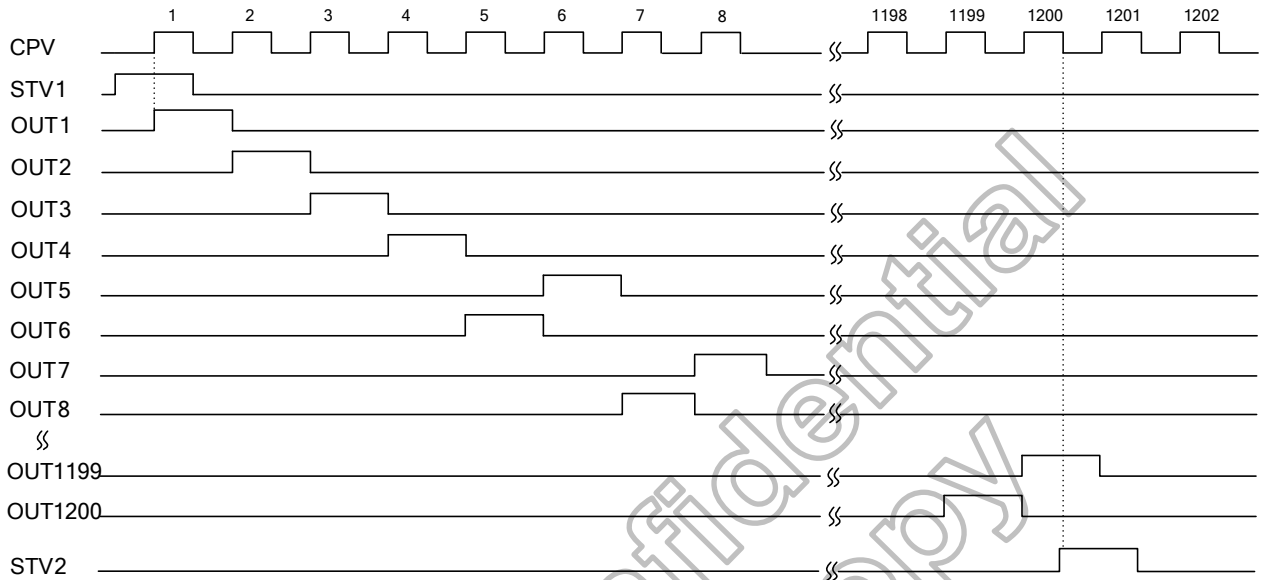
**G. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H SEG2=L, EVEN=L, L/R=L)**



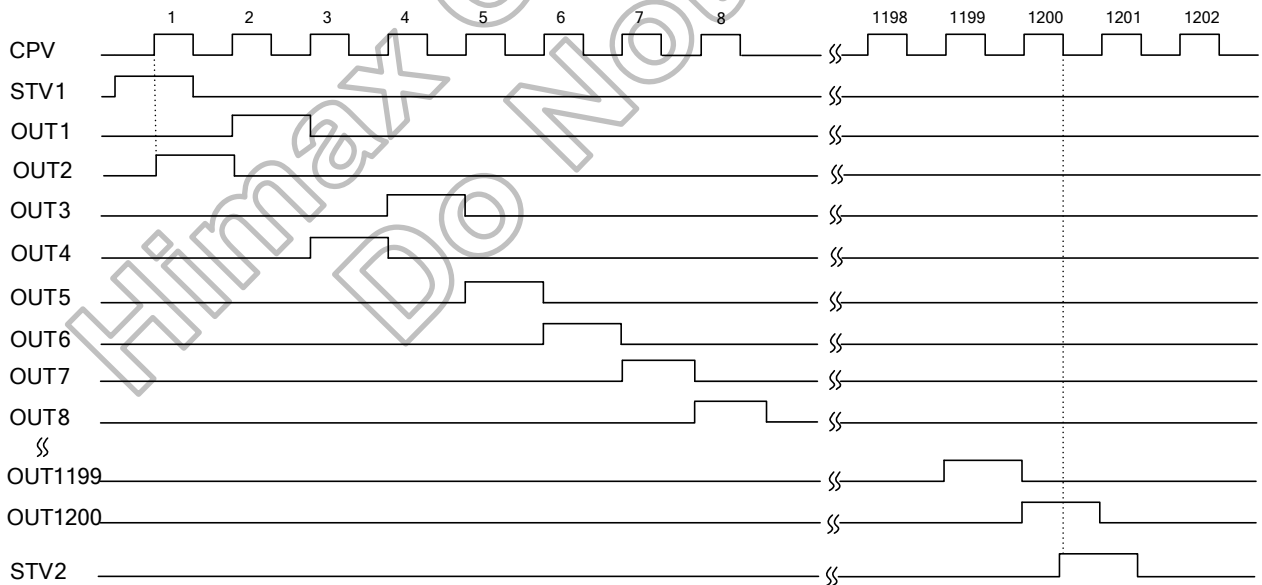
**H. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H, SEG2=L, EVEN=H, L/R=L)**



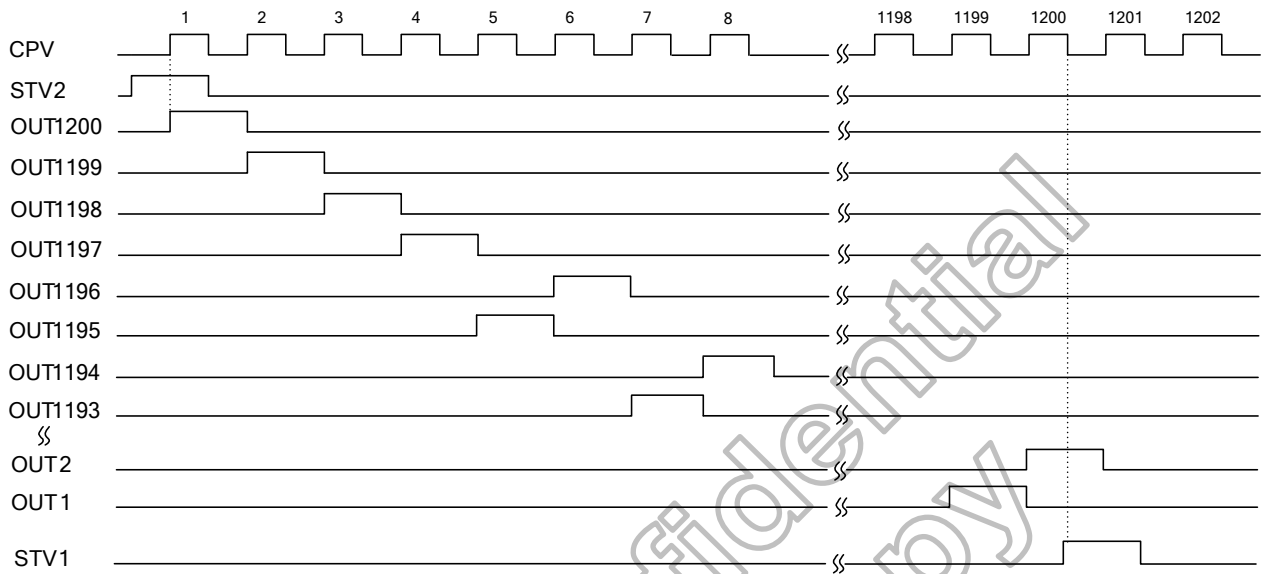
**I. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H, SEG2=H, EVEN=L, L/R=H)**



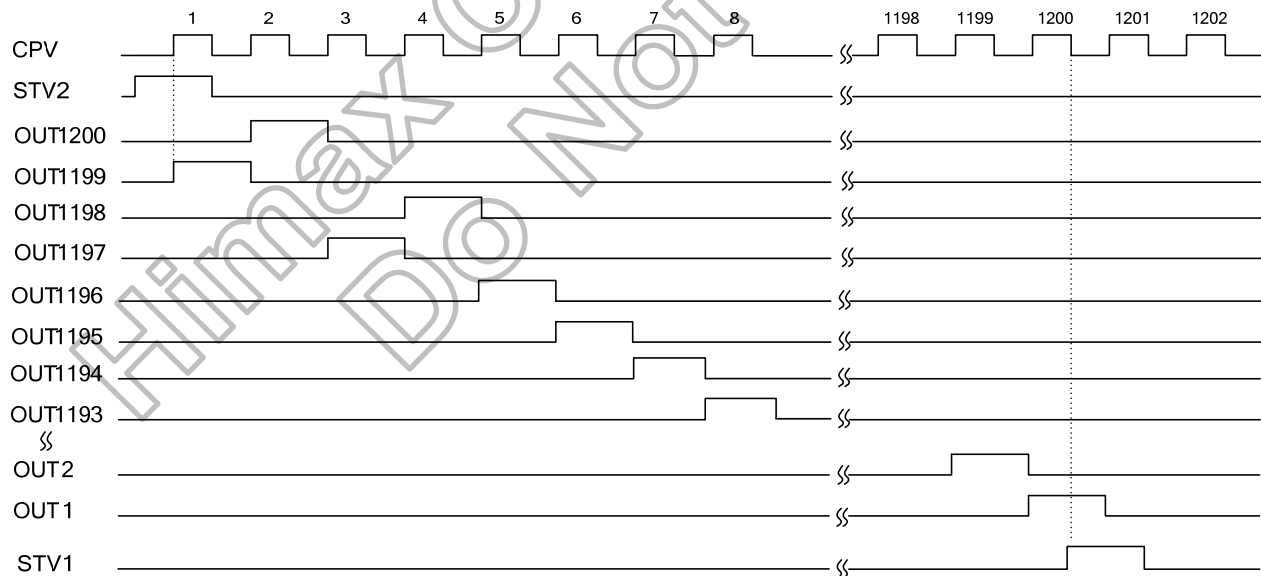
**J. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H, SEG2=H, EVEN=H, L/R=H)**



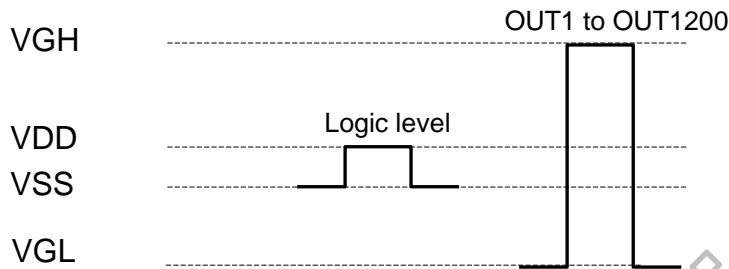
**K. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H SEG2=H, EVEN=L, L/R=L)**



**L. Example of input/output timing
(MODE2=H, MODE1=H, SEG1=H, SEG2=H, EVEN=H, L/R=L)**



5.2 Device power level



The logic levels of CPV, L/R, OE1, OE2, OE3, /XAO, MODE1, MODE2, SEG1, SEG2, EVEN, STV1 and STV2 have to swing between VDD for “H” and VSS for “L”. PATH2 has ESD protection diodes connected to VDD and to VSS, the signal on PATH2 should also swing between VDD and VSS.

5.3 Power on/off sequence

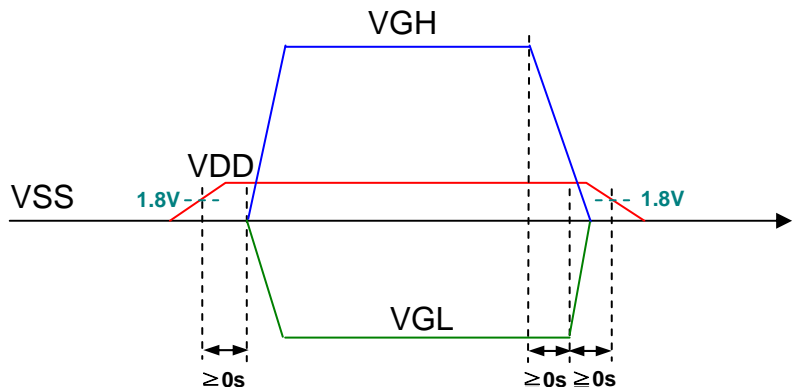
HX8696-A01 has a latch up free design. However, to prevent possible power on display noise or possible power off image residue, the power on/off sequence shown below need to be followed.

