Himax

>> **DATA SHEET**
(DOC No. HX8695-B-DS)

>> **HX8695-B**

800CH TFT LCD Gate Driver
Preliminary version 01 December, 2007

*Preliminary Version 01*

1. General Description

The HX8695-B is a 800-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
- 800/768 channel outputs selectable with 2 dummy outputs
- Maximum 200KHz operation frequency
- Digital supply voltage:2.3V to 5.5V
- LCD driving voltage range: 40V
- Bi-directional data shift capability
- High voltage CMOS process technology
- COG/COF package

3. Block Diagram
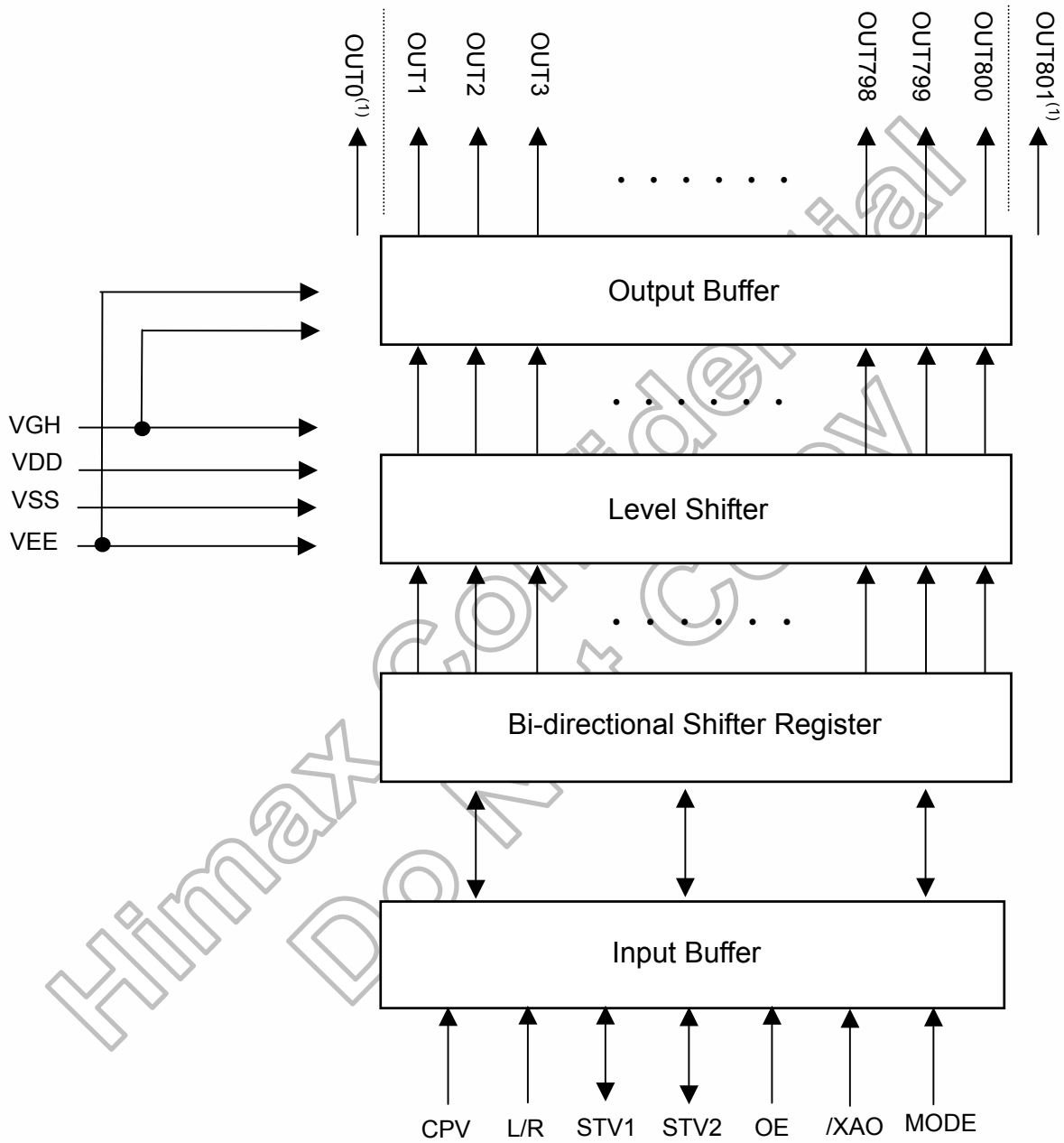
Note: (1) OUT0 and OUT801 are LCD panel auxiliary pins, these pins always output VEE level.

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: L/R =H:STV1→OUT1→OUT2→ ··· →OUT800→STV2 L/R =L:STV2→OUT800→ ··· →OUT2→OUT1→STV1
STV1 STV2	In/ Out	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
OE	In	Output enable control	The OE signal controls the output enable. OE=H: All driver outputs are fixed to VEE regardless of CPV. However, the content of shift register is not cleared. OE=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.
MODE	**In**	**Channel mode selection**	Channel mode selection <table><tr><td>Output channel</td><td>Disable channel</td><td>MODE</td></tr><tr><td>768</td><td>385~416</td><td>L</td></tr><tr><td>800</td><td>-</td><td>H</td></tr></table>
OUT1 ~ OUT800	Out	Driver output	The output is either VGH or VEE for driving the gate line of TFT LCD panel.
OUT0 OUT801	Out	Auxiliary pins	These two pins always output VEE 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.
VEE	In	Power supply	Power supply for Gate off output.
PATH	In	Internal link	Linked together internal

5. Function Description

5.1 Device operation

When L/R=H & MODE=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 OUT800) supplies VGH voltage or VEE 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 OUT800 in synchronization with CPV pulse.

After 800 CPV rising edge are past, the STV2 goes up to high level at the 800th falling edge of CPV and goes down to low level at the 801st falling edge of CPV. This STV2 output signal becomes the STV1 start pulse input of next cascaded gate driver.

When OE=H, the corresponding output channels are fixed to VEE level regardless of CPV. The channel output returns to normal status as soon as OE goes back to L.

Example of input/output timing (MODE=H, L/R=H)
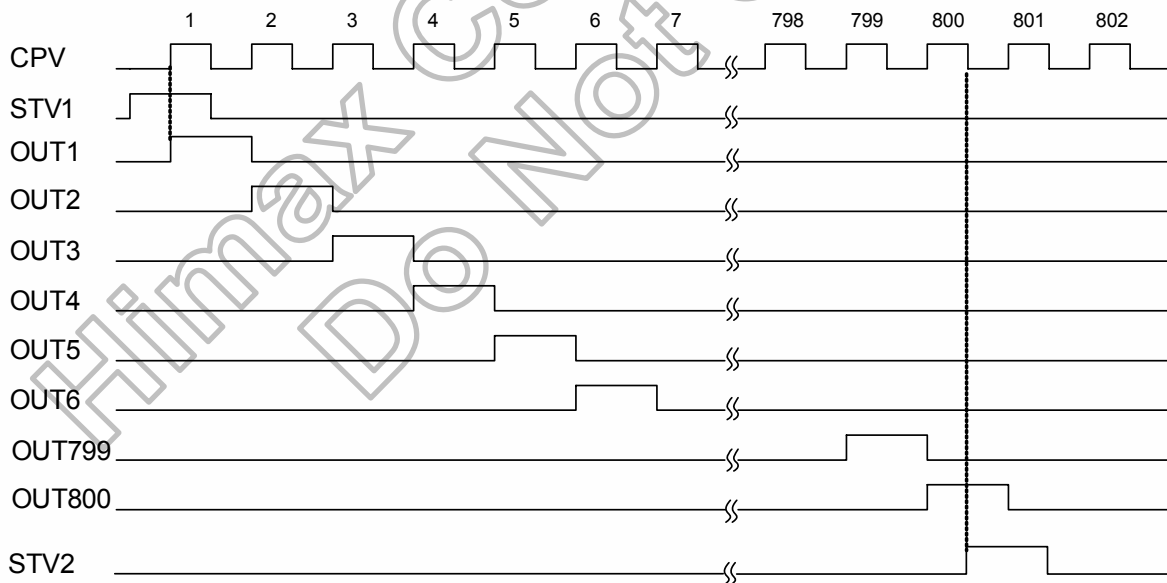
Example of input/output timing (MODE=H, L/R=L)
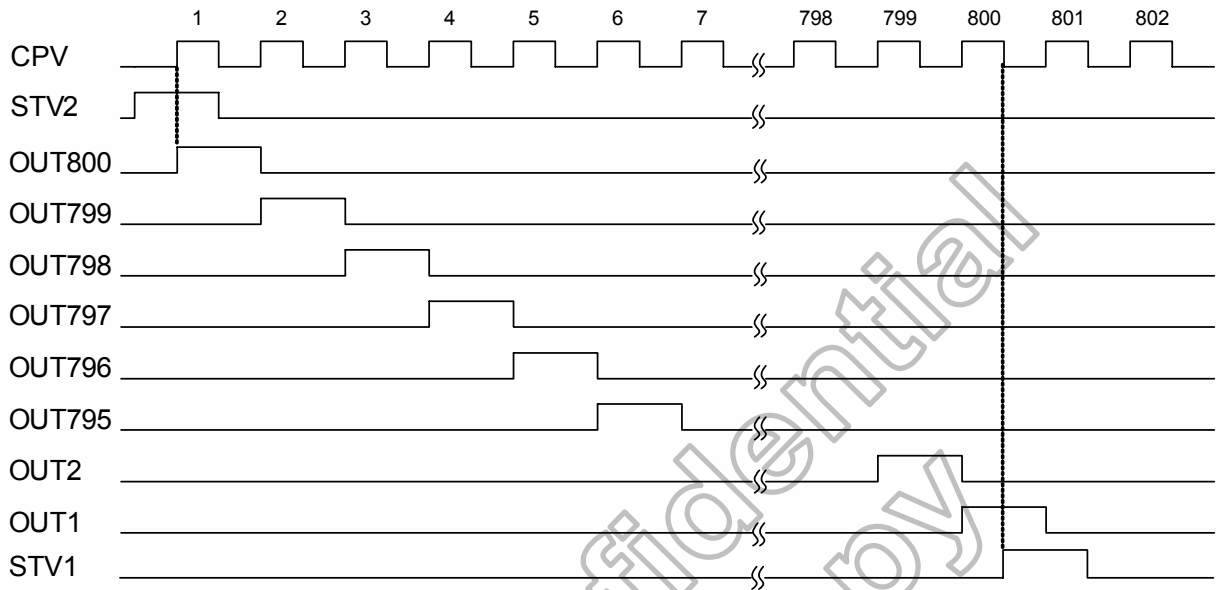
Example of input/output timing (MODE=H, L/R=H with OE & /XAO)
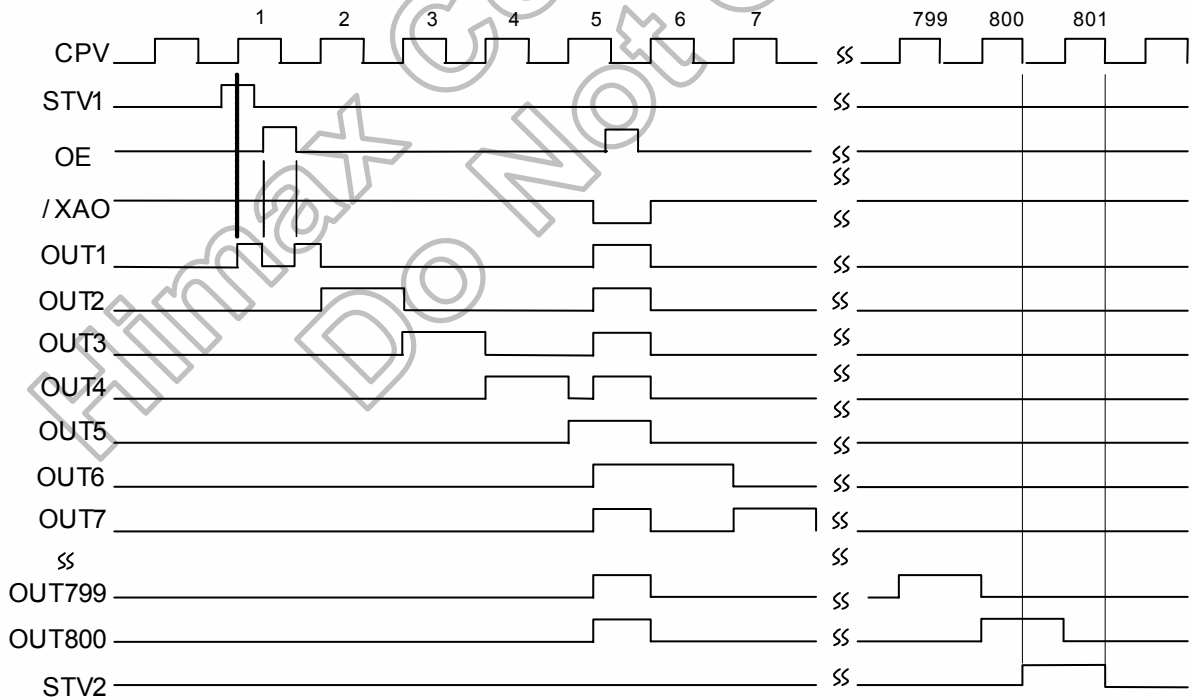
5.2 Device power level
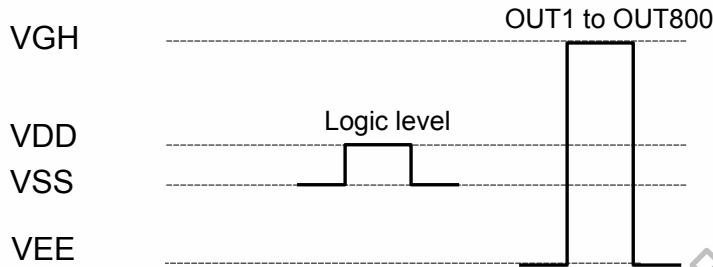
The logic levels of CPV, L/R, OE, /XAO, MODE, STV1 and STV2 have to swing between VDD for "H" and VSS for "L".

