

# Kokomo Semiconductor

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GM Components Holdings, LLC

## FA08 Test Die

The Kokomo Semiconductor FA (Full Array) series of test die is designed to simulate the I/O of CMOS-like devices at various pad pitches. These test vehicles form the basis of a useful die standard for the evaluation of flip chip applications as a function of various bump, materials, or assembly variables. A limited subset of FA series die have been designed for wire bond evaluations. See "options available" for availability of wire bond compatible die.



The FA08 test chip is designed with I/O pads on 8 mil (204 micron) pitch located on the peripheral of the die. The 0.2-inch by 0.2-inch FA08 die contains 569 pads giving 284 daisy chain pairs.

### ➤ IC Fab Information

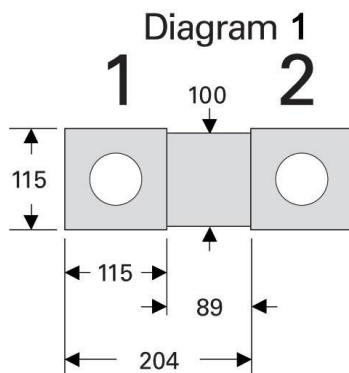
- Wafer size 5-inch (125 mm)
- Die thickness 600-650 microns
- Metal thickness 8.9k angstroms
- Metal composition Al/Cu/Si (98/1/1)
- Passivation thickness 8k angstroms
- Passivation type Nitride

### ➤ Die Sizes Available

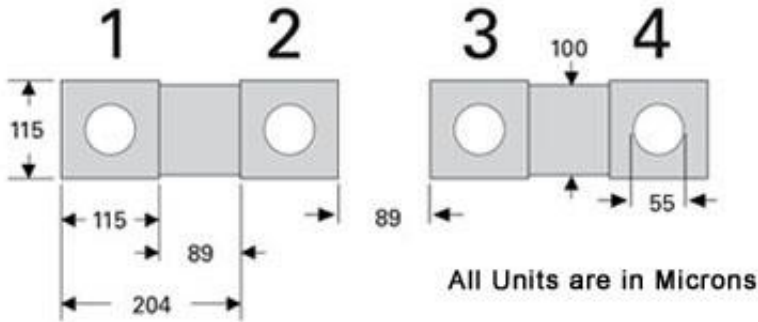
- .200" x .200"
- .400" x .400"
- .400" x .600"