When power on, VGH/VGL can start to be turned on after VDD reaches 1.8V. After VGH/VGL start to be turned on, CPV and STV should be not floating, and /XAO should be at VDD level or floating. The other control signals have no timing limitation. If the possible power on display noise is not concerned or the backlight is delayed to turn on to shadow the possible noise, there is no power on sequence limitation.

When power off, VGH/VGL must start to be turned off before VDD drops to 1.8V. If the possible power off image residue is not concerned or the backlight is turned off in advance to shadow the possible image residue, there is no power off sequence limitation.

When power on: VDD → VGH/VGL

When power off: VGH → VGL → VDD



6. DC Characteristics

6.1 Absolute maximum rating (VSS=0V)

Parameter	Symbol	Spec.			Unit
		Min.	Typ.	Max.	
Power supply voltage 1	VDD	-0.3	-	+5.0	V
Power supply voltage 2	VGH	-0.3	-	VGL+42	V
Power supply voltage 3	VGL	-25	-	+0.3	V
Power supply voltage 4	VGH-VGL	-0.3	-	+42.0	V
Input voltage	V _{IN}	-0.3	-	VDD+0.3	V
Storage temperature	T _{STG}	-55	-	+125	°C

Note: (1) Device will probably be damaged permanently in case that the stresses are over the absolute maximum ratings listed above.

6.2 Recommended operating conditions (VSS=0V)

Parameter	Symbol	Spec.			Unit
		Min.	Typ.	Max.	
Power supply voltage 1	VDD	1.62	3.3	3.6	V
Power supply voltage 2	VGH	7	-	VGL+40	V
Power supply voltage 3	VGL	-20	-	-5	V
Power supply voltage 4	VGH-VGL	12	-	40	V
Operation frequency	F _{CPV}	-	-	200	KHz
Operation temperature	T _A	-40	-	+95	°C

6.3 Electrical characteristics (VSS=0V)

Parameter	Symbol	Applicable pin	Condition	Spec.			Unit
				Min.	Typ.	Max.	
Input H voltage	V _{IH}	All input pins	-	0.7VDD	-	VDD	V
Input L voltage	V _{IL}	All input pins	-	VSS	-	0.3VDD	V
Output H voltage	V _{OH}	STV1,2	I _{OH} =40μA	VDD-0.4	-	VDD	V
Output L voltage	V _{OL}	STV1,2	I _{OL} =40μA	VSS	-	VSS+0.4	V
Output H resistance	R _{OH}	OUT1 ~ OUT1200	V _{OUT} = VGH-0.5V	-	-	1000	Ω
Output L resistance	R _{OL}	OUT1 ~ OUT1200	V _{OUT} = VGL+0.5V	-	-	1000	Ω
Input leakage current	I _{IN}	Note ⁽¹⁾	-	-1.0	-	+1.0	μA
Pull high resistance1	R _{PU1}	/XAO	V _{IN} =VSS	40	-	200	kΩ
Pull high resistance 2	R _{PU2}	Note ⁽²⁾	VDD=3.3V, T _A =25°C	70	200	400	kΩ
Pull low resistance	R _{PD}	Note ⁽³⁾	VDD=3.3V, T _A =25°C	70	200	400	kΩ
Power off reset threshold voltage	V _{POFF}	-	-	-	1.8	-	V
VGH power consumption	I _{VGH}	VGH	Note ⁽⁴⁾	-	-	200	μA
VDD power consumption	I _{VDD}	VDD		-	-	100	μA

Note: (1) All input except L/R, /XAO, MODE1, MODE2, SEG1, SEG2, EVEN.

(2) MODE1, MODE2.

(3) L/R, SEG1, SEG2, EVEN.

(4) Power consumption in the following condition:

Output no load, VGH=20V, VGL=-8V, VDD=3.0V, V_{IH}=VDD, V_{IL}=VSS, F_{CPV}=50KHz,
L/R, SEG1, SEG2, EVEN, OE=V_{IL}; MODE1, MODE2, /XAO=V_{IH}.

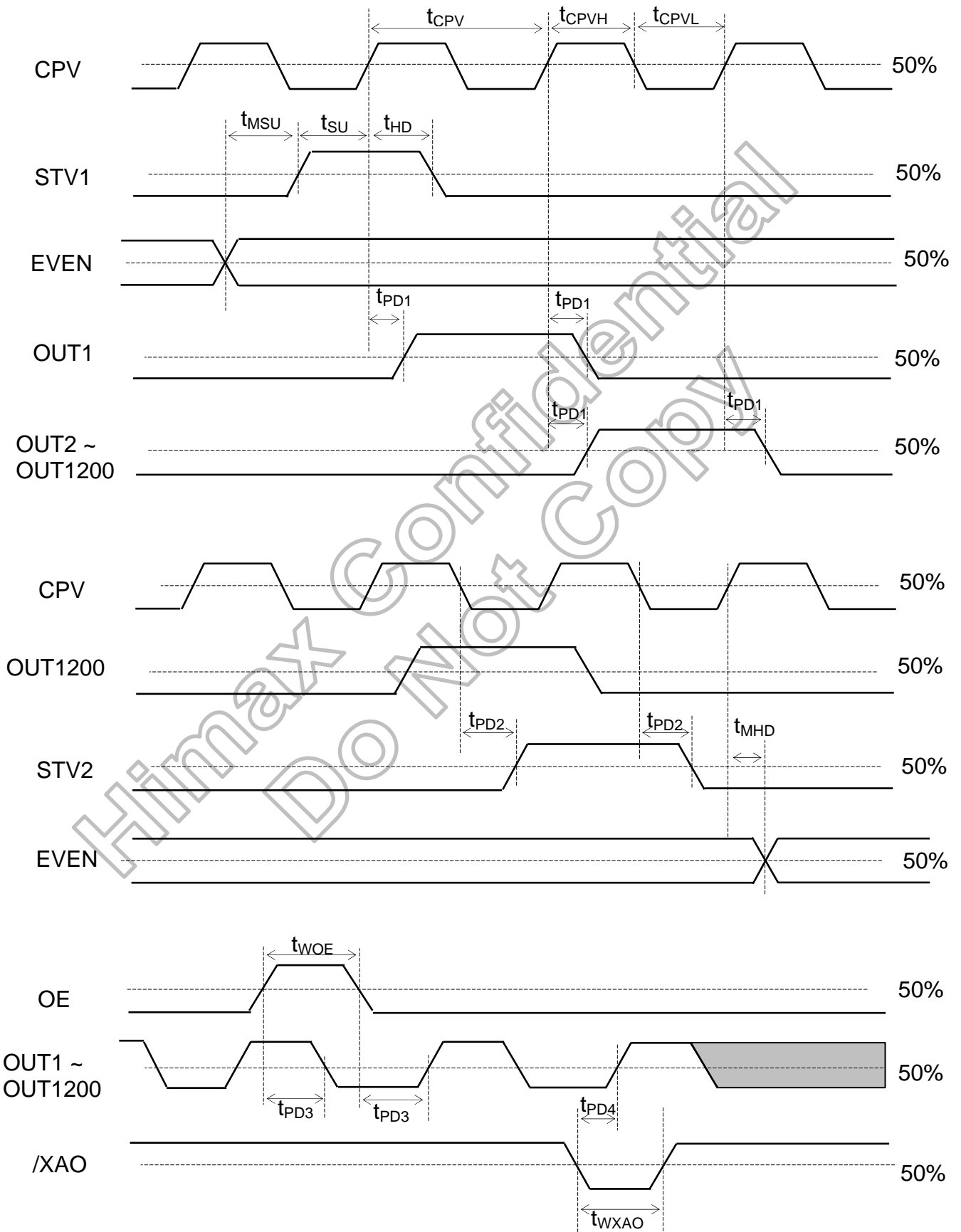
7. AC Characteristics

Parameter	Symbol	Condition	Spec.			Unit
			Min.	Typ.	Max.	
CPV period	t_{CPV}	-	5	-	-	μs
CPV pulse width	t_{CPVH}, t_{CPVL}	50% duty cycle	2.5	-	-	
OE pulse width	t_{WOE}	-	1	-	-	
/XAO pulse width	t_{WXAO}	-	200	-	-	
Data setup time	t_{SU}	-	1.0	-	-	
Data hold time	t_{HD}	-	1.0	-	-	
EVEN setup time	t_{MSU}	-	1.0	-	-	
EVEN hold time	t_{MHD}	-	1.0	-	-	
CPV to output delay time	t_{PD1}	CL=300pF	-	-	1.5	
Start pulse output delay time	t_{PD2}	Loading=30pF	-	-	1.5	
OE to output delay time	t_{PD3}	CL=300pF	-	-	1.5	
/XAO to output delay time	t_{PD4}	CL=300pF	-	-	200	

Note: (1) The measurement point for all of above signals is at 50% of input/output amplitude.

Himax Confidential
Do Not Copy

8. Waveform



9.4 Bump center coordinates

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
1	/XAO	-11283	262	70 x 32	51	VSS	-9000	-243	80 x 70
2	/XAO	-11373	262	70 x 32	52	VSS	-8900	-243	80 x 70
3	EVEN	-11463	262	70 x 32	53	VSS	-8800	-243	80 x 70
4	EVEN	-11553	262	70 x 32	54	VSS	-8700	-243	80 x 70
5	OE1	-11643	262	70 x 32	55	VSS	-8600	-243	80 x 70
6	OE1	-11733	262	70 x 32	56	VSS	-8500	-243	80 x 70
7	OE2	-11733	208	70 x 32	57	VSS	-8400	-243	80 x 70
8	OE2	-11643	208	70 x 32	58	VSS	-8300	-243	80 x 70
9	OE3	-11733	156	70 x 32	59	VSS	-8200	-243	80 x 70
10	OE3	-11643	156	70 x 32	60	VSS	-8100	-243	80 x 70
11	L/R	-11733	104	70 x 32	61	VSS	-8000	-243	80 x 70
12	L/R	-11643	104	70 x 32	62	VSS	-7900	-243	80 x 70
13	CPV	-11733	52	70 x 32	63	VSS	-7800	-243	80 x 70
14	CPV	-11643	52	70 x 32	64	VSS	-7700	-243	80 x 70
15	PATH2	-11733	0	70 x 32	65	VSS	-7600	-243	80 x 70
16	PATH2	-11643	0	70 x 32	66	VSS	-7500	-243	80 x 70
17	STV2	-11733	-52	70 x 32	67	VSS	-7400	-243	80 x 70
18	STV2	-11643	-52	70 x 32	68	VSS	-7300	-243	80 x 70
19	VGH	-11733	-104	70 x 32	69	VSS	-7200	-243	80 x 70
20	VGH	-11643	-104	70 x 32	70	VSS	-7100	-243	80 x 70
21	VGL	-11733	-156	70 x 32	71	VSS	-7000	-243	80 x 70
22	VGL	-11643	-156	70 x 32	72	VSS	-6900	-243	80 x 70
23	VDD	-11733	-208	70 x 32	73	VSS	-6800	-243	80 x 70
24	VDD	-11643	-208	70 x 32	74	VSS	-6700	-243	80 x 70
25	VSS	-11733	-262	70 x 32	75	VSS	-6600	-243	80 x 70
26	VSS	-11643	-262	70 x 32	76	VSS	-6500	-243	80 x 70
27	MODE2	-11553	-262	70 x 32	77	VSS	-6400	-243	80 x 70
28	MODE1	-11463	-262	70 x 32	78	VSS	-6300	-243	80 x 70
29	SEG1	-11373	-262	70 x 32	79	VSS	-6200	-243	80 x 70
30	SEG2	-11283	-262	70 x 32	80	VSS	-6100	-243	80 x 70
31	PATH3	-11000	-243	80 x 70	81	VSS	-6000	-243	80 x 70
32	VSS	-10900	-243	80 x 70	82	VSS	-5900	-243	80 x 70
33	VSS	-10800	-243	80 x 70	83	VSS	-5800	-243	80 x 70
34	VSS	-10700	-243	80 x 70	84	VSS	-5700	-243	80 x 70
35	VSS	-10600	-243	80 x 70	85	VSS	-5600	-243	80 x 70
36	VSS	-10500	-243	80 x 70	86	VSS	-5500	-243	80 x 70
37	VSS	-10400	-243	80 x 70	87	VSS	-5400	-243	80 x 70
38	VSS	-10300	-243	80 x 70	88	VSS	-5300	-243	80 x 70
39	VSS	-10200	-243	80 x 70	89	VSS	-5200	-243	80 x 70
40	VSS	-10100	-243	80 x 70	90	VSS	-5100	-243	80 x 70
41	VSS	-10000	-243	80 x 70	91	VSS	-5000	-243	80 x 70
42	VSS	-9900	-243	80 x 70	92	VSS	-4900	-243	80 x 70
43	VSS	-9800	-243	80 x 70	93	VSS	-4800	-243	80 x 70
44	VSS	-9700	-243	80 x 70	94	VSS	-4700	-243	80 x 70
45	VSS	-9600	-243	80 x 70	95	VSS	-4600	-243	80 x 70
46	VSS	-9500	-243	80 x 70	96	VSS	-4500	-243	80 x 70
47	VSS	-9400	-243	80 x 70	97	VSS	-4400	-243	80 x 70
48	VSS	-9300	-243	80 x 70	98	VSS	-4300	-243	80 x 70
49	VSS	-9200	-243	80 x 70	99	VSS	-4200	-243	80 x 70
50	VSS	-9100	-243	80 x 70	100	VSS	-4100	-243	80 x 70