5.3 Power on/off sequence

To prevent the device from damage due to latch up, the power ON/OFF sequence shown below must be followed.

When power on: VDD→VEE→VGH
When power off: VGH→VEE→VDD
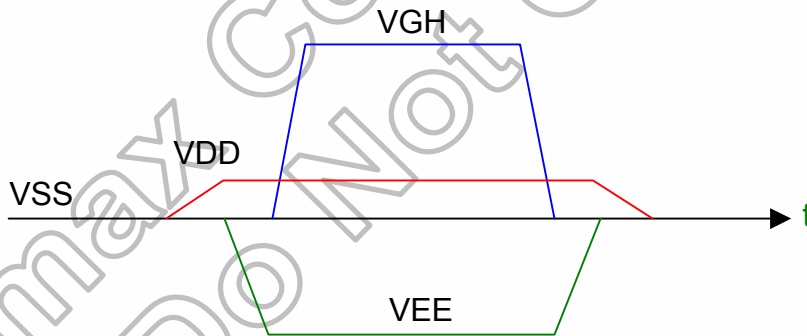
5.4 Start pulse input limitation

The available start pulse is in the following diagram.

Single start pulse input
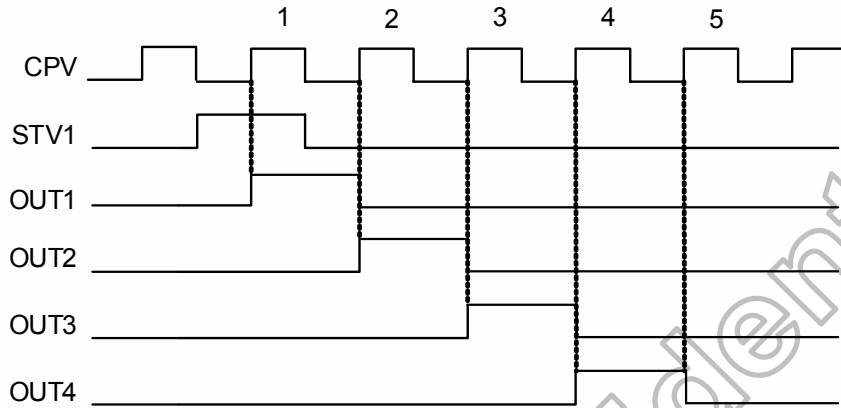
Dual start pulse input
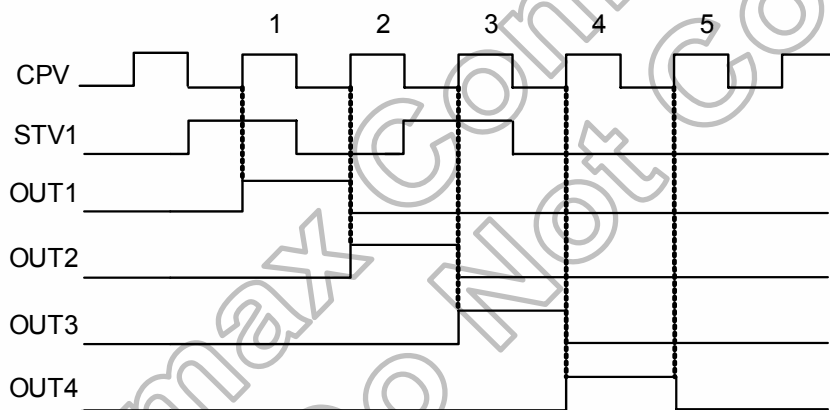
Long start pulse input
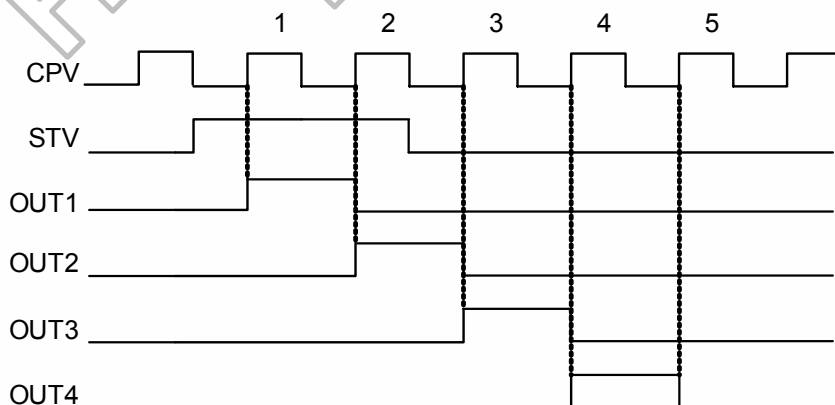
6. DC Characteristics

6.1 Absolute maximum rating (VSS=0V)

Parameter	Symbol	Spec.			Unit
		Min.	Typ.	Max.	
Power supply voltage 1	VGH	-0.3	-	+42.0	V
Power supply voltage 2	VDD	-0.3	-	+7.0	V
Power supply voltage 3	VEE	VGH-42	-	+0.3	V
Input voltage	V_{IN}	-0.3	-	VDD+0.3	V
Storage temperature	T_{STG}	-55	-	+125	℃

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above.

6.2 Recommended operating conditions (VSS=0V)

Parameter	Symbol	Spec.			Unit
		Min.	Typ.	Max.	
Power supply voltage 1	VGH	7	-	VEE+40	V
Power supply voltage 2	VDD	2.3	3.3	5.5	V
Power supply voltage 3	VEE	-20	-	-5	V
Power supply voltage 4	VGH -VEE	12	-	40	V
Operation frequency	F_{CPV}	-	-	200	KHz
Operation temperature	T_A	-40	-	+95	℃

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6.3 Electrical characteristics (VSS=0V)

Parameter	Symbol	Applicable pin	Condition	Spec. Min.	Spec. Typ.	Spec. Max.	Unit
Input H voltage	V_{IH}	All input pins[2]	-	0.7VDD	-	VDD	V
Input L voltage	V_{IL}	All input pins[2]	-	VSS	-	0.3VDD	
Input H voltage	V_{IH}	/XAO		0.8VDD	-	VDD	
Input L voltage	V_{IL}	/XAO		VSS	-	0.2VDD	
Output H voltage	V_{OH}	STV1,2	I_{OH}= 40μA	VDD-0.4	-	VDD	
Output L voltage	V_{OL}	STV1,2	I_{OL}= 40μA	VSS	-	VSS+0.4	
Output H resistance	R_{OH}	OUT0 ~ OUT801	V_{OUT}= VGH -0.5V	-	-	1000	Ω
Output L resistance	R_{OL}	OUT0 ~ OUT801	V_{OUT}= VEE+0.5V	-	-	1000	Ω
Input leakage current	I_{IN}	Note[2]	-	-5.0	-	+5.0	μA
Pull high resistance	R_{PU}	/XAO	V_{IN}=VSS	40	-	200	kΩ
VGH Power consumption	I_{VGH}	-	Note[1]	-	-	100	μA
VDD Power consumption	I_{VDD}	-		-	-	100	