No.	Name	X	Y	Bump size (µm)
101	VSS	-4000	-243	80 x 70
102	VSS	-3900	-243	80 x 70
103	VSS	-3800	-243	80 x 70
104	VSS	-3700	-243	80 x 70
105	VSS	-3600	-243	80 x 70
106	VSS	-3500	-243	80 x 70
107	VSS	-3400	-243	80 x 70
108	VSS	-3300	-243	80 x 70
109	VSS	-3200	-243	80 x 70
110	VSS	-3100	-243	80 x 70
111	VSS	-3000	-243	80 x 70
112	VSS	-2900	-243	80 x 70
113	VSS	-2800	-243	80 x 70
114	VSS	-2700	-243	80 x 70
115	VSS	-2600	-243	80 x 70
116	VSS	-2500	-243	80 x 70
117	VSS	-2400	-243	80 x 70
118	VSS	-2300	-243	80 x 70
119	VSS	-2200	-243	80 x 70
120	VSS	-2100	-243	80 x 70
121	VSS	-2000	-243	80 x 70
122	VSS	-1900	-243	80 x 70
123	VSS	-1800	-243	80 x 70
124	VSS	-1700	-243	80 x 70
125	VSS	-1600	-243	80 x 70
126	VSS	-1500	-243	80 x 70
127	VSS	-1400	-243	80 x 70
128	VSS	-1300	-243	80 x 70
129	VSS	-1200	-243	80 x 70
130	VSS	-1100	-243	80 x 70
131	VSS	-1000	-243	80 x 70
132	VSS	-900	-243	80 x 70
133	VSS	-800	-243	80 x 70
134	VSS	-700	-243	80 x 70
135	VSS	-600	-243	80 x 70
136	VSS	-500	-243	80 x 70
137	VSS	-400	-243	80 x 70
138	VSS	-300	-243	80 x 70
139	VSS	-200	-243	80 x 70
140	VSS	-100	-243	80 x 70
141	VSS	0	-243	80 x 70
142	VSS	100	-243	80 x 70
143	VSS	200	-243	80 x 70
144	VSS	300	-243	80 x 70
145	VSS	400	-243	80 x 70
146	VSS	500	-243	80 x 70
147	VSS	600	-243	80 x 70
148	VSS	700	-243	80 x 70
149	VSS	800	-243	80 x 70
150	VSS	900	-243	80 x 70

No.	Name	X	Y	Bump size (µm)
151	VSS	1000	-243	80 x 70
152	VSS	1100	-243	80 x 70
153	VSS	1200	-243	80 x 70
154	VSS	1300	-243	80 x 70
155	VSS	1400	-243	80 x 70
156	VSS	1500	-243	80 x 70
157	VSS	1600	-243	80 x 70
158	VSS	1700	-243	80 x 70
159	VSS	1800	-243	80 x 70
160	VSS	1900	-243	80 x 70
161	VSS	2000	-243	80 x 70
162	VSS	2100	-243	80 x 70
163	VSS	2200	-243	80 x 70
164	VSS	2300	-243	80 x 70
165	VSS	2400	-243	80 x 70
166	VSS	2500	-243	80 x 70
167	VSS	2600	-243	80 x 70
168	VSS	2700	-243	80 x 70
169	VSS	2800	-243	80 x 70
170	VSS	2900	-243	80 x 70
171	VSS	3000	-243	80 x 70
172	VSS	3100	-243	80 x 70
173	VSS	3200	-243	80 x 70
174	VSS	3300	-243	80 x 70
175	VSS	3400	-243	80 x 70
176	VSS	3500	-243	80 x 70
177	VSS	3600	-243	80 x 70
178	VSS	3700	-243	80 x 70
179	VSS	3800	-243	80 x 70
180	VSS	3900	-243	80 x 70
181	VSS	4000	-243	80 x 70
182	VSS	4100	-243	80 x 70
183	VSS	4200	-243	80 x 70
184	VSS	4300	-243	80 x 70
185	VSS	4400	-243	80 x 70
186	VSS	4500	-243	80 x 70
187	VSS	4600	-243	80 x 70
188	VSS	4700	-243	80 x 70
189	VSS	4800	-243	80 x 70
190	VSS	4900	-243	80 x 70
191	VSS	5000	-243	80 x 70
192	VSS	5100	-243	80 x 70
193	VSS	5200	-243	80 x 70
194	VSS	5300	-243	80 x 70
195	VSS	5400	-243	80 x 70
196	VSS	5500	-243	80 x 70
197	VSS	5600	-243	80 x 70
198	VSS	5700	-243	80 x 70
199	VSS	5800	-243	80 x 70
200	VSS	5900	-243	80 x 70

No.	Name	X	Y	Bump size (µm)
201	VSS	6000	-243	80 x 70
202	VSS	6100	-243	80 x 70
203	VSS	6200	-243	80 x 70
204	VSS	6300	-243	80 x 70
205	VSS	6400	-243	80 x 70
206	VSS	6500	-243	80 x 70
207	VSS	6600	-243	80 x 70
208	VSS	6700	-243	80 x 70
209	VSS	6800	-243	80 x 70
210	VSS	6900	-243	80 x 70
211	VSS	7000	-243	80 x 70
212	VSS	7100	-243	80 x 70
213	VSS	7200	-243	80 x 70
214	VSS	7300	-243	80 x 70
215	VSS	7400	-243	80 x 70
216	VSS	7500	-243	80 x 70
217	VSS	7600	-243	80 x 70
218	VSS	7700	-243	80 x 70
219	VSS	7800	-243	80 x 70
220	VSS	7900	-243	80 x 70
221	VSS	8000	-243	80 x 70
222	VSS	8100	-243	80 x 70
223	VSS	8200	-243	80 x 70
224	VSS	8300	-243	80 x 70
225	VSS	8400	-243	80 x 70
226	VSS	8500	-243	80 x 70
227	VSS	8600	-243	80 x 70
228	VSS	8700	-243	80 x 70
229	VSS	8800	-243	80 x 70
230	VSS	8900	-243	80 x 70
231	VSS	9000	-243	80 x 70
232	VSS	9100	-243	80 x 70
233	VSS	9200	-243	80 x 70
234	VSS	9300	-243	80 x 70
235	VSS	9400	-243	80 x 70
236	VSS	9500	-243	80 x 70
237	VSS	9600	-243	80 x 70
238	VSS	9700	-243	80 x 70
239	VSS	9800	-243	80 x 70
240	VSS	9900	-243	80 x 70
241	VSS	10000	-243	80 x 70
242	VSS	10100	-243	80 x 70
243	VSS	10200	-243	80 x 70
244	VSS	10300	-243	80 x 70
245	VSS	10400	-243	80 x 70
246	VSS	10500	-243	80 x 70
247	VSS	10600	-243	80 x 70
248	VSS	10700	-243	80 x 70
249	VSS	10800	-243	80 x 70
250	VSS	10900	-243	80 x 70

No.	Name	X	Y	Bump size (µm)
251	PATH3	11000	-243	80 x 70
252	SEG2	11283	-262	70 x 32
253	SEG1	11373	-262	70 x 32
254	MODE1	11463	-262	70 x 32
255	MODE2	11553	-262	70 x 32
256	VSS	11643	-262	70 x 32
257	VSS	11733	-262	70 x 32
258	VDD	11733	-208	70 x 32
259	VDD	11643	-208	70 x 32
260	VGL	11733	-156	70 x 32
261	VGL	11643	-156	70 x 32
262	VGH	11733	-104	70 x 32
263	VGH	11643	-104	70 x 32
264	STV1	11733	-52	70 x 32
265	STV1	11643	-52	70 x 32
266	PATH2	11733	0	70 x 32
267	PATH2	11643	0	70 x 32
268	CPV	11733	52	70 x 32
269	CPV	11643	52	70 x 32
270	L/R	11733	104	70 x 32
271	L/R	11643	104	70 x 32
272	OE3	11733	156	70 x 32
273	OE3	11643	156	70 x 32
274	OE2	11733	208	70 x 32
275	OE2	11643	208	70 x 32
276	OE1	11733	262	70 x 32
277	OE1	11643	262	70 x 32
278	EVEN	11553	262	70 x 32
279	EVEN	11463	262	70 x 32
280	/XAO	11373	262	70 x 32
281	/XAO	11283	262	70 x 32
282	PATH1	10836	235.5	18 x 85
283	OUT0	10800	235.5	18 x 85
284	OUT1	10782	125.5	18 x 85
285	OUT2	10764	235.5	18 x 85
286	OUT3	10746	125.5	18 x 85
287	OUT4	10728	235.5	18 x 85
288	OUT5	10710	125.5	18 x 85
289	OUT6	10692	235.5	18 x 85
290	OUT7	10674	125.5	18 x 85
291	OUT8	10656	235.5	18 x 85
292	OUT9	10638	125.5	18 x 85
293	OUT10	10620	235.5	18 x 85
294	OUT11	10602	125.5	18 x 85
295	OUT12	10584	235.5	18 x 85
296	OUT13	10566	125.5	18 x 85
297	OUT14	10548	235.5	18 x 85
298	OUT15	10530	125.5	18 x 85
299	OUT16	10512	235.5	18 x 85
300	OUT17	10494	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
301	OUT18	10476	235.5	18 x 85	351	OUT68	9576	235.5	18 x 85
302	OUT19	10458	125.5	18 x 85	352	OUT69	9558	125.5	18 x 85
303	OUT20	10440	235.5	18 x 85	353	OUT70	9540	235.5	18 x 85
304	OUT21	10422	125.5	18 x 85	354	OUT71	9522	125.5	18 x 85
305	OUT22	10404	235.5	18 x 85	355	OUT72	9504	235.5	18 x 85
306	OUT23	10386	125.5	18 x 85	356	OUT73	9486	125.5	18 x 85
307	OUT24	10368	235.5	18 x 85	357	OUT74	9468	235.5	18 x 85
308	OUT25	10350	125.5	18 x 85	358	OUT75	9450	125.5	18 x 85
309	OUT26	10332	235.5	18 x 85	359	OUT76	9432	235.5	18 x 85
310	OUT27	10314	125.5	18 x 85	360	OUT77	9414	125.5	18 x 85
311	OUT28	10296	235.5	18 x 85	361	OUT78	9396	235.5	18 x 85
312	OUT29	10278	125.5	18 x 85	362	OUT79	9378	125.5	18 x 85
313	OUT30	10260	235.5	18 x 85	363	OUT80	9360	235.5	18 x 85
314	OUT31	10242	125.5	18 x 85	364	OUT81	9342	125.5	18 x 85
315	OUT32	10224	235.5	18 x 85	365	OUT82	9324	235.5	18 x 85
316	OUT33	10206	125.5	18 x 85	366	OUT83	9306	125.5	18 x 85
317	OUT34	10188	235.5	18 x 85	367	OUT84	9288	235.5	18 x 85
318	OUT35	10170	125.5	18 x 85	368	OUT85	9270	125.5	18 x 85
319	OUT36	10152	235.5	18 x 85	369	OUT86	9252	235.5	18 x 85
320	OUT37	10134	125.5	18 x 85	370	OUT87	9234	125.5	18 x 85
321	OUT38	10116	235.5	18 x 85	371	OUT88	9216	235.5	18 x 85
322	OUT39	10098	125.5	18 x 85	372	OUT89	9198	125.5	18 x 85
323	OUT40	10080	235.5	18 x 85	373	OUT90	9180	235.5	18 x 85
324	OUT41	10062	125.5	18 x 85	374	OUT91	9162	125.5	18 x 85
325	OUT42	10044	235.5	18 x 85	375	OUT92	9144	235.5	18 x 85
326	OUT43	10026	125.5	18 x 85	376	OUT93	9126	125.5	18 x 85
327	OUT44	10008	235.5	18 x 85	377	OUT94	9108	235.5	18 x 85
328	OUT45	9990	125.5	18 x 85	378	OUT95	9090	125.5	18 x 85
329	OUT46	9972	235.5	18 x 85	379	OUT96	9072	235.5	18 x 85
330	OUT47	9954	125.5	18 x 85	380	OUT97	9054	125.5	18 x 85
331	OUT48	9936	235.5	18 x 85	381	OUT98	9036	235.5	18 x 85
332	OUT49	9918	125.5	18 x 85	382	OUT99	9018	125.5	18 x 85
333	OUT50	9900	235.5	18 x 85	383	OUT100	9000	235.5	18 x 85
334	OUT51	9882	125.5	18 x 85	384	OUT101	8982	125.5	18 x 85
335	OUT52	9864	235.5	18 x 85	385	OUT102	8964	235.5	18 x 85
336	OUT53	9846	125.5	18 x 85	386	OUT103	8946	125.5	18 x 85
337	OUT54	9828	235.5	18 x 85	387	OUT104	8928	235.5	18 x 85
338	OUT55	9810	125.5	18 x 85	388	OUT105	8910	125.5	18 x 85
339	OUT56	9792	235.5	18 x 85	389	OUT106	8892	235.5	18 x 85
340	OUT57	9774	125.5	18 x 85	390	OUT107	8874	125.5	18 x 85
341	OUT58	9756	235.5	18 x 85	391	OUT108	8856	235.5	18 x 85
342	OUT59	9738	125.5	18 x 85	392	OUT109	8838	125.5	18 x 85
343	OUT60	9720	235.5	18 x 85	393	OUT110	8820	235.5	18 x 85
344	OUT61	9702	125.5	18 x 85	394	OUT111	8802	125.5	18 x 85
345	OUT62	9684	235.5	18 x 85	395	OUT112	8784	235.5	18 x 85
346	OUT63	9666	125.5	18 x 85	396	OUT113	8766	125.5	18 x 85
347	OUT64	9648	235.5	18 x 85	397	OUT114	8748	235.5	18 x 85
348	OUT65	9630	125.5	18 x 85	398	OUT115	8730	125.5	18 x 85
349	OUT66	9612	235.5	18 x 85	399	OUT116	8712	235.5	18 x 85
350	OUT67	9594	125.5	18 x 85	400	OUT117	8694	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
401	OUT118	8676	235.5	18 x 85	451	OUT168	7776	235.5	18 x 85
402	OUT119	8658	125.5	18 x 85	452	OUT169	7758	125.5	18 x 85
403	OUT120	8640	235.5	18 x 85	453	OUT170	7740	235.5	18 x 85
404	OUT121	8622	125.5	18 x 85	454	OUT171	7722	125.5	18 x 85
405	OUT122	8604	235.5	18 x 85	455	OUT172	7704	235.5	18 x 85
406	OUT123	8586	125.5	18 x 85	456	OUT173	7686	125.5	18 x 85
407	OUT124	8568	235.5	18 x 85	457	OUT174	7668	235.5	18 x 85
408	OUT125	8550	125.5	18 x 85	458	OUT175	7650	125.5	18 x 85
409	OUT126	8532	235.5	18 x 85	459	OUT176	7632	235.5	18 x 85
410	OUT127	8514	125.5	18 x 85	460	OUT177	7614	125.5	18 x 85
411	OUT128	8496	235.5	18 x 85	461	OUT178	7596	235.5	18 x 85
412	OUT129	8478	125.5	18 x 85	462	OUT179	7578	125.5	18 x 85
413	OUT130	8460	235.5	18 x 85	463	OUT180	7560	235.5	18 x 85
414	OUT131	8442	125.5	18 x 85	464	OUT181	7542	125.5	18 x 85
415	OUT132	8424	235.5	18 x 85	465	OUT182	7524	235.5	18 x 85
416	OUT133	8406	125.5	18 x 85	466	OUT183	7506	125.5	18 x 85
417	OUT134	8388	235.5	18 x 85	467	OUT184	7488	235.5	18 x 85
418	OUT135	8370	125.5	18 x 85	468	OUT185	7470	125.5	18 x 85
419	OUT136	8352	235.5	18 x 85	469	OUT186	7452	235.5	18 x 85
420	OUT137	8334	125.5	18 x 85	470	OUT187	7434	125.5	18 x 85
421	OUT138	8316	235.5	18 x 85	471	OUT188	7416	235.5	18 x 85
422	OUT139	8298	125.5	18 x 85	472	OUT189	7398	125.5	18 x 85
423	OUT140	8280	235.5	18 x 85	473	OUT190	7380	235.5	18 x 85
424	OUT141	8262	125.5	18 x 85	474	OUT191	7362	125.5	18 x 85
425	OUT142	8244	235.5	18 x 85	475	OUT192	7344	235.5	18 x 85
426	OUT143	8226	125.5	18 x 85	476	OUT193	7326	125.5	18 x 85
427	OUT144	8208	235.5	18 x 85	477	OUT194	7308	235.5	18 x 85
428	OUT145	8190	125.5	18 x 85	478	OUT195	7290	125.5	18 x 85
429	OUT146	8172	235.5	18 x 85	479	OUT196	7272	235.5	18 x 85
430	OUT147	8154	125.5	18 x 85	480	OUT197	7254	125.5	18 x 85
431	OUT148	8136	235.5	18 x 85	481	OUT198	7236	235.5	18 x 85
432	OUT149	8118	125.5	18 x 85	482	OUT199	7218	125.5	18 x 85
433	OUT150	8100	235.5	18 x 85	483	OUT200	7200	235.5	18 x 85
434	OUT151	8082	125.5	18 x 85	484	OUT201	7182	125.5	18 x 85
435	OUT152	8064	235.5	18 x 85	485	OUT202	7164	235.5	18 x 85
436	OUT153	8046	125.5	18 x 85	486	OUT203	7146	125.5	18 x 85
437	OUT154	8028	235.5	18 x 85	487	OUT204	7128	235.5	18 x 85
438	OUT155	8010	125.5	18 x 85	488	OUT205	7110	125.5	18 x 85
439	OUT156	7992	235.5	18 x 85	489	OUT206	7092	235.5	18 x 85
440	OUT157	7974	125.5	18 x 85	490	OUT207	7074	125.5	18 x 85
441	OUT158	7956	235.5	18 x 85	491	OUT208	7056	235.5	18 x 85
442	OUT159	7938	125.5	18 x 85	492	OUT209	7038	125.5	18 x 85
443	OUT160	7920	235.5	18 x 85	493	OUT210	7020	235.5	18 x 85
444	OUT161	7902	125.5	18 x 85	494	OUT211	7002	125.5	18 x 85
445	OUT162	7884	235.5	18 x 85	495	OUT212	6984	235.5	18 x 85
446	OUT163	7866	125.5	18 x 85	496	OUT213	6966	125.5	18 x 85
447	OUT164	7848	235.5	18 x 85	497	OUT214	6948	235.5	18 x 85
448	OUT165	7830	125.5	18 x 85	498	OUT215	6930	125.5	18 x 85
449	OUT166	7812	235.5	18 x 85	499	OUT216	6912	235.5	18 x 85
450	OUT167	7794	125.5	18 x 85	500	OUT217	6894	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
501	OUT218	6876	235.5	18 x 85	551	OUT268	5976	235.5	18 x 85
502	OUT219	6858	125.5	18 x 85	552	OUT269	5958	125.5	18 x 85
503	OUT220	6840	235.5	18 x 85	553	OUT270	5940	235.5	18 x 85
504	OUT221	6822	125.5	18 x 85	554	OUT271	5922	125.5	18 x 85
505	OUT222	6804	235.5	18 x 85	555	OUT272	5904	235.5	18 x 85
506	OUT223	6786	125.5	18 x 85	556	OUT273	5886	125.5	18 x 85
507	OUT224	6768	235.5	18 x 85	557	OUT274	5868	235.5	18 x 85
508	OUT225	6750	125.5	18 x 85	558	OUT275	5850	125.5	18 x 85
509	OUT226	6732	235.5	18 x 85	559	OUT276	5832	235.5	18 x 85
510	OUT227	6714	125.5	18 x 85	560	OUT277	5814	125.5	18 x 85
511	OUT228	6696	235.5	18 x 85	561	OUT278	5796	235.5	18 x 85
512	OUT229	6678	125.5	18 x 85	562	OUT279	5778	125.5	18 x 85
513	OUT230	6660	235.5	18 x 85	563	OUT280	5760	235.5	18 x 85
514	OUT231	6642	125.5	18 x 85	564	OUT281	5742	125.5	18 x 85
515	OUT232	6624	235.5	18 x 85	565	OUT282	5724	235.5	18 x 85
516	OUT233	6606	125.5	18 x 85	566	OUT283	5706	125.5	18 x 85
517	OUT234	6588	235.5	18 x 85	567	OUT284	5688	235.5	18 x 85
518	OUT235	6570	125.5	18 x 85	568	OUT285	5670	125.5	18 x 85
519	OUT236	6552	235.5	18 x 85	569	OUT286	5652	235.5	18 x 85
520	OUT237	6534	125.5	18 x 85	570	OUT287	5634	125.5	18 x 85
521	OUT238	6516	235.5	18 x 85	571	OUT288	5616	235.5	18 x 85
522	OUT239	6498	125.5	18 x 85	572	OUT289	5598	125.5	18 x 85
523	OUT240	6480	235.5	18 x 85	573	OUT290	5580	235.5	18 x 85
524	OUT241	6462	125.5	18 x 85	574	OUT291	5562	125.5	18 x 85
525	OUT242	6444	235.5	18 x 85	575	OUT292	5544	235.5	18 x 85
526	OUT243	6426	125.5	18 x 85	576	OUT293	5526	125.5	18 x 85
527	OUT244	6408	235.5	18 x 85	577	OUT294	5508	235.5	18 x 85
528	OUT245	6390	125.5	18 x 85	578	OUT295	5490	125.5	18 x 85
529	OUT246	6372	235.5	18 x 85	579	OUT296	5472	235.5	18 x 85
530	OUT247	6354	125.5	18 x 85	580	OUT297	5454	125.5	18 x 85
531	OUT248	6336	235.5	18 x 85	581	OUT298	5436	235.5	18 x 85