Note: (1) Power consumption in the following condition:
Output no load, VGH =20V, VEE = -8V, VDD =3.0V, V_{IH}=VDD, V_{IL}=VSS, F_{CPV}=50KHz, OE =V_{IL}, /XAO=V_{IH}.
(2)All input except /XAO

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}		10	-	-	
Data setup time	t_{SU}	-	0.7	-	-	
Data hold time	t_{HD}	-	0.7	-	-	
CPV to output delay time	t_{PD1}	CL=300pF	-	-	1	
Start pulse output delay time	t_{PD2}	Loading=30pF	-	-	0.8	
OE to output delay time	t_{PD3}	CL=300pF	-	-	0.8	
/XAO to output delay time	t_{PD4}	CL=300pF	-	-	30	

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

8. Waveform

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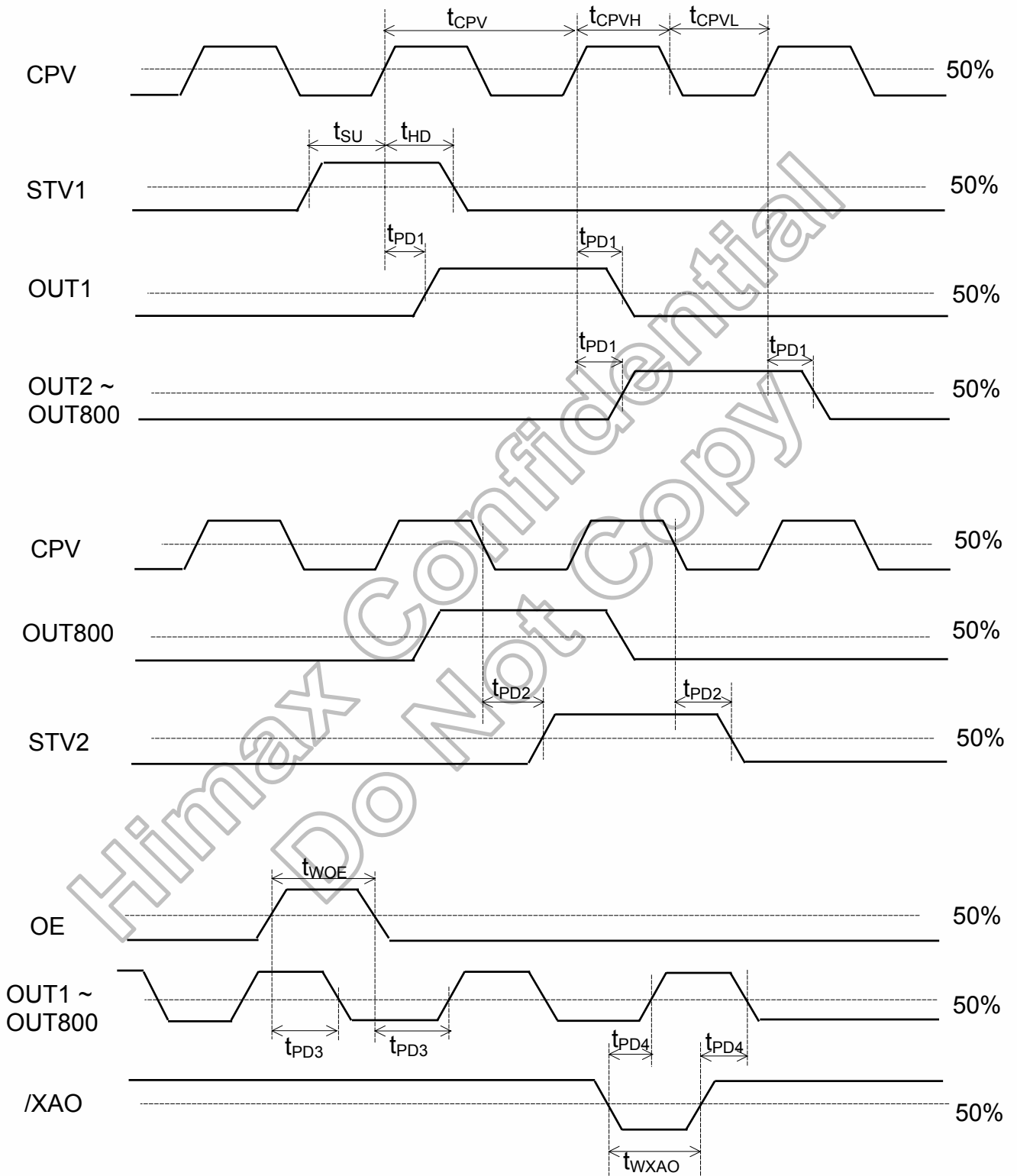
9. Pad Coordinates

9.1 HX8695-B gate driver bump location

Chip size: 19140μm x 710μm (scribe line included)
Scribe line: 80μm
Bump height: 15 ± 3μm
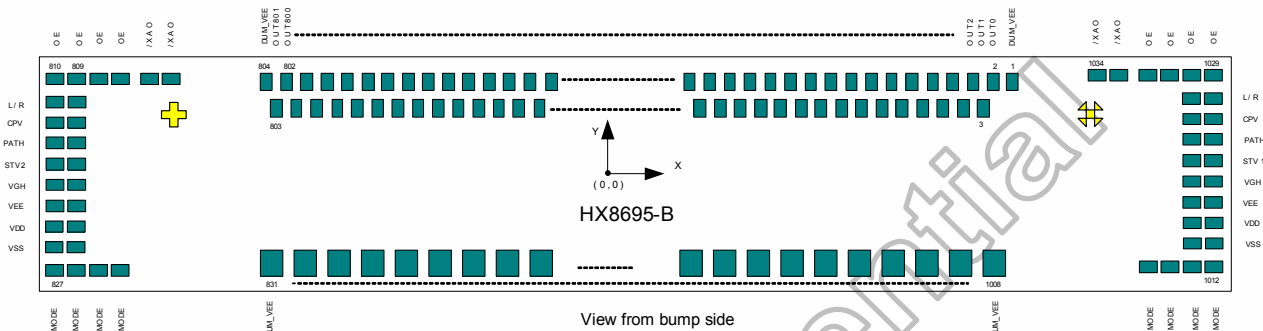
9.2 Bump outline dimensions (unit: um)

(Scribe line included)

9.3 Alignment mark

Left

Right
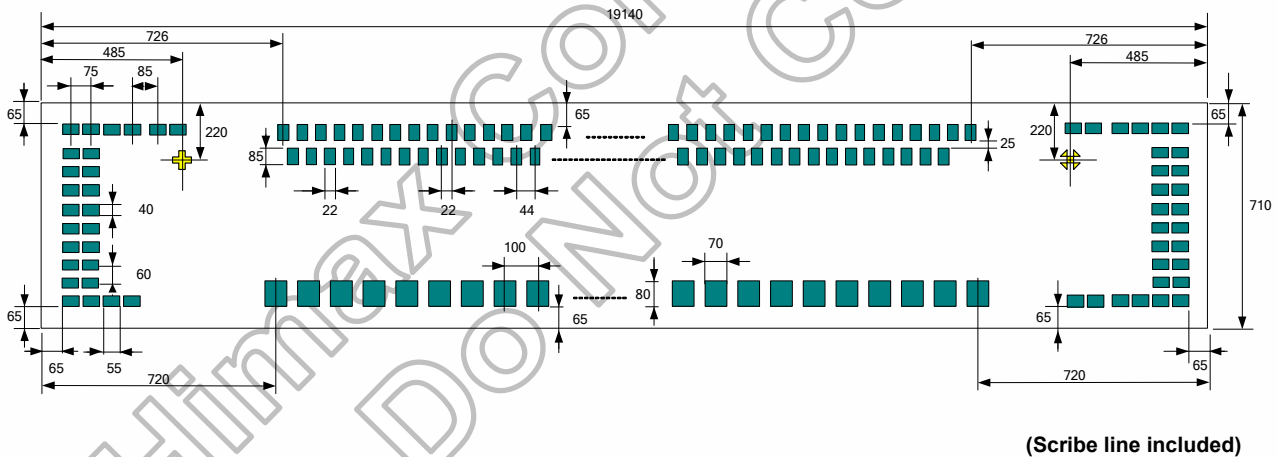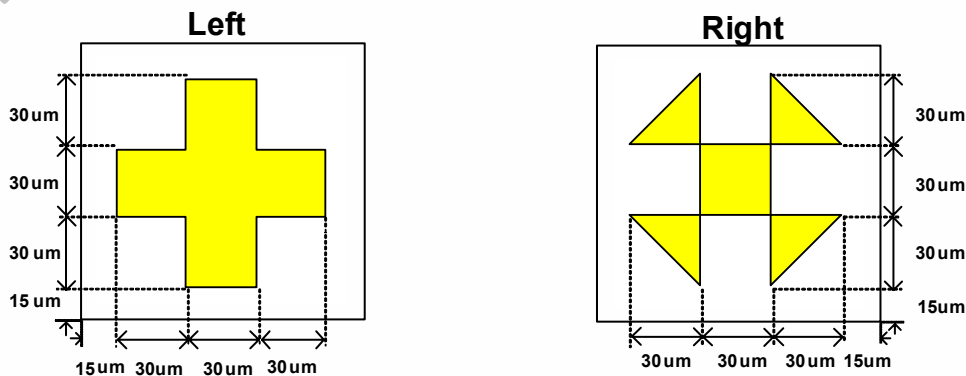
9.4 Bump center coordinates