532	OUT249	6318	125.5	18 x 85	582	OUT299	5418	125.5	18 x 85
533	OUT250	6300	235.5	18 x 85	583	OUT300	5400	235.5	18 x 85
534	OUT251	6282	125.5	18 x 85	584	OUT301	5382	125.5	18 x 85
535	OUT252	6264	235.5	18 x 85	585	OUT302	5364	235.5	18 x 85
536	OUT253	6246	125.5	18 x 85	586	OUT303	5346	125.5	18 x 85
537	OUT254	6228	235.5	18 x 85	587	OUT304	5328	235.5	18 x 85
538	OUT255	6210	125.5	18 x 85	588	OUT305	5310	125.5	18 x 85
539	OUT256	6192	235.5	18 x 85	589	OUT306	5292	235.5	18 x 85
540	OUT257	6174	125.5	18 x 85	590	OUT307	5274	125.5	18 x 85
541	OUT258	6156	235.5	18 x 85	591	OUT308	5256	235.5	18 x 85
542	OUT259	6138	125.5	18 x 85	592	OUT309	5238	125.5	18 x 85
543	OUT260	6120	235.5	18 x 85	593	OUT310	5220	235.5	18 x 85
544	OUT261	6102	125.5	18 x 85	594	OUT311	5202	125.5	18 x 85
545	OUT262	6084	235.5	18 x 85	595	OUT312	5184	235.5	18 x 85
546	OUT263	6066	125.5	18 x 85	596	OUT313	5166	125.5	18 x 85
547	OUT264	6048	235.5	18 x 85	597	OUT314	5148	235.5	18 x 85
548	OUT265	6030	125.5	18 x 85	598	OUT315	5130	125.5	18 x 85
549	OUT266	6012	235.5	18 x 85	599	OUT316	5112	235.5	18 x 85
550	OUT267	5994	125.5	18 x 85	600	OUT317	5094	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
601	OUT318	5076	235.5	18 x 85	651	OUT368	4176	235.5	18 x 85
602	OUT319	5058	125.5	18 x 85	652	OUT369	4158	125.5	18 x 85
603	OUT320	5040	235.5	18 x 85	653	OUT370	4140	235.5	18 x 85
604	OUT321	5022	125.5	18 x 85	654	OUT371	4122	125.5	18 x 85
605	OUT322	5004	235.5	18 x 85	655	OUT372	4104	235.5	18 x 85
606	OUT323	4986	125.5	18 x 85	656	OUT373	4086	125.5	18 x 85
607	OUT324	4968	235.5	18 x 85	657	OUT374	4068	235.5	18 x 85
608	OUT325	4950	125.5	18 x 85	658	OUT375	4050	125.5	18 x 85
609	OUT326	4932	235.5	18 x 85	659	OUT376	4032	235.5	18 x 85
610	OUT327	4914	125.5	18 x 85	660	OUT377	4014	125.5	18 x 85
611	OUT328	4896	235.5	18 x 85	661	OUT378	3996	235.5	18 x 85
612	OUT329	4878	125.5	18 x 85	662	OUT379	3978	125.5	18 x 85
613	OUT330	4860	235.5	18 x 85	663	OUT380	3960	235.5	18 x 85
614	OUT331	4842	125.5	18 x 85	664	OUT381	3942	125.5	18 x 85
615	OUT332	4824	235.5	18 x 85	665	OUT382	3924	235.5	18 x 85
616	OUT333	4806	125.5	18 x 85	666	OUT383	3906	125.5	18 x 85
617	OUT334	4788	235.5	18 x 85	667	OUT384	3888	235.5	18 x 85
618	OUT335	4770	125.5	18 x 85	668	OUT385	3870	125.5	18 x 85
619	OUT336	4752	235.5	18 x 85	669	OUT386	3852	235.5	18 x 85
620	OUT337	4734	125.5	18 x 85	670	OUT387	3834	125.5	18 x 85
621	OUT338	4716	235.5	18 x 85	671	OUT388	3816	235.5	18 x 85
622	OUT339	4698	125.5	18 x 85	672	OUT389	3798	125.5	18 x 85
623	OUT340	4680	235.5	18 x 85	673	OUT390	3780	235.5	18 x 85
624	OUT341	4662	125.5	18 x 85	674	OUT391	3762	125.5	18 x 85
625	OUT342	4644	235.5	18 x 85	675	OUT392	3744	235.5	18 x 85
626	OUT343	4626	125.5	18 x 85	676	OUT393	3726	125.5	18 x 85
627	OUT344	4608	235.5	18 x 85	677	OUT394	3708	235.5	18 x 85
628	OUT345	4590	125.5	18 x 85	678	OUT395	3690	125.5	18 x 85
629	OUT346	4572	235.5	18 x 85	679	OUT396	3672	235.5	18 x 85
630	OUT347	4554	125.5	18 x 85	680	OUT397	3654	125.5	18 x 85
631	OUT348	4536	235.5	18 x 85	681	OUT398	3636	235.5	18 x 85
632	OUT349	4518	125.5	18 x 85	682	OUT399	3618	125.5	18 x 85
633	OUT350	4500	235.5	18 x 85	683	OUT400	3600	235.5	18 x 85
634	OUT351	4482	125.5	18 x 85	684	OUT401	3582	125.5	18 x 85
635	OUT352	4464	235.5	18 x 85	685	OUT402	3564	235.5	18 x 85
636	OUT353	4446	125.5	18 x 85	686	OUT403	3546	125.5	18 x 85
637	OUT354	4428	235.5	18 x 85	687	OUT404	3528	235.5	18 x 85
638	OUT355	4410	125.5	18 x 85	688	OUT405	3510	125.5	18 x 85
639	OUT356	4392	235.5	18 x 85	689	OUT406	3492	235.5	18 x 85
640	OUT357	4374	125.5	18 x 85	690	OUT407	3474	125.5	18 x 85
641	OUT358	4356	235.5	18 x 85	691	OUT408	3456	235.5	18 x 85
642	OUT359	4338	125.5	18 x 85	692	OUT409	3438	125.5	18 x 85
643	OUT360	4320	235.5	18 x 85	693	OUT410	3420	235.5	18 x 85
644	OUT361	4302	125.5	18 x 85	694	OUT411	3402	125.5	18 x 85
645	OUT362	4284	235.5	18 x 85	695	OUT412	3384	235.5	18 x 85
646	OUT363	4266	125.5	18 x 85	696	OUT413	3366	125.5	18 x 85
647	OUT364	4248	235.5	18 x 85	697	OUT414	3348	235.5	18 x 85
648	OUT365	4230	125.5	18 x 85	698	OUT415	3330	125.5	18 x 85
649	OUT366	4212	235.5	18 x 85	699	OUT416	3312	235.5	18 x 85
650	OUT367	4194	125.5	18 x 85	700	OUT417	3294	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
701	OUT418	3276	235.5	18 x 85	751	OUT468	2376	235.5	18 x 85
702	OUT419	3258	125.5	18 x 85	752	OUT469	2358	125.5	18 x 85
703	OUT420	3240	235.5	18 x 85	753	OUT470	2340	235.5	18 x 85
704	OUT421	3222	125.5	18 x 85	754	OUT471	2322	125.5	18 x 85
705	OUT422	3204	235.5	18 x 85	755	OUT472	2304	235.5	18 x 85
706	OUT423	3186	125.5	18 x 85	756	OUT473	2286	125.5	18 x 85
707	OUT424	3168	235.5	18 x 85	757	OUT474	2268	235.5	18 x 85
708	OUT425	3150	125.5	18 x 85	758	OUT475	2250	125.5	18 x 85
709	OUT426	3132	235.5	18 x 85	759	OUT476	2232	235.5	18 x 85
710	OUT427	3114	125.5	18 x 85	760	OUT477	2214	125.5	18 x 85
711	OUT428	3096	235.5	18 x 85	761	OUT478	2196	235.5	18 x 85
712	OUT429	3078	125.5	18 x 85	762	OUT479	2178	125.5	18 x 85
713	OUT430	3060	235.5	18 x 85	763	OUT480	2160	235.5	18 x 85
714	OUT431	3042	125.5	18 x 85	764	OUT481	2142	125.5	18 x 85
715	OUT432	3024	235.5	18 x 85	765	OUT482	2124	235.5	18 x 85
716	OUT433	3006	125.5	18 x 85	766	OUT483	2106	125.5	18 x 85
717	OUT434	2988	235.5	18 x 85	767	OUT484	2088	235.5	18 x 85
718	OUT435	2970	125.5	18 x 85	768	OUT485	2070	125.5	18 x 85
719	OUT436	2952	235.5	18 x 85	769	OUT486	2052	235.5	18 x 85
720	OUT437	2934	125.5	18 x 85	770	OUT487	2034	125.5	18 x 85
721	OUT438	2916	235.5	18 x 85	771	OUT488	2016	235.5	18 x 85
722	OUT439	2898	125.5	18 x 85	772	OUT489	1998	125.5	18 x 85
723	OUT440	2880	235.5	18 x 85	773	OUT490	1980	235.5	18 x 85
724	OUT441	2862	125.5	18 x 85	774	OUT491	1962	125.5	18 x 85
725	OUT442	2844	235.5	18 x 85	775	OUT492	1944	235.5	18 x 85
726	OUT443	2826	125.5	18 x 85	776	OUT493	1926	125.5	18 x 85
727	OUT444	2808	235.5	18 x 85	777	OUT494	1908	235.5	18 x 85
728	OUT445	2790	125.5	18 x 85	778	OUT495	1890	125.5	18 x 85
729	OUT446	2772	235.5	18 x 85	779	OUT496	1872	235.5	18 x 85
730	OUT447	2754	125.5	18 x 85	780	OUT497	1854	125.5	18 x 85
731	OUT448	2736	235.5	18 x 85	781	OUT498	1836	235.5	18 x 85
732	OUT449	2718	125.5	18 x 85	782	OUT499	1818	125.5	18 x 85
733	OUT450	2700	235.5	18 x 85	783	OUT500	1800	235.5	18 x 85
734	OUT451	2682	125.5	18 x 85	784	OUT501	1782	125.5	18 x 85
735	OUT452	2664	235.5	18 x 85	785	OUT502	1764	235.5	18 x 85
736	OUT453	2646	125.5	18 x 85	786	OUT503	1746	125.5	18 x 85
737	OUT454	2628	235.5	18 x 85	787	OUT504	1728	235.5	18 x 85
738	OUT455	2610	125.5	18 x 85	788	OUT505	1710	125.5	18 x 85
739	OUT456	2592	235.5	18 x 85	789	OUT506	1692	235.5	18 x 85
740	OUT457	2574	125.5	18 x 85	790	OUT507	1674	125.5	18 x 85
741	OUT458	2556	235.5	18 x 85	791	OUT508	1656	235.5	18 x 85
742	OUT459	2538	125.5	18 x 85	792	OUT509	1638	125.5	18 x 85
743	OUT460	2520	235.5	18 x 85	793	OUT510	1620	235.5	18 x 85
744	OUT461	2502	125.5	18 x 85	794	OUT511	1602	125.5	18 x 85
745	OUT462	2484	235.5	18 x 85	795	OUT512	1584	235.5	18 x 85
746	OUT463	2466	125.5	18 x 85	796	OUT513	1566	125.5	18 x 85
747	OUT464	2448	235.5	18 x 85	797	OUT514	1548	235.5	18 x 85
748	OUT465	2430	125.5	18 x 85	798	OUT515	1530	125.5	18 x 85
749	OUT466	2412	235.5	18 x 85	799	OUT516	1512	235.5	18 x 85
750	OUT467	2394	125.5	18 x 85	800	OUT517	1494	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
801	OUT518	1476	235.5	18 x 85	851	OUT568	576	235.5	18 x 85
802	OUT519	1458	125.5	18 x 85	852	OUT569	558	125.5	18 x 85
803	OUT520	1440	235.5	18 x 85	853	OUT570	540	235.5	18 x 85
804	OUT521	1422	125.5	18 x 85	854	OUT571	522	125.5	18 x 85
805	OUT522	1404	235.5	18 x 85	855	OUT572	504	235.5	18 x 85
806	OUT523	1386	125.5	18 x 85	856	OUT573	486	125.5	18 x 85
807	OUT524	1368	235.5	18 x 85	857	OUT574	468	235.5	18 x 85
808	OUT525	1350	125.5	18 x 85	858	OUT575	450	125.5	18 x 85
809	OUT526	1332	235.5	18 x 85	859	OUT576	432	235.5	18 x 85
810	OUT527	1314	125.5	18 x 85	860	OUT577	414	125.5	18 x 85
811	OUT528	1296	235.5	18 x 85	861	OUT578	396	235.5	18 x 85
812	OUT529	1278	125.5	18 x 85	862	OUT579	378	125.5	18 x 85
813	OUT530	1260	235.5	18 x 85	863	OUT580	360	235.5	18 x 85
814	OUT531	1242	125.5	18 x 85	864	OUT581	342	125.5	18 x 85
815	OUT532	1224	235.5	18 x 85	865	OUT582	324	235.5	18 x 85
816	OUT533	1206	125.5	18 x 85	866	OUT583	306	125.5	18 x 85
817	OUT534	1188	235.5	18 x 85	867	OUT584	288	235.5	18 x 85
818	OUT535	1170	125.5	18 x 85	868	OUT585	270	125.5	18 x 85
819	OUT536	1152	235.5	18 x 85	869	OUT586	252	235.5	18 x 85
820	OUT537	1134	125.5	18 x 85	870	OUT587	234	125.5	18 x 85
821	OUT538	1116	235.5	18 x 85	871	OUT588	216	235.5	18 x 85
822	OUT539	1098	125.5	18 x 85	872	OUT589	198	125.5	18 x 85
823	OUT540	1080	235.5	18 x 85	873	OUT590	180	235.5	18 x 85
824	OUT541	1062	125.5	18 x 85	874	OUT591	162	125.5	18 x 85
825	OUT542	1044	235.5	18 x 85	875	OUT592	144	235.5	18 x 85
826	OUT543	1026	125.5	18 x 85	876	OUT593	126	125.5	18 x 85
827	OUT544	1008	235.5	18 x 85	877	OUT594	108	235.5	18 x 85
828	OUT545	990	125.5	18 x 85	878	OUT595	90	125.5	18 x 85
829	OUT546	972	235.5	18 x 85	879	OUT596	72	235.5	18 x 85
830	OUT547	954	125.5	18 x 85	880	OUT597	54	125.5	18 x 85
831	OUT548	936	235.5	18 x 85	881	OUT598	36	235.5	18 x 85
832	OUT549	918	125.5	18 x 85	882	OUT599	18	125.5	18 x 85
833	OUT550	900	235.5	18 x 85	883	OUT600	0	235.5	18 x 85
834	OUT551	882	125.5	18 x 85	884	OUT601	-18	125.5	18 x 85
835	OUT552	864	235.5	18 x 85	885	OUT602	-36	235.5	18 x 85
836	OUT553	846	125.5	18 x 85	886	OUT603	-54	125.5	18 x 85
837	OUT554	828	235.5	18 x 85	887	OUT604	-72	235.5	18 x 85
838	OUT555	810	125.5	18 x 85	888	OUT605	-90	125.5	18 x 85
839	OUT556	792	235.5	18 x 85	889	OUT606	-108	235.5	18 x 85
840	OUT557	774	125.5	18 x 85	890	OUT607	-126	125.5	18 x 85
841	OUT558	756	235.5	18 x 85	891	OUT608	-144	235.5	18 x 85
842	OUT559	738	125.5	18 x 85	892	OUT609	-162	125.5	18 x 85
843	OUT560	720	235.5	18 x 85	893	OUT610	-180	235.5	18 x 85
844	OUT561	702	125.5	18 x 85	894	OUT611	-198	125.5	18 x 85
845	OUT562	684	235.5	18 x 85	895	OUT612	-216	235.5	18 x 85
846	OUT563	666	125.5	18 x 85	896	OUT613	-234	125.5	18 x 85
847	OUT564	648	235.5	18 x 85	897	OUT614	-252	235.5	18 x 85
848	OUT565	630	125.5	18 x 85	898	OUT615	-270	125.5	18 x 85
849	OUT566	612	235.5	18 x 85	899	OUT616	-288	235.5	18 x 85
850	OUT567	594	125.5	18 x 85	900	OUT617	-306	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
901	OUT618	-324	235.5	18 x 85	951	OUT668	-1224	235.5	18 x 85
902	OUT619	-342	125.5	18 x 85	952	OUT669	-1242	125.5	18 x 85
903	OUT620	-360	235.5	18 x 85	953	OUT670	-1260	235.5	18 x 85
904	OUT621	-378	125.5	18 x 85	954	OUT671	-1278	125.5	18 x 85
905	OUT622	-396	235.5	18 x 85	955	OUT672	-1296	235.5	18 x 85
906	OUT623	-414	125.5	18 x 85	956	OUT673	-1314	125.5	18 x 85
907	OUT624	-432	235.5	18 x 85	957	OUT674	-1332	235.5	18 x 85
908	OUT625	-450	125.5	18 x 85	958	OUT675	-1350	125.5	18 x 85
909	OUT626	-468	235.5	18 x 85	959	OUT676	-1368	235.5	18 x 85
910	OUT627	-486	125.5	18 x 85	960	OUT677	-1386	125.5	18 x 85
911	OUT628	-504	235.5	18 x 85	961	OUT678	-1404	235.5	18 x 85
912	OUT629	-522	125.5	18 x 85	962	OUT679	-1422	125.5	18 x 85
913	OUT630	-540	235.5	18 x 85	963	OUT680	-1440	235.5	18 x 85
914	OUT631	-558	125.5	18 x 85	964	OUT681	-1458	125.5	18 x 85
915	OUT632	-576	235.5	18 x 85	965	OUT682	-1476	235.5	18 x 85
916	OUT633	-594	125.5	18 x 85	966	OUT683	-1494	125.5	18 x 85
917	OUT634	-612	235.5	18 x 85	967	OUT684	-1512	235.5	18 x 85
918	OUT635	-630	125.5	18 x 85	968	OUT685	-1530	125.5	18 x 85
919	OUT636	-648	235.5	18 x 85	969	OUT686	-1548	235.5	18 x 85
920	OUT637	-666	125.5	18 x 85	970	OUT687	-1566	125.5	18 x 85
921	OUT638	-684	235.5	18 x 85	971	OUT688	-1584	235.5	18 x 85
922	OUT639	-702	125.5	18 x 85	972	OUT689	-1602	125.5	18 x 85
923	OUT640	-720	235.5	18 x 85	973	OUT690	-1620	235.5	18 x 85
924	OUT641	-738	125.5	18 x 85	974	OUT691	-1638	125.5	18 x 85
925	OUT642	-756	235.5	18 x 85	975	OUT692	-1656	235.5	18 x 85
926	OUT643	-774	125.5	18 x 85	976	OUT693	-1674	125.5	18 x 85
927	OUT644	-792	235.5	18 x 85	977	OUT694	-1692	235.5	18 x 85
928	OUT645	-810	125.5	18 x 85	978	OUT695	-1710	125.5	18 x 85
929	OUT646	-828	235.5	18 x 85	979	OUT696	-1728	235.5	18 x 85
930	OUT647	-846	125.5	18 x 85	980	OUT697	-1746	125.5	18 x 85
931	OUT648	-864	235.5	18 x 85	981	OUT698	-1764	235.5	18 x 85
932	OUT649	-882	125.5	18 x 85	982	OUT699	-1782	125.5	18 x 85
933	OUT650	-900	235.5	18 x 85	983	OUT700	-1800	235.5	18 x 85
934	OUT651	-918	125.5	18 x 85	984	OUT701	-1818	125.5	18 x 85
935	OUT652	-936	235.5	18 x 85	985	OUT702	-1836	235.5	18 x 85
936	OUT653	-954	125.5	18 x 85	986	OUT703	-1854	125.5	18 x 85
937	OUT654	-972	235.5	18 x 85	987	OUT704	-1872	235.5	18 x 85
938	OUT655	-990	125.5	18 x 85	988	OUT705	-1890	125.5	18 x 85
939	OUT656	-1008	235.5	18 x 85	989	OUT706	-1908	235.5	18 x 85
940	OUT657	-1026	125.5	18 x 85	990	OUT707	-1926	125.5	18 x 85
941	OUT658	-1044	235.5	18 x 85	991	OUT708	-1944	235.5	18 x 85
942	OUT659	-1062	125.5	18 x 85	992	OUT709	-1962	125.5	18 x 85
943	OUT660	-1080	235.5	18 x 85	993	OUT710	-1980	235.5	18 x 85
944	OUT661	-1098	125.5	18 x 85	994	OUT711	-1998	125.5	18 x 85
945	OUT662	-1116	235.5	18 x 85	995	OUT712	-2016	235.5	18 x 85
946	OUT663	-1134	125.5	18 x 85	996	OUT713	-2034	125.5	18 x 85
947	OUT664	-1152	235.5	18 x 85	997	OUT714	-2052	235.5	18 x 85
948	OUT665	-1170	125.5	18 x 85	998	OUT715	-2070	125.5	18 x 85
949	OUT666	-1188	235.5	18 x 85	999	OUT716	-2088	235.5	18 x 85
950	OUT667	-1206	125.5	18 x 85	1000	OUT717	-2106	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
1001	OUT718	-2124	235.5	18 x 85	1051	OUT768	-3024	235.5	18 x 85
1002	OUT719	-2142	125.5	18 x 85	1052	OUT769	-3042	125.5	18 x 85
1003	OUT720	-2160	235.5	18 x 85	1053	OUT770	-3060	235.5	18 x 85
1004	OUT721	-2178	125.5	18 x 85	1054	OUT771	-3078	125.5	18 x 85
1005	OUT722	-2196	235.5	18 x 85	1055	OUT772	-3096	235.5	18 x 85
1006	OUT723	-2214	125.5	18 x 85	1056	OUT773	-3114	125.5	18 x 85
1007	OUT724	-2232	235.5	18 x 85	1057	OUT774	-3132	235.5	18 x 85
1008	OUT725	-2250	125.5	18 x 85	1058	OUT775	-3150	125.5	18 x 85
1009	OUT726	-2268	235.5	18 x 85	1059	OUT776	-3168	235.5	18 x 85
1010	OUT727	-2286	125.5	18 x 85	1060	OUT777	-3186	125.5	18 x 85
1011	OUT728	-2304	235.5	18 x 85	1061	OUT778	-3204	235.5	18 x 85
1012	OUT729	-2322	125.5	18 x 85	1062	OUT779	-3222	125.5	18 x 85
1013	OUT730	-2340	235.5	18 x 85	1063	OUT780	-3240	235.5	18 x 85
1014	OUT731	-2358	125.5	18 x 85	1064	OUT781	-3258	125.5	18 x 85
1015	OUT732	-2376	235.5	18 x 85	1065	OUT782	-3276	235.5	18 x 85
1016	OUT733	-2394	125.5	18 x 85	1066	OUT783	-3294	125.5	18 x 85
1017	OUT734	-2412	235.5	18 x 85	1067	OUT784	-3312	235.5	18 x 85
1018	OUT735	-2430	125.5	18 x 85	1068	OUT785	-3330	125.5	18 x 85
1019	OUT736	-2448	235.5	18 x 85	1069	OUT786	-3348	235.5	18 x 85
1020	OUT737	-2466	125.5	18 x 85	1070	OUT787	-3366	125.5	18 x 85
1021	OUT738	-2484	235.5	18 x 85	1071	OUT788	-3384	235.5	18 x 85
1022	OUT739	-2502	125.5	18 x 85	1072	OUT789	-3402	125.5	18 x 85
1023	OUT740	-2520	235.5	18 x 85	1073	OUT790	-3420	235.5	18 x 85
1024	OUT741	-2538	125.5	18 x 85	1074	OUT791	-3438	125.5	18 x 85
1025	OUT742	-2556	235.5	18 x 85	1075	OUT792	-3456	235.5	18 x 85
1026	OUT743	-2574	125.5	18 x 85	1076	OUT793	-3474	125.5	18 x 85
1027	OUT744	-2592	235.5	18 x 85	1077	OUT794	-3492	235.5	18 x 85
1028	OUT745	-2610	125.5	18 x 85	1078	OUT795	-3510	125.5	18 x 85
1029	OUT746	-2628	235.5	18 x 85	1079	OUT796	-3528	235.5	18 x 85
1030	OUT747	-2646	125.5	18 x 85	1080	OUT797	-3546	125.5	18 x 85
1031	OUT748	-2664	235.5	18 x 85	1081	OUT798	-3564	235.5	18 x 85
1032	OUT749	-2682	125.5	18 x 85	1082	OUT799	-3582	125.5	18 x 85
1033	OUT750	-2700	235.5	18 x 85	1083	OUT800	-3600	235.5	18 x 85
1034	OUT751	-2718	125.5	18 x 85	1084	OUT801	-3618	125.5	18 x 85
1035	OUT752	-2736	235.5	18 x 85	1085	OUT802	-3636	235.5	18 x 85
1036	OUT753	-2754	125.5	18 x 85	1086	OUT803	-3654	125.5	18 x 85
1037	OUT754	-2772	235.5	18 x 85	1087	OUT804	-3672	235.5	18 x 85
1038	OUT755	-2790	125.5	18 x 85	1088	OUT805	-3690	125.5	18 x 85
1039	OUT756	-2808	235.5	18 x 85	1089	OUT806	-3708	235.5	18 x 85
1040	OUT757	-2826	125.5	18 x 85	1090	OUT807	-3726	125.5	18 x 85
1041	OUT758	-2844	235.5	18 x 85	1091	OUT808	-3744	235.5	18 x 85
1042	OUT759	-2862	125.5	18 x 85	1092	OUT809	-3762	125.5	18 x 85
1043	OUT760	-2880	235.5	18 x 85	1093	OUT810	-3780	235.5	18 x 85
1044	OUT761	-2898	125.5	18 x 85	1094	OUT811	-3798	125.5	18 x 85
1045	OUT762	-2916	235.5	18 x 85	1095	OUT812	-3816	235.5	18 x 85
1046	OUT763	-2934	125.5	18 x 85	1096	OUT813	-3834	125.5	18 x 85
1047	OUT764	-2952	235.5	18 x 85	1097	OUT814	-3852	235.5	18 x 85
1048	OUT765	-2970	125.5	18 x 85	1098	OUT815	-3870	125.5	18 x 85
1049	OUT766	-2988	235.5	18 x 85	1099	OUT816	-3888	235.5	18 x 85
1050	OUT767	-3006	125.5	18 x 85	1100	OUT817	-3906	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
1101	OUT818	-3924	235.5	18 x 85	1151	OUT868	-4824	235.5	18 x 85
1102	OUT819	-3942	125.5	18 x 85	1152	OUT869	-4842	125.5	18 x 85
1103	OUT820	-3960	235.5	18 x 85	1153	OUT870	-4860	235.5	18 x 85
1104	OUT821	-3978	125.5	18 x 85	1154	OUT871	-4878	125.5	18 x 85
1105	OUT822	-3996	235.5	18 x 85	1155	OUT872	-4896	235.5	18 x 85
1106	OUT823	-4014	125.5	18 x 85	1156	OUT873	-4914	125.5	18 x 85
1107	OUT824	-4032	235.5	18 x 85	1157	OUT874	-4932	235.5	18 x 85
1108	OUT825	-4050	125.5	18 x 85	1158	OUT875	-4950	125.5	18 x 85
1109	OUT826	-4068	235.5	18 x 85	1159	OUT876	-4968	235.5	18 x 85
1110	OUT827	-4086	125.5	18 x 85	1160	OUT877	-4986	125.5	18 x 85
1111	OUT828	-4104	235.5	18 x 85	1161	OUT878	-5004	235.5	18 x 85
1112	OUT829	-4122	125.5	18 x 85	1162	OUT879	-5022	125.5	18 x 85
1113	OUT830	-4140	235.5	18 x 85	1163	OUT880	-5040	235.5	18 x 85
1114	OUT831	-4158	125.5	18 x 85	1164	OUT881	-5058	125.5	18 x 85
1115	OUT832	-4176	235.5	18 x 85	1165	OUT882	-5076	235.5	18 x 85
1116	OUT833	-4194	125.5	18 x 85	1166	OUT883	-5094	125.5	18 x 85
1117	OUT834	-4212	235.5	18 x 85	1167	OUT884	-5112	235.5	18 x 85
1118	OUT835	-4230	125.5	18 x 85	1168	OUT885	-5130	125.5	18 x 85
1119	OUT836	-4248	235.5	18 x 85	1169	OUT886	-5148	235.5	18 x 85
1120	OUT837	-4266	125.5	18 x 85	1170	OUT887	-5166	125.5	18 x 85
1121	OUT838	-4284	235.5	18 x 85	1171	OUT888	-5184	235.5	18 x 85
1122	OUT839	-4302	125.5	18 x 85	1172	OUT889	-5202	125.5	18 x 85
1123	OUT840	-4320	235.5	18 x 85	1173	OUT890	-5220	235.5	18 x 85
1124	OUT841	-4338	125.5	18 x 85	1174	OUT891	-5238	125.5	18 x 85
1125	OUT842	-4356	235.5	18 x 85	1175	OUT892	-5256	235.5	18 x 85
1126	OUT843	-4374	125.5	18 x 85	1176	OUT893	-5274	125.5	18 x 85
1127	OUT844	-4392	235.5	18 x 85	1177	OUT894	-5292	235.5	18 x 85
1128	OUT845	-4410	125.5	18 x 85	1178	OUT895	-5310	125.5	18 x 85
1129	OUT846	-4428	235.5	18 x 85	1179	OUT896	-5328	235.5	18 x 85
1130	OUT847	-4446	125.5	18 x 85	1180	OUT897	-5346	125.5	18 x 85
1131	OUT848	-4464	235.5	18 x 85	1181	OUT898	-5364	235.5	18 x 85
1132	OUT849	-4482	125.5	18 x 85	1182	OUT899	-5382	125.5	18 x 85
1133	OUT850	-4500	235.5	18 x 85	1183	OUT900	-5400	235.5	18 x 85
1134	OUT851	-4518	125.5	18 x 85	1184	OUT901	-5418	125.5	18 x 85