No.	Name	X	Y	Bump size(µm)	No.	Name	X	Y	Bump size(µm)
1	DUM_VEE	8844	247.5	22 x 85	61	OUT59	7502	137.5	22 x 85
2	OUT0	8800	247.5	22 x 85	62	OUT60	7480	247.5	22 x 85
3	OUT1	8778	137.5	22 x 85	63	OUT61	7458	137.5	22 x 85
4	OUT2	8756	247.5	22 x 85	64	OUT62	7436	247.5	22 x 85
5	OUT3	8734	137.5	22 x 85	65	OUT63	7414	137.5	22 x 85
6	OUT4	8712	247.5	22 x 85	66	OUT64	7392	247.5	22 x 85
7	OUT5	8690	137.5	22 x 85	67	OUT65	7370	137.5	22 x 85
8	OUT6	8668	247.5	22 x 85	68	OUT66	7348	247.5	22 x 85
9	OUT7	8646	137.5	22 x 85	69	OUT67	7326	137.5	22 x 85
10	OUT8	8624	247.5	22 x 85	70	OUT68	7304	247.5	22 x 85
11	OUT9	8602	137.5	22 x 85	71	OUT69	7282	137.5	22 x 85
12	OUT10	8580	247.5	22 x 85	72	OUT70	7260	247.5	22 x 85
13	OUT11	8558	137.5	22 x 85	73	OUT71	7238	137.5	22 x 85
14	OUT12	8536	247.5	22 x 85	74	OUT72	7216	247.5	22 x 85
15	OUT13	8514	137.5	22 x 85	75	OUT73	7194	137.5	22 x 85
16	OUT14	8492	247.5	22 x 85	76	OUT74	7172	247.5	22 x 85
17	OUT15	8470	137.5	22 x 85	77	OUT75	7150	137.5	22 x 85
18	OUT16	8448	247.5	22 x 85	78	OUT76	7128	247.5	22 x 85
19	OUT17	8426	137.5	22 x 85	79	OUT77	7106	137.5	22 x 85
20	OUT18	8404	247.5	22 x 85	80	OUT78	7084	247.5	22 x 85
21	OUT19	8382	137.5	22 x 85	81	OUT79	7062	137.5	22 x 85
22	OUT20	8360	247.5	22 x 85	82	OUT80	7040	247.5	22 x 85
23	OUT21	8338	137.5	22 x 85	83	OUT81	7018	137.5	22 x 85
24	OUT22	8316	247.5	22 x 85	84	OUT82	6996	247.5	22 x 85
25	OUT23	8294	137.5	22 x 85	85	OUT83	6974	137.5	22 x 85
26	OUT24	8272	247.5	22 x 85	86	OUT84	6952	247.5	22 x 85
27	OUT25	8250	137.5	22 x 85	87	OUT85	6930	137.5	22 x 85
28	OUT26	8228	247.5	22 x 85	88	OUT86	6908	247.5	22 x 85
29	OUT27	8206	137.5	22 x 85	89	OUT87	6886	137.5	22 x 85
30	OUT28	8184	247.5	22 x 85	90	OUT88	6864	247.5	22 x 85
31	OUT29	8162	137.5	22 x 85	91	OUT89	6842	137.5	22 x 85
32	OUT30	8140	247.5	22 x 85	92	OUT90	6820	247.5	22 x 85
33	OUT31	8118	137.5	22 x 85	93	OUT91	6798	137.5	22 x 85
34	OUT32	8096	247.5	22 x 85	94	OUT92	6776	247.5	22 x 85
35	OUT33	8074	137.5	22 x 85	95	OUT93	6754	137.5	22 x 85
36	OUT34	8052	247.5	22 x 85	96	OUT94	6732	247.5	22 x 85
37	OUT35	8030	137.5	22 x 85	97	OUT95	6710	137.5	22 x 85
38	OUT36	8008	247.5	22 x 85	98	OUT96	6688	247.5	22 x 85
39	OUT37	7986	137.5	22 x 85	99	OUT97	6666	137.5	22 x 85
40	OUT38	7964	247.5	22 x 85	100	OUT98	6644	247.5	22 x 85
41	OUT39	7942	137.5	22 x 85	101	OUT99	6622	137.5	22 x 85
42	OUT40	7920	247.5	22 x 85	102	OUT100	6600	247.5	22 x 85
43	OUT41	7898	137.5	22 x 85	103	OUT101	6578	137.5	22 x 85
44	OUT42	7876	247.5	22 x 85	104	OUT102	6556	247.5	22 x 85
45	OUT43	7854	137.5	22 x 85	105	OUT103	6534	137.5	22 x 85
46	OUT44	7832	247.5	22 x 85	106	OUT104	6512	247.5	22 x 85
47	OUT45	7810	137.5	22 x 85	107	OUT105	6490	137.5	22 x 85
48	OUT46	7788	247.5	22 x 85	108	OUT106	6468	247.5	22 x 85
49	OUT47	7766	137.5	22 x 85	109	OUT107	6446	137.5	22 x 85
50	OUT48	7744	247.5	22 x 85	110	OUT108	6424	247.5	22 x 85
51	OUT49	7722	137.5	22 x 85	111	OUT109	6402	137.5	22 x 85
52	OUT50	7700	247.5	22 x 85	112	OUT110	6380	247.5	22 x 85
53	OUT51	7678	137.5	22 x 85	113	OUT111	6358	137.5	22 x 85
54	OUT52	7656	247.5	22 x 85	114	OUT112	6336	247.5	22 x 85
55	OUT53	7634	137.5	22 x 85	115	OUT113	6314	137.5	22 x 85
56	OUT54	7612	247.5	22 x 85	116	OUT114	6292	247.5	22 x 85
57	OUT55	7590	137.5	22 x 85	117	OUT115	6270	137.5	22 x 85
58	OUT56	7568	247.5	22 x 85	118	OUT116	6248	247.5	22 x 85
59	OUT57	7546	137.5	22 x 85	119	OUT117	6226	137.5	22 x 85
60	OUT58	7524	247.5	22 x 85	120	OUT118	6204	247.5	22 x 85

No.	Name	X	Y	Bump size(μm)	No.	Name	X	Y	Bump size(μm)
121	OUT119	6182	137.5	22 x 85	181	OUT179	4862	137.5	22 x 85
122	OUT120	6160	247.5	22 x 85	182	OUT180	4840	247.5	22 x 85
123	OUT121	6138	137.5	22 x 85	183	OUT181	4818	137.5	22 x 85
124	OUT122	6116	247.5	22 x 85	184	OUT182	4796	247.5	22 x 85
125	OUT123	6094	137.5	22 x 85	185	OUT183	4774	137.5	22 x 85
126	OUT124	6072	247.5	22 x 85	186	OUT184	4752	247.5	22 x 85
127	OUT125	6050	137.5	22 x 85	187	OUT185	4730	137.5	22 x 85
128	OUT126	6028	247.5	22 x 85	188	OUT186	4708	247.5	22 x 85
129	OUT127	6006	137.5	22 x 85	189	OUT187	4686	137.5	22 x 85
130	OUT128	5984	247.5	22 x 85	190	OUT188	4664	247.5	22 x 85
131	OUT129	5962	137.5	22 x 85	191	OUT189	4642	137.5	22 x 85
132	OUT130	5940	247.5	22 x 85	192	OUT190	4620	247.5	22 x 85
133	OUT131	5918	137.5	22 x 85	193	OUT191	4598	137.5	22 x 85
134	OUT132	5896	247.5	22 x 85	194	OUT192	4576	247.5	22 x 85
135	OUT133	5874	137.5	22 x 85	195	OUT193	4554	137.5	22 x 85
136	OUT134	5852	247.5	22 x 85	196	OUT194	4532	247.5	22 x 85
137	OUT135	5830	137.5	22 x 85	197	OUT195	4510	137.5	22 x 85
138	OUT136	5808	247.5	22 x 85	198	OUT196	4488	247.5	22 x 85
139	OUT137	5786	137.5	22 x 85	199	OUT197	4466	137.5	22 x 85
140	OUT138	5764	247.5	22 x 85	200	OUT198	4444	247.5	22 x 85
141	OUT139	5742	137.5	22 x 85	201	OUT199	4422	137.5	22 x 85
142	OUT140	5720	247.5	22 x 85	202	OUT200	4400	247.5	22 x 85
143	OUT141	5698	137.5	22 x 85	203	OUT201	4378	137.5	22 x 85
144	OUT142	5676	247.5	22 x 85	204	OUT202	4356	247.5	22 x 85
145	OUT143	5654	137.5	22 x 85	205	OUT203	4334	137.5	22 x 85
146	OUT144	5632	247.5	22 x 85	206	OUT204	4312	247.5	22 x 85
147	OUT145	5610	137.5	22 x 85	207	OUT205	4290	137.5	22 x 85
148	OUT146	5588	247.5	22 x 85	208	OUT206	4268	247.5	22 x 85
149	OUT147	5566	137.5	22 x 85	209	OUT207	4246	137.5	22 x 85
150	OUT148	5544	247.5	22 x 85	210	OUT208	4224	247.5	22 x 85
151	OUT149	5522	137.5	22 x 85	211	OUT209	4202	137.5	22 x 85
152	OUT150	5500	247.5	22 x 85	212	OUT210	4180	247.5	22 x 85
153	OUT151	5478	137.5	22 x 85	213	OUT211	4158	137.5	22 x 85
154	OUT152	5456	247.5	22 x 85	214	OUT212	4136	247.5	22 x 85
155	OUT153	5434	137.5	22 x 85	215	OUT213	4114	137.5	22 x 85
156	OUT154	5412	247.5	22 x 85	216	OUT214	4092	247.5	22 x 85
157	OUT155	5390	137.5	22 x 85	217	OUT215	4070	137.5	22 x 85
158	OUT156	5368	247.5	22 x 85	218	OUT216	4048	247.5	22 x 85
159	OUT157	5346	137.5	22 x 85	219	OUT217	4026	137.5	22 x 85
160	OUT158	5324	247.5	22 x 85	220	OUT218	4004	247.5	22 x 85
161	OUT159	5302	137.5	22 x 85	221	OUT219	3982	137.5	22 x 85
162	OUT160	5280	247.5	22 x 85	222	OUT220	3960	247.5	22 x 85
163	OUT161	5258	137.5	22 x 85	223	OUT221	3938	137.5	22 x 85
164	OUT162	5236	247.5	22 x 85	224	OUT222	3916	247.5	22 x 85
165	OUT163	5214	137.5	22 x 85	225	OUT223	3894	137.5	22 x 85
166	OUT164	5192	247.5	22 x 85	226	OUT224	3872	247.5	22 x 85
167	OUT165	5170	137.5	22 x 85	227	OUT225	3850	137.5	22 x 85
168	OUT166	5148	247.5	22 x 85	228	OUT226	3828	247.5	22 x 85
169	OUT167	5126	137.5	22 x 85	229	OUT227	3806	137.5	22 x 85
170	OUT168	5104	247.5	22 x 85	230	OUT228	3784	247.5	22 x 85
171	OUT169	5082	137.5	22 x 85	231	OUT229	3762	137.5	22 x 85
172	OUT170	5060	247.5	22 x 85	232	OUT230	3740	247.5	22 x 85
173	OUT171	5038	137.5	22 x 85	233	OUT231	3718	137.5	22 x 85
174	OUT172	5016	247.5	22 x 85	234	OUT232	3696	247.5	22 x 85
175	OUT173	4994	137.5	22 x 85	235	OUT233	3674	137.5	22 x 85
176	OUT174	4972	247.5	22 x 85	236	OUT234	3652	247.5	22 x 85
177	OUT175	4950	137.5	22 x 85	237	OUT235	3630	137.5	22 x 85
178	OUT176	4928	247.5	22 x 85	238	OUT236	3608	247.5	22 x 85
179	OUT177	4906	137.5	22 x 85	239	OUT237	3586	137.5	22 x 85
180	OUT178	4884	247.5	22 x 85	240	OUT238	3564	247.5	22 x 85