1135	OUT852	-4536	235.5	18 x 85	1185	OUT902	-5436	235.5	18 x 85
1136	OUT853	-4554	125.5	18 x 85	1186	OUT903	-5454	125.5	18 x 85
1137	OUT854	-4572	235.5	18 x 85	1187	OUT904	-5472	235.5	18 x 85
1138	OUT855	-4590	125.5	18 x 85	1188	OUT905	-5490	125.5	18 x 85
1139	OUT856	-4608	235.5	18 x 85	1189	OUT906	-5508	235.5	18 x 85
1140	OUT857	-4626	125.5	18 x 85	1190	OUT907	-5526	125.5	18 x 85
1141	OUT858	-4644	235.5	18 x 85	1191	OUT908	-5544	235.5	18 x 85
1142	OUT859	-4662	125.5	18 x 85	1192	OUT909	-5562	125.5	18 x 85
1143	OUT860	-4680	235.5	18 x 85	1193	OUT910	-5580	235.5	18 x 85
1144	OUT861	-4698	125.5	18 x 85	1194	OUT911	-5598	125.5	18 x 85
1145	OUT862	-4716	235.5	18 x 85	1195	OUT912	-5616	235.5	18 x 85
1146	OUT863	-4734	125.5	18 x 85	1196	OUT913	-5634	125.5	18 x 85
1147	OUT864	-4752	235.5	18 x 85	1197	OUT914	-5652	235.5	18 x 85
1148	OUT865	-4770	125.5	18 x 85	1198	OUT915	-5670	125.5	18 x 85
1149	OUT866	-4788	235.5	18 x 85	1199	OUT916	-5688	235.5	18 x 85
1150	OUT867	-4806	125.5	18 x 85	1200	OUT917	-5706	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
1201	OUT918	-5724	235.5	18 x 85	1251	OUT968	-6624	235.5	18 x 85
1202	OUT919	-5742	125.5	18 x 85	1252	OUT969	-6642	125.5	18 x 85
1203	OUT920	-5760	235.5	18 x 85	1253	OUT970	-6660	235.5	18 x 85
1204	OUT921	-5778	125.5	18 x 85	1254	OUT971	-6678	125.5	18 x 85
1205	OUT922	-5796	235.5	18 x 85	1255	OUT972	-6696	235.5	18 x 85
1206	OUT923	-5814	125.5	18 x 85	1256	OUT973	-6714	125.5	18 x 85
1207	OUT924	-5832	235.5	18 x 85	1257	OUT974	-6732	235.5	18 x 85
1208	OUT925	-5850	125.5	18 x 85	1258	OUT975	-6750	125.5	18 x 85
1209	OUT926	-5868	235.5	18 x 85	1259	OUT976	-6768	235.5	18 x 85
1210	OUT927	-5886	125.5	18 x 85	1260	OUT977	-6786	125.5	18 x 85
1211	OUT928	-5904	235.5	18 x 85	1261	OUT978	-6804	235.5	18 x 85
1212	OUT929	-5922	125.5	18 x 85	1262	OUT979	-6822	125.5	18 x 85
1213	OUT930	-5940	235.5	18 x 85	1263	OUT980	-6840	235.5	18 x 85
1214	OUT931	-5958	125.5	18 x 85	1264	OUT981	-6858	125.5	18 x 85
1215	OUT932	-5976	235.5	18 x 85	1265	OUT982	-6876	235.5	18 x 85
1216	OUT933	-5994	125.5	18 x 85	1266	OUT983	-6894	125.5	18 x 85
1217	OUT934	-6012	235.5	18 x 85	1267	OUT984	-6912	235.5	18 x 85
1218	OUT935	-6030	125.5	18 x 85	1268	OUT985	-6930	125.5	18 x 85
1219	OUT936	-6048	235.5	18 x 85	1269	OUT986	-6948	235.5	18 x 85
1220	OUT937	-6066	125.5	18 x 85	1270	OUT987	-6966	125.5	18 x 85
1221	OUT938	-6084	235.5	18 x 85	1271	OUT988	-6984	235.5	18 x 85
1222	OUT939	-6102	125.5	18 x 85	1272	OUT989	-7002	125.5	18 x 85
1223	OUT940	-6120	235.5	18 x 85	1273	OUT990	-7020	235.5	18 x 85
1224	OUT941	-6138	125.5	18 x 85	1274	OUT991	-7038	125.5	18 x 85
1225	OUT942	-6156	235.5	18 x 85	1275	OUT992	-7056	235.5	18 x 85
1226	OUT943	-6174	125.5	18 x 85	1276	OUT993	-7074	125.5	18 x 85
1227	OUT944	-6192	235.5	18 x 85	1277	OUT994	-7092	235.5	18 x 85
1228	OUT945	-6210	125.5	18 x 85	1278	OUT995	-7110	125.5	18 x 85
1229	OUT946	-6228	235.5	18 x 85	1279	OUT996	-7128	235.5	18 x 85
1230	OUT947	-6246	125.5	18 x 85	1280	OUT997	-7146	125.5	18 x 85
1231	OUT948	-6264	235.5	18 x 85	1281	OUT998	-7164	235.5	18 x 85
1232	OUT949	-6282	125.5	18 x 85	1282	OUT999	-7182	125.5	18 x 85
1233	OUT950	-6300	235.5	18 x 85	1283	OUT1000	-7200	235.5	18 x 85
1234	OUT951	-6318	125.5	18 x 85	1284	OUT1001	-7218	125.5	18 x 85
1235	OUT952	-6336	235.5	18 x 85	1285	OUT1002	-7236	235.5	18 x 85
1236	OUT953	-6354	125.5	18 x 85	1286	OUT1003	-7254	125.5	18 x 85
1237	OUT954	-6372	235.5	18 x 85	1287	OUT1004	-7272	235.5	18 x 85
1238	OUT955	-6390	125.5	18 x 85	1288	OUT1005	-7290	125.5	18 x 85
1239	OUT956	-6408	235.5	18 x 85	1289	OUT1006	-7308	235.5	18 x 85
1240	OUT957	-6426	125.5	18 x 85	1290	OUT1007	-7326	125.5	18 x 85
1241	OUT958	-6444	235.5	18 x 85	1291	OUT1008	-7344	235.5	18 x 85
1242	OUT959	-6462	125.5	18 x 85	1292	OUT1009	-7362	125.5	18 x 85
1243	OUT960	-6480	235.5	18 x 85	1293	OUT1010	-7380	235.5	18 x 85
1244	OUT961	-6498	125.5	18 x 85	1294	OUT1011	-7398	125.5	18 x 85
1245	OUT962	-6516	235.5	18 x 85	1295	OUT1012	-7416	235.5	18 x 85
1246	OUT963	-6534	125.5	18 x 85	1296	OUT1013	-7434	125.5	18 x 85
1247	OUT964	-6552	235.5	18 x 85	1297	OUT1014	-7452	235.5	18 x 85
1248	OUT965	-6570	125.5	18 x 85	1298	OUT1015	-7470	125.5	18 x 85
1249	OUT966	-6588	235.5	18 x 85	1299	OUT1016	-7488	235.5	18 x 85
1250	OUT967	-6606	125.5	18 x 85	1300	OUT1017	-7506	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)	No.	Name	X	Y	Bump size (µm)
1301	OUT1018	-7524	235.5	18 x 85	1351	OUT1068	-8424	235.5	18 x 85
1302	OUT1019	-7542	125.5	18 x 85	1352	OUT1069	-8442	125.5	18 x 85
1303	OUT1020	-7560	235.5	18 x 85	1353	OUT1070	-8460	235.5	18 x 85
1304	OUT1021	-7578	125.5	18 x 85	1354	OUT1071	-8478	125.5	18 x 85
1305	OUT1022	-7596	235.5	18 x 85	1355	OUT1072	-8496	235.5	18 x 85
1306	OUT1023	-7614	125.5	18 x 85	1356	OUT1073	-8514	125.5	18 x 85
1307	OUT1024	-7632	235.5	18 x 85	1357	OUT1074	-8532	235.5	18 x 85
1308	OUT1025	-7650	125.5	18 x 85	1358	OUT1075	-8550	125.5	18 x 85
1309	OUT1026	-7668	235.5	18 x 85	1359	OUT1076	-8568	235.5	18 x 85
1310	OUT1027	-7686	125.5	18 x 85	1360	OUT1077	-8586	125.5	18 x 85
1311	OUT1028	-7704	235.5	18 x 85	1361	OUT1078	-8604	235.5	18 x 85
1312	OUT1029	-7722	125.5	18 x 85	1362	OUT1079	-8622	125.5	18 x 85
1313	OUT1030	-7740	235.5	18 x 85	1363	OUT1080	-8640	235.5	18 x 85
1314	OUT1031	-7758	125.5	18 x 85	1364	OUT1081	-8658	125.5	18 x 85
1315	OUT1032	-7776	235.5	18 x 85	1365	OUT1082	-8676	235.5	18 x 85
1316	OUT1033	-7794	125.5	18 x 85	1366	OUT1083	-8694	125.5	18 x 85
1317	OUT1034	-7812	235.5	18 x 85	1367	OUT1084	-8712	235.5	18 x 85
1318	OUT1035	-7830	125.5	18 x 85	1368	OUT1085	-8730	125.5	18 x 85
1319	OUT1036	-7848	235.5	18 x 85	1369	OUT1086	-8748	235.5	18 x 85
1320	OUT1037	-7866	125.5	18 x 85	1370	OUT1087	-8766	125.5	18 x 85
1321	OUT1038	-7884	235.5	18 x 85	1371	OUT1088	-8784	235.5	18 x 85
1322	OUT1039	-7902	125.5	18 x 85	1372	OUT1089	-8802	125.5	18 x 85
1323	OUT1040	-7920	235.5	18 x 85	1373	OUT1090	-8820	235.5	18 x 85
1324	OUT1041	-7938	125.5	18 x 85	1374	OUT1091	-8838	125.5	18 x 85
1325	OUT1042	-7956	235.5	18 x 85	1375	OUT1092	-8856	235.5	18 x 85
1326	OUT1043	-7974	125.5	18 x 85	1376	OUT1093	-8874	125.5	18 x 85
1327	OUT1044	-7992	235.5	18 x 85	1377	OUT1094	-8892	235.5	18 x 85
1328	OUT1045	-8010	125.5	18 x 85	1378	OUT1095	-8910	125.5	18 x 85
1329	OUT1046	-8028	235.5	18 x 85	1379	OUT1096	-8928	235.5	18 x 85
1330	OUT1047	-8046	125.5	18 x 85	1380	OUT1097	-8946	125.5	18 x 85
1331	OUT1048	-8064	235.5	18 x 85	1381	OUT1098	-8964	235.5	18 x 85
1332	OUT1049	-8082	125.5	18 x 85	1382	OUT1099	-8982	125.5	18 x 85
1333	OUT1050	-8100	235.5	18 x 85	1383	OUT1100	-9000	235.5	18 x 85
1334	OUT1051	-8118	125.5	18 x 85	1384	OUT1101	-9018	125.5	18 x 85
1335	OUT1052	-8136	235.5	18 x 85	1385	OUT1102	-9036	235.5	18 x 85
1336	OUT1053	-8154	125.5	18 x 85	1386	OUT1103	-9054	125.5	18 x 85
1337	OUT1054	-8172	235.5	18 x 85	1387	OUT1104	-9072	235.5	18 x 85
1338	OUT1055	-8190	125.5	18 x 85	1388	OUT1105	-9090	125.5	18 x 85
1339	OUT1056	-8208	235.5	18 x 85	1389	OUT1106	-9108	235.5	18 x 85
1340	OUT1057	-8226	125.5	18 x 85	1390	OUT1107	-9126	125.5	18 x 85
1341	OUT1058	-8244	235.5	18 x 85	1391	OUT1108	-9144	235.5	18 x 85
1342	OUT1059	-8262	125.5	18 x 85	1392	OUT1109	-9162	125.5	18 x 85
1343	OUT1060	-8280	235.5	18 x 85	1393	OUT1110	-9180	235.5	18 x 85
1344	OUT1061	-8298	125.5	18 x 85	1394	OUT1111	-9198	125.5	18 x 85
1345	OUT1062	-8316	235.5	18 x 85	1395	OUT1112	-9216	235.5	18 x 85
1346	OUT1063	-8334	125.5	18 x 85	1396	OUT1113	-9234	125.5	18 x 85
1347	OUT1064	-8352	235.5	18 x 85	1397	OUT1114	-9252	235.5	18 x 85
1348	OUT1065	-8370	125.5	18 x 85	1398	OUT1115	-9270	125.5	18 x 85
1349	OUT1066	-8388	235.5	18 x 85	1399	OUT1116	-9288	235.5	18 x 85
1350	OUT1067	-8406	125.5	18 x 85	1400	OUT1117	-9306	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)
1401	OUT1118	-9324	235.5	18 x 85
1402	OUT1119	-9342	125.5	18 x 85
1403	OUT1120	-9360	235.5	18 x 85
1404	OUT1121	-9378	125.5	18 x 85
1405	OUT1122	-9396	235.5	18 x 85
1406	OUT1123	-9414	125.5	18 x 85
1407	OUT1124	-9432	235.5	18 x 85
1408	OUT1125	-9450	125.5	18 x 85
1409	OUT1126	-9468	235.5	18 x 85
1410	OUT1127	-9486	125.5	18 x 85
1411	OUT1128	-9504	235.5	18 x 85
1412	OUT1129	-9522	125.5	18 x 85
1413	OUT1130	-9540	235.5	18 x 85
1414	OUT1131	-9558	125.5	18 x 85
1415	OUT1132	-9576	235.5	18 x 85
1416	OUT1133	-9594	125.5	18 x 85
1417	OUT1134	-9612	235.5	18 x 85
1418	OUT1135	-9630	125.5	18 x 85
1419	OUT1136	-9648	235.5	18 x 85
1420	OUT1137	-9666	125.5	18 x 85
1421	OUT1138	-9684	235.5	18 x 85
1422	OUT1139	-9702	125.5	18 x 85
1423	OUT1140	-9720	235.5	18 x 85
1424	OUT1141	-9738	125.5	18 x 85
1425	OUT1142	-9756	235.5	18 x 85
1426	OUT1143	-9774	125.5	18 x 85
1427	OUT1144	-9792	235.5	18 x 85
1428	OUT1145	-9810	125.5	18 x 85
1429	OUT1146	-9828	235.5	18 x 85
1430	OUT1147	-9846	125.5	18 x 85
1431	OUT1148	-9864	235.5	18 x 85
1432	OUT1149	-9882	125.5	18 x 85
1433	OUT1150	-9900	235.5	18 x 85
1434	OUT1151	-9918	125.5	18 x 85
1435	OUT1152	-9936	235.5	18 x 85
1436	OUT1153	-9954	125.5	18 x 85
1437	OUT1154	-9972	235.5	18 x 85
1438	OUT1155	-9990	125.5	18 x 85
1439	OUT1156	-10008	235.5	18 x 85
1440	OUT1157	-10026	125.5	18 x 85
1441	OUT1158	-10044	235.5	18 x 85
1442	OUT1159	-10062	125.5	18 x 85
1443	OUT1160	-10080	235.5	18 x 85
1444	OUT1161	-10098	125.5	18 x 85
1445	OUT1162	-10116	235.5	18 x 85
1446	OUT1163	-10134	125.5	18 x 85
1447	OUT1164	-10152	235.5	18 x 85
1448	OUT1165	-10170	125.5	18 x 85
1449	OUT1166	-10188	235.5	18 x 85
1450	OUT1167	-10206	125.5	18 x 85