No.	Name	X	Y	Bump size(μm)	No.	Name	X	Y	Bump size(μm)
241	OUT239	3542	137.5	22 x 85	301	OUT299	2222	137.5	22 x 85
242	OUT240	3520	247.5	22 x 85	302	OUT300	2200	247.5	22 x 85
243	OUT241	3498	137.5	22 x 85	303	OUT301	2178	137.5	22 x 85
244	OUT242	3476	247.5	22 x 85	304	OUT302	2156	247.5	22 x 85
245	OUT243	3454	137.5	22 x 85	305	OUT303	2134	137.5	22 x 85
246	OUT244	3432	247.5	22 x 85	306	OUT304	2112	247.5	22 x 85
247	OUT245	3410	137.5	22 x 85	307	OUT305	2090	137.5	22 x 85
248	OUT246	3388	247.5	22 x 85	308	OUT306	2068	247.5	22 x 85
249	OUT247	3366	137.5	22 x 85	309	OUT307	2046	137.5	22 x 85
250	OUT248	3344	247.5	22 x 85	310	OUT308	2024	247.5	22 x 85
251	OUT249	3322	137.5	22 x 85	311	OUT309	2002	137.5	22 x 85
252	OUT250	3300	247.5	22 x 85	312	OUT310	1980	247.5	22 x 85
253	OUT251	3278	137.5	22 x 85	313	OUT311	1958	137.5	22 x 85
254	OUT252	3256	247.5	22 x 85	314	OUT312	1936	247.5	22 x 85
255	OUT253	3234	137.5	22 x 85	315	OUT313	1914	137.5	22 x 85
256	OUT254	3212	247.5	22 x 85	316	OUT314	1892	247.5	22 x 85
257	OUT255	3190	137.5	22 x 85	317	OUT315	1870	137.5	22 x 85
258	OUT256	3168	247.5	22 x 85	318	OUT316	1848	247.5	22 x 85
259	OUT257	3146	137.5	22 x 85	319	OUT317	1826	137.5	22 x 85
260	OUT258	3124	247.5	22 x 85	320	OUT318	1804	247.5	22 x 85
261	OUT259	3102	137.5	22 x 85	321	OUT319	1782	137.5	22 x 85
262	OUT260	3080	247.5	22 x 85	322	OUT320	1760	247.5	22 x 85
263	OUT261	3058	137.5	22 x 85	323	OUT321	1738	137.5	22 x 85
264	OUT262	3036	247.5	22 x 85	324	OUT322	1716	247.5	22 x 85
265	OUT263	3014	137.5	22 x 85	325	OUT323	1694	137.5	22 x 85
266	OUT264	2992	247.5	22 x 85	326	OUT324	1672	247.5	22 x 85
267	OUT265	2970	137.5	22 x 85	327	OUT325	1650	137.5	22 x 85
268	OUT266	2948	247.5	22 x 85	328	OUT326	1628	247.5	22 x 85
269	OUT267	2926	137.5	22 x 85	329	OUT327	1606	137.5	22 x 85
270	OUT268	2904	247.5	22 x 85	330	OUT328	1584	247.5	22 x 85
271	OUT269	2882	137.5	22 x 85	331	OUT329	1562	137.5	22 x 85
272	OUT270	2860	247.5	22 x 85	332	OUT330	1540	247.5	22 x 85
273	OUT271	2838	137.5	22 x 85	333	OUT331	1518	137.5	22 x 85
274	OUT272	2816	247.5	22 x 85	334	OUT332	1496	247.5	22 x 85
275	OUT273	2794	137.5	22 x 85	335	OUT333	1474	137.5	22 x 85
276	OUT274	2772	247.5	22 x 85	336	OUT334	1452	247.5	22 x 85
277	OUT275	2750	137.5	22 x 85	337	OUT335	1430	137.5	22 x 85
278	OUT276	2728	247.5	22 x 85	338	OUT336	1408	247.5	22 x 85
279	OUT277	2706	137.5	22 x 85	339	OUT337	1386	137.5	22 x 85
280	OUT278	2684	247.5	22 x 85	340	OUT338	1364	247.5	22 x 85
281	OUT279	2662	137.5	22 x 85	341	OUT339	1342	137.5	22 x 85
282	OUT280	2640	247.5	22 x 85	342	OUT340	1320	247.5	22 x 85
283	OUT281	2618	137.5	22 x 85	343	OUT341	1298	137.5	22 x 85
284	OUT282	2596	247.5	22 x 85	344	OUT342	1276	247.5	22 x 85
285	OUT283	2574	137.5	22 x 85	345	OUT343	1254	137.5	22 x 85
286	OUT284	2552	247.5	22 x 85	346	OUT344	1232	247.5	22 x 85
287	OUT285	2530	137.5	22 x 85	347	OUT345	1210	137.5	22 x 85
288	OUT286	2508	247.5	22 x 85	348	OUT346	1188	247.5	22 x 85
289	OUT287	2486	137.5	22 x 85	349	OUT347	1166	137.5	22 x 85
290	OUT288	2464	247.5	22 x 85	350	OUT348	1144	247.5	22 x 85
291	OUT289	2442	137.5	22 x 85	351	OUT349	1122	137.5	22 x 85
292	OUT290	2420	247.5	22 x 85	352	OUT350	1100	247.5	22 x 85
293	OUT291	2398	137.5	22 x 85	353	OUT351	1078	137.5	22 x 85
294	OUT292	2376	247.5	22 x 85	354	OUT352	1056	247.5	22 x 85
295	OUT293	2354	137.5	22 x 85	355	OUT353	1034	137.5	22 x 85
296	OUT294	2332	247.5	22 x 85	356	OUT354	1012	247.5	22 x 85
297	OUT295	2310	137.5	22 x 85	357	OUT355	990	137.5	22 x 85
298	OUT296	2288	247.5	22 x 85	358	OUT356	968	247.5	22 x 85
299	OUT297	2266	137.5	22 x 85	359	OUT357	946	137.5	22 x 85
300	OUT298	2244	247.5	22 x 85	360	OUT358	924	247.5	22 x 85

No.	Name	X	Y	Bump size(μm)	No.	Name	X	Y	Bump size(μm)
361	OUT359	902	137.5	22 x 85	421	OUT419	-418	137.5	22 x 85
362	OUT360	880	247.5	22 x 85	422	OUT420	-440	247.5	22 x 85
363	OUT361	858	137.5	22 x 85	423	OUT421	-462	137.5	22 x 85
364	OUT362	836	247.5	22 x 85	424	OUT422	-484	247.5	22 x 85
365	OUT363	814	137.5	22 x 85	425	OUT423	-506	137.5	22 x 85
366	OUT364	792	247.5	22 x 85	426	OUT424	-528	247.5	22 x 85
367	OUT365	770	137.5	22 x 85	427	OUT425	-550	137.5	22 x 85
368	OUT366	748	247.5	22 x 85	428	OUT426	-572	247.5	22 x 85
369	OUT367	726	137.5	22 x 85	429	OUT427	-594	137.5	22 x 85
370	OUT368	704	247.5	22 x 85	430	OUT428	-616	247.5	22 x 85
371	OUT369	682	137.5	22 x 85	431	OUT429	-638	137.5	22 x 85
372	OUT370	660	247.5	22 x 85	432	OUT430	-660	247.5	22 x 85
373	OUT371	638	137.5	22 x 85	433	OUT431	-682	137.5	22 x 85
374	OUT372	616	247.5	22 x 85	434	OUT432	-704	247.5	22 x 85
375	OUT373	594	137.5	22 x 85	435	OUT433	-726	137.5	22 x 85
376	OUT374	572	247.5	22 x 85	436	OUT434	-748	247.5	22 x 85
377	OUT375	550	137.5	22 x 85	437	OUT435	-770	137.5	22 x 85
378	OUT376	528	247.5	22 x 85	438	OUT436	-792	247.5	22 x 85
379	OUT377	506	137.5	22 x 85	439	OUT437	-814	137.5	22 x 85
380	OUT378	484	247.5	22 x 85	440	OUT438	-836	247.5	22 x 85
381	OUT379	462	137.5	22 x 85	441	OUT439	-858	137.5	22 x 85
382	OUT380	440	247.5	22 x 85	442	OUT440	-880	247.5	22 x 85
383	OUT381	418	137.5	22 x 85	443	OUT441	-902	137.5	22 x 85
384	OUT382	396	247.5	22 x 85	444	OUT442	-924	247.5	22 x 85
385	OUT383	374	137.5	22 x 85	445	OUT443	-946	137.5	22 x 85
386	OUT384	352	247.5	22 x 85	446	OUT444	-968	247.5	22 x 85
387	OUT385	330	137.5	22 x 85	447	OUT445	-990	137.5	22 x 85
388	OUT386	308	247.5	22 x 85	448	OUT446	-1012	247.5	22 x 85
389	OUT387	286	137.5	22 x 85	449	OUT447	-1034	137.5	22 x 85
390	OUT388	264	247.5	22 x 85	450	OUT448	-1056	247.5	22 x 85
391	OUT389	242	137.5	22 x 85	451	OUT449	-1078	137.5	22 x 85
392	OUT390	220	247.5	22 x 85	452	OUT450	-1100	247.5	22 x 85
393	OUT391	198	137.5	22 x 85	453	OUT451	-1122	137.5	22 x 85
394	OUT392	176	247.5	22 x 85	454	OUT452	-1144	247.5	22 x 85
395	OUT393	154	137.5	22 x 85	455	OUT453	-1166	137.5	22 x 85
396	OUT394	132	247.5	22 x 85	456	OUT454	-1188	247.5	22 x 85
397	OUT395	110	137.5	22 x 85	457	OUT455	-1210	137.5	22 x 85
398	OUT396	88	247.5	22 x 85	458	OUT456	-1232	247.5	22 x 85
399	OUT397	66	137.5	22 x 85	459	OUT457	-1254	137.5	22 x 85
400	OUT398	44	247.5	22 x 85	460	OUT458	-1276	247.5	22 x 85
401	OUT399	22	137.5	22 x 85	461	OUT459	-1298	137.5	22 x 85
402	OUT400	0	247.5	22 x 85	462	OUT460	-1320	247.5	22 x 85
403	OUT401	-22	137.5	22 x 85	463	OUT461	-1342	137.5	22 x 85
404	OUT402	-44	247.5	22 x 85	464	OUT462	-1364	247.5	22 x 85
405	OUT403	-66	137.5	22 x 85	465	OUT463	-1386	137.5	22 x 85
406	OUT404	-88	247.5	22 x 85	466	OUT464	-1408	247.5	22 x 85
407	OUT405	-110	137.5	22 x 85	467	OUT465	-1430	137.5	22 x 85
408	OUT406	-132	247.5	22 x 85	468	OUT466	-1452	247.5	22 x 85
409	OUT407	-154	137.5	22 x 85	469	OUT467	-1474	137.5	22 x 85
410	OUT408	-176	247.5	22 x 85	470	OUT468	-1496	247.5	22 x 85
411	OUT409	-198	137.5	22 x 85	471	OUT469	-1518	137.5	22 x 85
412	OUT410	-220	247.5	22 x 85	472	OUT470	-1540	247.5	22 x 85
413	OUT411	-242	137.5	22 x 85	473	OUT471	-1562	137.5	22 x 85
414	OUT412	-264	247.5	22 x 85	474	OUT472	-1584	247.5	22 x 85
415	OUT413	-286	137.5	22 x 85	475	OUT473	-1606	137.5	22 x 85
416	OUT414	-308	247.5	22 x 85	476	OUT474	-1628	247.5	22 x 85
417	OUT415	-330	137.5	22 x 85	477	OUT475	-1650	137.5	22 x 85
418	OUT416	-352	247.5	22 x 85	478	OUT476	-1672	247.5	22 x 85
419	OUT417	-374	137.5	22 x 85	479	OUT477	-1694	137.5	22 x 85
420	OUT418	-396	247.5	22 x 85	480	OUT478	-1716	247.5	22 x 85

No.	Name	X	Y	Bump size(µm)	No.	Name	X	Y	Bump size(µm)
481	OUT479	-1738	137.5	22 x 85	541	OUT539	-3058	137.5	22 x 85
482	OUT480	-1760	247.5	22 x 85	542	OUT540	-3080	247.5	22 x 85
483	OUT481	-1782	137.5	22 x 85	543	OUT541	-3102	137.5	22 x 85
484	OUT482	-1804	247.5	22 x 85	544	OUT542	-3124	247.5	22 x 85
485	OUT483	-1826	137.5	22 x 85	545	OUT543	-3146	137.5	22 x 85
486	OUT484	-1848	247.5	22 x 85	546	OUT544	-3168	247.5	22 x 85
487	OUT485	-1870	137.5	22 x 85	547	OUT545	-3190	137.5	22 x 85
488	OUT486	-1892	247.5	22 x 85	548	OUT546	-3212	247.5	22 x 85
489	OUT487	-1914	137.5	22 x 85	549	OUT547	-3234	137.5	22 x 85
490	OUT488	-1936	247.5	22 x 85	550	OUT548	-3256	247.5	22 x 85
491	OUT489	-1958	137.5	22 x 85	551	OUT549	-3278	137.5	22 x 85
492	OUT490	-1980	247.5	22 x 85	552	OUT550	-3300	247.5	22 x 85
493	OUT491	-2002	137.5	22 x 85	553	OUT551	-3322	137.5	22 x 85
494	OUT492	-2024	247.5	22 x 85	554	OUT552	-3344	247.5	22 x 85
495	OUT493	-2046	137.5	22 x 85	555	OUT553	-3366	137.5	22 x 85
496	OUT494	-2068	247.5	22 x 85	556	OUT554	-3388	247.5	22 x 85
497	OUT495	-2090	137.5	22 x 85	557	OUT555	-3410	137.5	22 x 85
498	OUT496	-2112	247.5	22 x 85	558	OUT556	-3432	247.5	22 x 85
499	OUT497	-2134	137.5	22 x 85	559	OUT557	-3454	137.5	22 x 85
500	OUT498	-2156	247.5	22 x 85	560	OUT558	-3476	247.5	22 x 85
501	OUT499	-2178	137.5	22 x 85	561	OUT559	-3498	137.5	22 x 85
502	OUT500	-2200	247.5	22 x 85	562	OUT560	-3520	247.5	22 x 85
503	OUT501	-2222	137.5	22 x 85	563	OUT561	-3542	137.5	22 x 85
504	OUT502	-2244	247.5	22 x 85	564	OUT562	-3564	247.5	22 x 85
505	OUT503	-2266	137.5	22 x 85	565	OUT563	-3586	137.5	22 x 85
506	OUT504	-2288	247.5	22 x 85	566	OUT564	-3608	247.5	22 x 85
507	OUT505	-2310	137.5	22 x 85	567	OUT565	-3630	137.5	22 x 85
508	OUT506	-2332	247.5	22 x 85	568	OUT566	-3652	247.5	22 x 85
509	OUT507	-2354	137.5	22 x 85	569	OUT567	-3674	137.5	22 x 85
510	OUT508	-2376	247.5	22 x 85	570	OUT568	-3696	247.5	22 x 85
511	OUT509	-2398	137.5	22 x 85	571	OUT569	-3718	137.5	22 x 85
512	OUT510	-2420	247.5	22 x 85	572	OUT570	-3740	247.5	22 x 85
513	OUT511	-2442	137.5	22 x 85	573	OUT571	-3762	137.5	22 x 85
514	OUT512	-2464	247.5	22 x 85	574	OUT572	-3784	247.5	22 x 85
515	OUT513	-2486	137.5	22 x 85	575	OUT573	-3806	137.5	22 x 85
516	OUT514	-2508	247.5	22 x 85	576	OUT574	-3828	247.5	22 x 85
517	OUT515	-2530	137.5	22 x 85	577	OUT575	-3850	137.5	22 x 85
518	OUT516	-2552	247.5	22 x 85	578	OUT576	-3872	247.5	22 x 85
519	OUT517	-2574	137.5	22 x 85	579	OUT577	-3894	137.5	22 x 85
520	OUT518	-2596	247.5	22 x 85	580	OUT578	-3916	247.5	22 x 85
521	OUT519	-2618	137.5	22 x 85	581	OUT579	-3938	137.5	22 x 85
522	OUT520	-2640	247.5	22 x 85	582	OUT580	-3960	247.5	22 x 85
523	OUT521	-2662	137.5	22 x 85	583	OUT581	-3982	137.5	22 x 85
524	OUT522	-2684	247.5	22 x 85	584	OUT582	-4004	247.5	22 x 85
525	OUT523	-2706	137.5	22 x 85	585	OUT583	-4026	137.5	22 x 85
526	OUT524	-2728	247.5	22 x 85	586	OUT584	-4048	247.5	22 x 85
527	OUT525	-2750	137.5	22 x 85	587	OUT585	-4070	137.5	22 x 85
528	OUT526	-2772	247.5	22 x 85	588	OUT586	-4092	247.5	22 x 85
529	OUT527	-2794	137.5	22 x 85	589	OUT587	-4114	137.5	22 x 85
530	OUT528	-2816	247.5	22 x 85	590	OUT588	-4136	247.5	22 x 85
531	OUT529	-2838	137.5	22 x 85	591	OUT589	-4158	137.5	22 x 85
532	OUT530	-2860	247.5	22 x 85	592	OUT590	-4180	247.5	22 x 85
533	OUT531	-2882	137.5	22 x 85	593	OUT591	-4202	137.5	22 x 85
534	OUT532	-2904	247.5	22 x 85	594	OUT592	-4224	247.5	22 x 85
535	OUT533	-2926	137.5	22 x 85	595	OUT593	-4246	137.5	22 x 85
536	OUT534	-2948	247.5	22 x 85	596	OUT594	-4268	247.5	22 x 85
537	OUT535	-2970	137.5	22 x 85	597	OUT595	-4290	137.5	22 x 85
538	OUT536	-2992	247.5	22 x 85	598	OUT596	-4312	247.5	22 x 85
539	OUT537	-3014	137.5	22 x 85	599	OUT597	-4334	137.5	22 x 85
540	OUT538	-3036	247.5	22 x 85	600	OUT598	-4356	247.5	22 x 85