No.	Name	X	Y	Bump size (µm)
1451	OUT1168	-10224	235.5	18 x 85
1452	OUT1169	-10242	125.5	18 x 85
1453	OUT1170	-10260	235.5	18 x 85
1454	OUT1171	-10278	125.5	18 x 85
1455	OUT1172	-10296	235.5	18 x 85
1456	OUT1173	-10314	125.5	18 x 85
1457	OUT1174	-10332	235.5	18 x 85
1458	OUT1175	-10350	125.5	18 x 85
1459	OUT1176	-10368	235.5	18 x 85
1460	OUT1177	-10386	125.5	18 x 85
1461	OUT1178	-10404	235.5	18 x 85
1462	OUT1179	-10422	125.5	18 x 85
1463	OUT1180	-10440	235.5	18 x 85
1464	OUT1181	-10458	125.5	18 x 85
1465	OUT1182	-10476	235.5	18 x 85
1466	OUT1183	-10494	125.5	18 x 85
1467	OUT1184	-10512	235.5	18 x 85
1468	OUT1185	-10530	125.5	18 x 85
1469	OUT1186	-10548	235.5	18 x 85
1470	OUT1187	-10566	125.5	18 x 85
1471	OUT1188	-10584	235.5	18 x 85
1472	OUT1189	-10602	125.5	18 x 85
1473	OUT1190	-10620	235.5	18 x 85
1474	OUT1191	-10638	125.5	18 x 85
1475	OUT1192	-10656	235.5	18 x 85
1476	OUT1193	-10674	125.5	18 x 85
1477	OUT1194	-10692	235.5	18 x 85
1478	OUT1195	-10710	125.5	18 x 85
1479	OUT1196	-10728	235.5	18 x 85
1480	OUT1197	-10746	125.5	18 x 85
1481	OUT1198	-10764	235.5	18 x 85
1482	OUT1199	-10782	125.5	18 x 85
1483	OUT1200	-10800	235.5	18 x 85
1484	OUT1201	-10818	125.5	18 x 85
1485	PATH1	-10836	235.5	18 x 85

9.5 Alignment mark center coordinates

Name	X	Y
L_AMK	-11101.5	220.5
R_AMK	11101.5	220.5

10. Ordering Information

Part no.	Package
HX8696-A00XPDxxx	X: mean fab code PD: mean COG xxx: mean chip thickness (μm), default 300 μm

Himax Confidential
Do Not Copy