No.	Name	X	Y	Bump size(μm)	No.	Name	X	Y	Bump size(μm)
601	OUT599	-4378	137.5	22 x 85	661	OUT659	-5698	137.5	22 x 85
602	OUT600	-4400	247.5	22 x 85	662	OUT660	-5720	247.5	22 x 85
603	OUT601	-4422	137.5	22 x 85	663	OUT661	-5742	137.5	22 x 85
604	OUT602	-4444	247.5	22 x 85	664	OUT662	-5764	247.5	22 x 85
605	OUT603	-4466	137.5	22 x 85	665	OUT663	-5786	137.5	22 x 85
606	OUT604	-4488	247.5	22 x 85	666	OUT664	-5808	247.5	22 x 85
607	OUT605	-4510	137.5	22 x 85	667	OUT665	-5830	137.5	22 x 85
608	OUT606	-4532	247.5	22 x 85	668	OUT666	-5852	247.5	22 x 85
609	OUT607	-4554	137.5	22 x 85	669	OUT667	-5874	137.5	22 x 85
610	OUT608	-4576	247.5	22 x 85	670	OUT668	-5896	247.5	22 x 85
611	OUT609	-4598	137.5	22 x 85	671	OUT669	-5918	137.5	22 x 85
612	OUT610	-4620	247.5	22 x 85	672	OUT670	-5940	247.5	22 x 85
613	OUT611	-4642	137.5	22 x 85	673	OUT671	-5962	137.5	22 x 85
614	OUT612	-4664	247.5	22 x 85	674	OUT672	-5984	247.5	22 x 85
615	OUT613	-4686	137.5	22 x 85	675	OUT673	-6006	137.5	22 x 85
616	OUT614	-4708	247.5	22 x 85	676	OUT674	-6028	247.5	22 x 85
617	OUT615	-4730	137.5	22 x 85	677	OUT675	-6050	137.5	22 x 85
618	OUT616	-4752	247.5	22 x 85	678	OUT676	-6072	247.5	22 x 85
619	OUT617	-4774	137.5	22 x 85	679	OUT677	-6094	137.5	22 x 85
620	OUT618	-4796	247.5	22 x 85	680	OUT678	-6116	247.5	22 x 85
621	OUT619	-4818	137.5	22 x 85	681	OUT679	-6138	137.5	22 x 85
622	OUT620	-4840	247.5	22 x 85	682	OUT680	-6160	247.5	22 x 85
623	OUT621	-4862	137.5	22 x 85	683	OUT681	-6182	137.5	22 x 85
624	OUT622	-4884	247.5	22 x 85	684	OUT682	-6204	247.5	22 x 85
625	OUT623	-4906	137.5	22 x 85	685	OUT683	-6226	137.5	22 x 85
626	OUT624	-4928	247.5	22 x 85	686	OUT684	-6248	247.5	22 x 85
627	OUT625	-4950	137.5	22 x 85	687	OUT685	-6270	137.5	22 x 85
628	OUT626	-4972	247.5	22 x 85	688	OUT686	-6292	247.5	22 x 85
629	OUT627	-4994	137.5	22 x 85	689	OUT687	-6314	137.5	22 x 85
630	OUT628	-5016	247.5	22 x 85	690	OUT688	-6336	247.5	22 x 85
631	OUT629	-5038	137.5	22 x 85	691	OUT689	-6358	137.5	22 x 85
632	OUT630	-5060	247.5	22 x 85	692	OUT690	-6380	247.5	22 x 85
633	OUT631	-5082	137.5	22 x 85	693	OUT691	-6402	137.5	22 x 85
634	OUT632	-5104	247.5	22 x 85	694	OUT692	-6424	247.5	22 x 85
635	OUT633	-5126	137.5	22 x 85	695	OUT693	-6446	137.5	22 x 85
636	OUT634	-5148	247.5	22 x 85	696	OUT694	-6468	247.5	22 x 85
637	OUT635	-5170	137.5	22 x 85	697	OUT695	-6490	137.5	22 x 85
638	OUT636	-5192	247.5	22 x 85	698	OUT696	-6512	247.5	22 x 85
639	OUT637	-5214	137.5	22 x 85	699	OUT697	-6534	137.5	22 x 85
640	OUT638	-5236	247.5	22 x 85	700	OUT698	-6556	247.5	22 x 85
641	OUT639	-5258	137.5	22 x 85	701	OUT699	-6578	137.5	22 x 85
642	OUT640	-5280	247.5	22 x 85	702	OUT700	-6600	247.5	22 x 85
643	OUT641	-5302	137.5	22 x 85	703	OUT701	-6622	137.5	22 x 85
644	OUT642	-5324	247.5	22 x 85	704	OUT702	-6644	247.5	22 x 85
645	OUT643	-5346	137.5	22 x 85	705	OUT703	-6666	137.5	22 x 85
646	OUT644	-5368	247.5	22 x 85	706	OUT704	-6688	247.5	22 x 85
647	OUT645	-5390	137.5	22 x 85	707	OUT705	-6710	137.5	22 x 85
648	OUT646	-5412	247.5	22 x 85	708	OUT706	-6732	247.5	22 x 85
649	OUT647	-5434	137.5	22 x 85	709	OUT707	-6754	137.5	22 x 85
650	OUT648	-5456	247.5	22 x 85	710	OUT708	-6776	247.5	22 x 85
651	OUT649	-5478	137.5	22 x 85	711	OUT709	-6798	137.5	22 x 85
652	OUT650	-5500	247.5	22 x 85	712	OUT710	-6820	247.5	22 x 85
653	OUT651	-5522	137.5	22 x 85	713	OUT711	-6842	137.5	22 x 85
654	OUT652	-5544	247.5	22 x 85	714	OUT712	-6864	247.5	22 x 85
655	OUT653	-5566	137.5	22 x 85	715	OUT713	-6886	137.5	22 x 85
656	OUT654	-5588	247.5	22 x 85	716	OUT714	-6908	247.5	22 x 85
657	OUT655	-5610	137.5	22 x 85	717	OUT715	-6930	137.5	22 x 85
658	OUT656	-5632	247.5	22 x 85	718	OUT716	-6952	247.5	22 x 85
659	OUT657	-5654	137.5	22 x 85	719	OUT717	-6974	137.5	22 x 85
660	OUT658	-5676	247.5	22 x 85	720	OUT718	-6996	247.5	22 x 85

No.	Name	X	Y	Bump size(μm)	No.	Name	X	Y	Bump size(μm)
721	OUT719	-7018	137.5	22 x 85	781	OUT779	-8338	137.5	22 x 85
722	OUT720	-7040	247.5	22 x 85	782	OUT780	-8360	247.5	22 x 85
723	OUT721	-7062	137.5	22 x 85	783	OUT781	-8382	137.5	22 x 85
724	OUT722	-7084	247.5	22 x 85	784	OUT782	-8404	247.5	22 x 85
725	OUT723	-7106	137.5	22 x 85	785	OUT783	-8426	137.5	22 x 85
726	OUT724	-7128	247.5	22 x 85	786	OUT784	-8448	247.5	22 x 85
727	OUT725	-7150	137.5	22 x 85	787	OUT785	-8470	137.5	22 x 85
728	OUT726	-7172	247.5	22 x 85	788	OUT786	-8492	247.5	22 x 85
729	OUT727	-7194	137.5	22 x 85	789	OUT787	-8514	137.5	22 x 85
730	OUT728	-7216	247.5	22 x 85	790	OUT788	-8536	247.5	22 x 85
731	OUT729	-7238	137.5	22 x 85	791	OUT789	-8558	137.5	22 x 85
732	OUT730	-7260	247.5	22 x 85	792	OUT790	-8580	247.5	22 x 85
733	OUT731	-7282	137.5	22 x 85	793	OUT791	-8602	137.5	22 x 85
734	OUT732	-7304	247.5	22 x 85	794	OUT792	-8624	247.5	22 x 85
735	OUT733	-7326	137.5	22 x 85	795	OUT793	-8646	137.5	22 x 85
736	OUT734	-7348	247.5	22 x 85	796	OUT794	-8668	247.5	22 x 85
737	OUT735	-7370	137.5	22 x 85	797	OUT795	-8690	137.5	22 x 85
738	OUT736	-7392	247.5	22 x 85	798	OUT796	-8712	247.5	22 x 85
739	OUT737	-7414	137.5	22 x 85	799	OUT797	-8734	137.5	22 x 85
740	OUT738	-7436	247.5	22 x 85	800	OUT798	-8756	247.5	22 x 85
741	OUT739	-7458	137.5	22 x 85	801	OUT799	-8778	137.5	22 x 85
742	OUT740	-7480	247.5	22 x 85	802	OUT800	-8800	247.5	22 x 85
743	OUT741	-7502	137.5	22 x 85	803	OUT801	-8822	137.5	22 x 85
744	OUT742	-7524	247.5	22 x 85	804	DUM_VEE	-8844	247.5	22 x 85
745	OUT743	-7546	137.5	22 x 85	805	/XAO	-9092.5	270	55 x 40
746	OUT744	-7568	247.5	22 x 85	806	/XAO	-9167.5	270	55 x 40
747	OUT745	-7590	137.5	22 x 85	807	OE	-9252.5	270	55 x 40
748	OUT746	-7612	247.5	22 x 85	808	OE	-9327.5	270	55 x 40
749	OUT747	-7634	137.5	22 x 85	809	OE	-9402.5	270	55 x 40
750	OUT748	-7656	247.5	22 x 85	810	OE	-9477.5	270	55 x 40
751	OUT749	-7678	137.5	22 x 85	811	L/R	-9402.5	210	55 x 40
752	OUT750	-7700	247.5	22 x 85	812	L/R	-9477.5	210	55 x 40
753	OUT751	-7722	137.5	22 x 85	813	CPV	-9402.5	150	55 x 40
754	OUT752	-7744	247.5	22 x 85	814	CPV	-9477.5	150	55 x 40
755	OUT753	-7766	137.5	22 x 85	815	PATH	-9402.5	90	55 x 40
756	OUT754	-7788	247.5	22 x 85	816	PATH	-9477.5	90	55 x 40
757	OUT755	-7810	137.5	22 x 85	817	SVT2	-9402.5	30	55 x 40
758	OUT756	-7832	247.5	22 x 85	818	SVT2	-9477.5	30	55 x 40
759	OUT757	-7854	137.5	22 x 85	819	VGH	-9402.5	-30	55 x 40
760	OUT758	-7876	247.5	22 x 85	820	VGH	-9477.5	-30	55 x 40
761	OUT759	-7898	137.5	22 x 85	821	VEE	-9402.5	-90	55 x 40
762	OUT760	-7920	247.5	22 x 85	822	VEE	-9477.5	-90	55 x 40
763	OUT761	-7942	137.5	22 x 85	823	VDD	-9402.5	-150	55 x 40
764	OUT762	-7964	247.5	22 x 85	824	VDD	-9477.5	-150	55 x 40
765	OUT763	-7986	137.5	22 x 85	825	VSS	-9402.5	-210	55 x 40
766	OUT764	-8008	247.5	22 x 85	826	VSS	-9477.5	-210	55 x 40
767	OUT765	-8030	137.5	22 x 85	827	MODE	-9477.5	-270	55 x 40
768	OUT766	-8052	247.5	22 x 85	828	MODE	-9402.5	-270	55 x 40
769	OUT767	-8074	137.5	22 x 85	829	MODE	-9327.5	-270	55 x 40
770	OUT768	-8096	247.5	22 x 85	830	MODE	-9252.5	-270	55 x 40
771	OUT769	-8118	137.5	22 x 85	831	DUM_VEE	-8850	-250	70 x 80
772	OUT770	-8140	247.5	22 x 85	832	DUM_VEE	-8750	-250	70 x 80
773	OUT771	-8162	137.5	22 x 85	833	DUM_VEE	-8650	-250	70 x 80
774	OUT772	-8184	247.5	22 x 85	834	DUM_VEE	-8550	-250	70 x 80
775	OUT773	-8206	137.5	22 x 85	835	DUM_VEE	-8450	-250	70 x 80
776	OUT774	-8228	247.5	22 x 85	836	DUM_VEE	-8350	-250	70 x 80
777	OUT775	-8250	137.5	22 x 85	837	DUM_VEE	-8250	-250	70 x 80
778	OUT776	-8272	247.5	22 x 85	838	DUM_VEE	-8150	-250	70 x 80
779	OUT777	-8294	137.5	22 x 85	839	DUM_VEE	-8050	-250	70 x 80
780	OUT778	-8316	247.5	22 x 85	840	DUM_VEE	-7950	-250	70 x 80

No.	Name	X	Y	Bump size(µm)	No.	Name	X	Y	Bump size(µm)
841	DUM_VEE	-7850	-250	70 x 80	901	DUM_VEE	-1850	-250	70 x 80
842	DUM_VEE	-7750	-250	70 x 80	902	DUM_VEE	-1750	-250	70 x 80
843	DUM_VEE	-7650	-250	70 x 80	903	DUM_VEE	-1650	-250	70 x 80
844	DUM_VEE	-7550	-250	70 x 80	904	DUM_VEE	-1550	-250	70 x 80
845	DUM_VEE	-7450	-250	70 x 80	905	DUM_VEE	-1450	-250	70 x 80
846	DUM_VEE	-7350	-250	70 x 80	906	DUM_VEE	-1350	-250	70 x 80
847	DUM_VEE	-7250	-250	70 x 80	907	DUM_VEE	-1250	-250	70 x 80
848	DUM_VEE	-7150	-250	70 x 80	908	DUM_VEE	-1150	-250	70 x 80
849	DUM_VEE	-7050	-250	70 x 80	909	DUM_VEE	-1050	-250	70 x 80
850	DUM_VEE	-6950	-250	70 x 80	910	DUM_VEE	-950	-250	70 x 80
851	DUM_VEE	-6850	-250	70 x 80	911	DUM_VEE	-850	-250	70 x 80
852	DUM_VEE	-6750	-250	70 x 80	912	DUM_VEE	-750	-250	70 x 80
853	DUM_VEE	-6650	-250	70 x 80	913	DUM_VEE	-650	-250	70 x 80
854	DUM_VEE	-6550	-250	70 x 80	914	DUM_VEE	-550	-250	70 x 80
855	DUM_VEE	-6450	-250	70 x 80	915	DUM_VEE	-450	-250	70 x 80
856	DUM_VEE	-6350	-250	70 x 80	916	DUM_VEE	-350	-250	70 x 80
857	DUM_VEE	-6250	-250	70 x 80	917	DUM_VEE	-250	-250	70 x 80
858	DUM_VEE	-6150	-250	70 x 80	918	DUM_VEE	-150	-250	70 x 80
859	DUM_VEE	-6050	-250	70 x 80	919	DUM_VEE	-50	-250	70 x 80
860	DUM_VEE	-5950	-250	70 x 80	920	DUM_VEE	50	-250	70 x 80
861	DUM_VEE	-5850	-250	70 x 80	921	DUM_VEE	150	-250	70 x 80
862	DUM_VEE	-5750	-250	70 x 80	922	DUM_VEE	250	-250	70 x 80
863	DUM_VEE	-5650	-250	70 x 80	923	DUM_VEE	350	-250	70 x 80
864	DUM_VEE	-5550	-250	70 x 80	924	DUM_VEE	450	-250	70 x 80
865	DUM_VEE	-5450	-250	70 x 80	925	DUM_VEE	550	-250	70 x 80
866	DUM_VEE	-5350	-250	70 x 80	926	DUM_VEE	650	-250	70 x 80
867	DUM_VEE	-5250	-250	70 x 80	927	DUM_VEE	750	-250	70 x 80
868	DUM_VEE	-5150	-250	70 x 80	928	DUM_VEE	850	-250	70 x 80
869	DUM_VEE	-5050	-250	70 x 80	929	DUM_VEE	950	-250	70 x 80
870	DUM_VEE	-4950	-250	70 x 80	930	DUM_VEE	1050	-250	70 x 80
871	DUM_VEE	-4850	-250	70 x 80	931	DUM_VEE	1150	-250	70 x 80
872	DUM_VEE	-4750	-250	70 x 80	932	DUM_VEE	1250	-250	70 x 80
873	DUM_VEE	-4650	-250	70 x 80	933	DUM_VEE	1350	-250	70 x 80
874	DUM_VEE	-4550	-250	70 x 80	934	DUM_VEE	1450	-250	70 x 80
875	DUM_VEE	-4450	-250	70 x 80	935	DUM_VEE	1550	-250	70 x 80
876	DUM_VEE	-4350	-250	70 x 80	936	DUM_VEE	1650	-250	70 x 80
877	DUM_VEE	-4250	-250	70 x 80	937	DUM_VEE	1750	-250	70 x 80
878	DUM_VEE	-4150	-250	70 x 80	938	DUM_VEE	1850	-250	70 x 80
879	DUM_VEE	-4050	-250	70 x 80	939	DUM_VEE	1950	-250	70 x 80
880	DUM_VEE	-3950	-250	70 x 80	940	DUM_VEE	2050	-250	70 x 80
881	DUM_VEE	-3850	-250	70 x 80	941	DUM_VEE	2150	-250	70 x 80
882	DUM_VEE	-3750	-250	70 x 80	942	DUM_VEE	2250	-250	70 x 80
883	DUM_VEE	-3650	-250	70 x 80	943	DUM_VEE	2350	-250	70 x 80
884	DUM_VEE	-3550	-250	70 x 80	944	DUM_VEE	2450	-250	70 x 80
885	DUM_VEE	-3450	-250	70 x 80	945	DUM_VEE	2550	-250	70 x 80
886	DUM_VEE	-3350	-250	70 x 80	946	DUM_VEE	2650	-250	70 x 80
887	DUM_VEE	-3250	-250	70 x 80	947	DUM_VEE	2750	-250	70 x 80
888	DUM_VEE	-3150	-250	70 x 80	948	DUM_VEE	2850	-250	70 x 80
889	DUM_VEE	-3050	-250	70 x 80	949	DUM_VEE	2950	-250	70 x 80
890	DUM_VEE	-2950	-250	70 x 80	950	DUM_VEE	3050	-250	70 x 80
891	DUM_VEE	-2850	-250	70 x 80	951	DUM_VEE	3150	-250	70 x 80
892	DUM_VEE	-2750	-250	70 x 80	952	DUM_VEE	3250	-250	70 x 80
893	DUM_VEE	-2650	-250	70 x 80	953	DUM_VEE	3350	-250	70 x 80
894	DUM_VEE	-2550	-250	70 x 80	954	DUM_VEE	3450	-250	70 x 80
895	DUM_VEE	-2450	-250	70 x 80	955	DUM_VEE	3550	-250	70 x 80
896	DUM_VEE	-2350	-250	70 x 80	956	DUM_VEE	3650	-250	70 x 80
897	DUM_VEE	-2250	-250	70 x 80	957	DUM_VEE	3750	-250	70 x 80
898	DUM_VEE	-2150	-250	70 x 80	958	DUM_VEE	3850	-250	70 x 80
899	DUM_VEE	-2050	-250	70 x 80	959	DUM_VEE	3950	-250	70 x 80
900	DUM_VEE	-1950	-250	70 x 80	960	DUM_VEE	4050	-250	70 x 80

No.	Name	X	Y	Bump size(μm)	No.	Name	X	Y	Bump size(μm)
961	DUM_VEE	4150	-250	70 x 80	998	DUM_VEE	7850	-250	70 x 80
962	DUM_VEE	4250	-250	70 x 80	999	DUM_VEE	7950	-250	70 x 80
963	DUM_VEE	4350	-250	70 x 80	1000	DUM_VEE	8050	-250	70 x 80
964	DUM_VEE	4450	-250	70 x 80	1001	DUM_VEE	8150	-250	70 x 80
965	DUM_VEE	4550	-250	70 x 80	1002	DUM_VEE	8250	-250	70 x 80
966	DUM_VEE	4650	-250	70 x 80	1003	DUM_VEE	8350	-250	70 x 80
967	DUM_VEE	4750	-250	70 x 80	1004	DUM_VEE	8450	-250	70 x 80
968	DUM_VEE	4850	-250	70 x 80	1005	DUM_VEE	8550	-250	70 x 80
969	DUM_VEE	4950	-250	70 x 80	1006	DUM_VEE	8650	-250	70 x 80
970	DUM_VEE	5050	-250	70 x 80	1007	DUM_VEE	8750	-250	70 x 80
971	DUM_VEE	5150	-250	70 x 80	1008	DUM_VEE	8850	-250	70 x 80
972	DUM_VEE	5250	-250	70 x 80	1009	MODE	9252.5	-270	55 x 40
973	DUM_VEE	5350	-250	70 x 80	1010	MODE	9327.5	-270	55 x 40
974	DUM_VEE	5450	-250	70 x 80	1011	MODE	9402.5	-270	55 x 40
975	DUM_VEE	5550	-250	70 x 80	1012	MODE	9477.5	-270	55 x 40
976	DUM_VEE	5650	-250	70 x 80	1013	VSS	9402.5	-210	55 x 40
977	DUM_VEE	5750	-250	70 x 80	1014	VSS	9477.5	-210	55 x 40
978	DUM_VEE	5850	-250	70 x 80	1015	VDD	9402.5	-150	55 x 40
979	DUM_VEE	5950	-250	70 x 80	1016	VDD	9477.5	-150	55 x 40
980	DUM_VEE	6050	-250	70 x 80	1017	VEE	9402.5	-90	55 x 40
981	DUM_VEE	6150	-250	70 x 80	1018	VEE	9477.5	-90	55 x 40
982	DUM_VEE	6250	-250	70 x 80	1019	VGH	9402.5	-30	55 x 40
983	DUM_VEE	6350	-250	70 x 80	1020	VGH	9477.5	-30	55 x 40
984	DUM_VEE	6450	-250	70 x 80	1021	SVT1	9402.5	30	55 x 40
985	DUM_VEE	6550	-250	70 x 80	1022	SVT1	9477.5	30	55 x 40
986	DUM_VEE	6650	-250	70 x 80	1023	PATH	9402.5	90	55 x 40
987	DUM_VEE	6750	-250	70 x 80	1024	PATH	9477.5	90	55 x 40
988	DUM_VEE	6850	-250	70 x 80	1025	CPV	9402.5	150	55 x 40
989	DUM_VEE	6950	-250	70 x 80	1026	CPV	9477.5	150	55 x 40
990	DUM_VEE	7050	-250	70 x 80	1027	L/R	9402.5	210	55 x 40
991	DUM_VEE	7150	-250	70 x 80	1028	L/R	9477.5	210	55 x 40
992	DUM_VEE	7250	-250	70 x 80	1029	OE	9477.5	270	55 x 40
993	DUM_VEE	7350	-250	70 x 80	1030	OE	9402.5	270	55 x 40
994	DUM_VEE	7450	-250	70 x 80	1031	OE	9327.5	270	55 x 40
995	DUM_VEE	7550	-250	70 x 80	1032	OE	9252.5	270	55 x 40
996	DUM_VEE	7650	-250	70 x 80	1033	/XAO	9167.5	270	55 x 40
997	DUM_VEE	7750	-250	70 x 80	1034	/XAO	9092.5	270	55 x 40

9.5 Alignment mark center coordinates

Name	X	Y
L_AMK	-9085	120
R_AMK	9085	120

10. Ordering Information

Part NO.	Package
HX8695-B000<u>PD</u><u>xxx</u>	PD: mean COG xxx: mean chip thickness (μm) , (default 400 μm)

11. Revision History

Version	Date	Description of Changes
01	2007/12/10	New setup