### ➤ Options Available

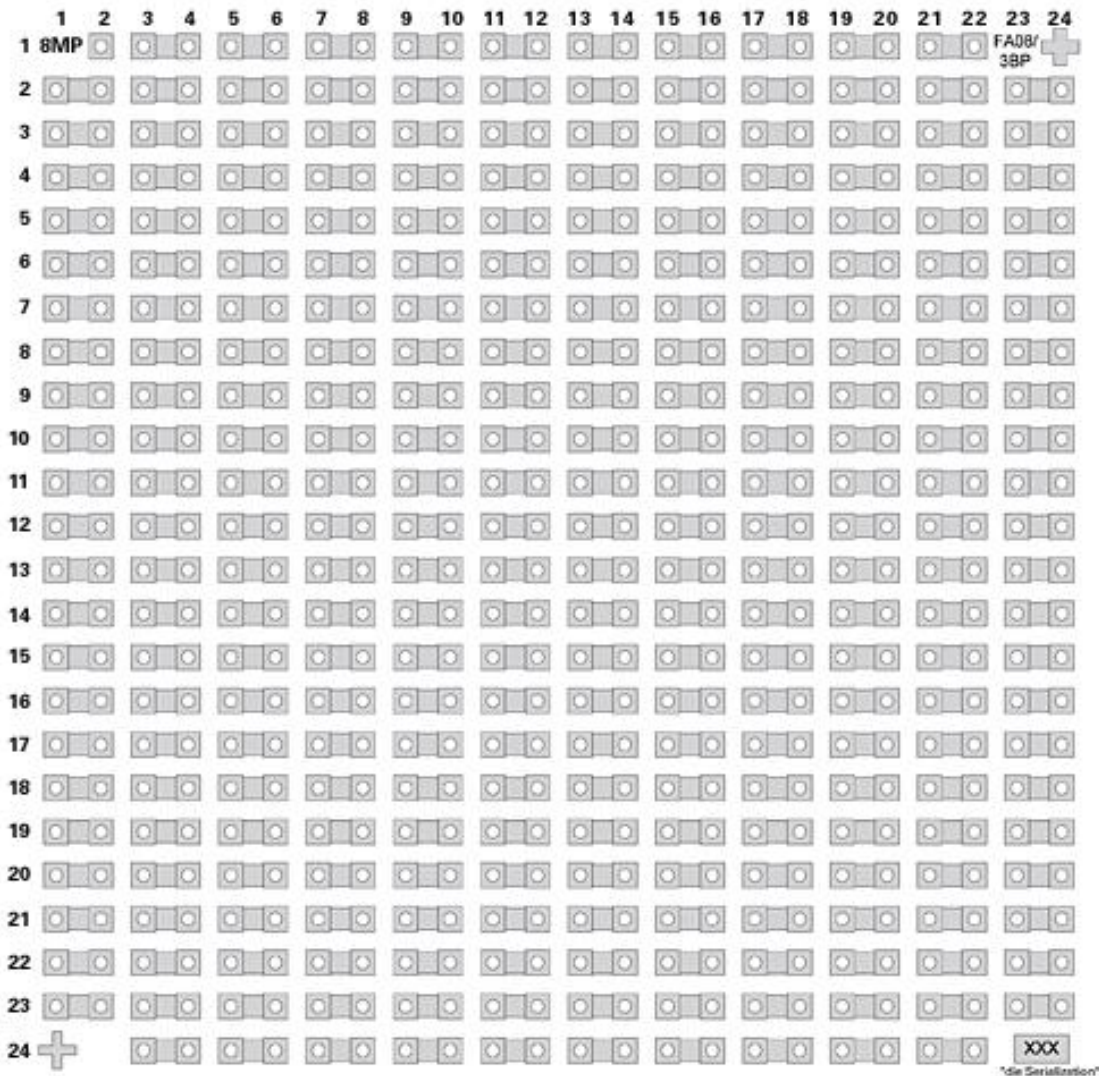
- 1) Five-inch wafer, no bumps, nitride passivation, 55-micron circular passivation openings (diagram 1)
- 2) Five-inch wafer, bumped, 63Sn/37Pb solder, UBM diameter 89 microns, bump height 95 microns (diagram 1)



## Daisy Chain Dimensional Information



## FA08 Test Die



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FA08 / X,Y Coordinates  
 .200-Inch X .200-Inch Die Sizes  
 (0,0) is located at the center of the die.

Microns				Microns			
PIN#	NAME	X	Y	PIN#	NAME	X	Y
1	Pin1	-1938	-2346	46	Pin46	-2142	-1938
2	Pin2	-1734	-2346	47	Pin47	-1938	-1938
3	Pin3	-1530	-2346	48	Pin48	-1734	-1938
4	Pin4	-1326	-2346	49	Pin49	-1530	-1938
5	Pin5	-1122	-2346	50	Pin50	-1326	-1938
6	Pin6	-918	-2346	51	Pin51	-1122	-1938
7	Pin7	-714	-2346	52	Pin52	-918	-1938
8	Pin8	-510	-2346	53	Pin53	-714	-1938
9	Pin9	-306	-2346	54	Pin54	-510	-1938
10	Pin10	-102	-2346	55	Pin55	-306	-1938
11	Pin11	102	-2346	56	Pin56	-102	-1938
12	Pin12	306	-2346	57	Pin57	102	-1938
13	Pin13	510	-2346	58	Pin58	306	-1938
14	Pin14	714	-2346	59	Pin59	510	-1938
15	Pin15	918	-2346	60	Pin60	714	-1938
16	Pin16	1122	-2346	61	Pin61	918	-1938
17	Pin17	1326	-2346	62	Pin62	1122	-1938
18	Pin18	1530	-2346	63	Pin63	1326	-1938
19	Pin19	1734	-2346	64	Pin64	1530	-1938
20	Pin20	1938	-2346	65	Pin65	1734	-1938
21	Pin21	-2346	-2142	66	Pin66	1938	-1938
22	Pin22	-2142	-2142	67	Pin67	2142	-1938
23	Pin23	-1938	-2142	68	Pin68	2346	-1938
24	Pin24	-1734	-2142	69	Pin69	-2346	-1734
25	Pin25	-1530	-2142	70	Pin70	-2142	-1734
26	Pin26	-1326	-2142	71	Pin71	-1938	-1734
27	Pin27	-1122	-2142	72	Pin72	-1734	-1734
28	Pin28	-918	-2142	73	Pin73	-1530	-1734
29	Pin29	-714	-2142	74	Pin74	-1326	-1734
30	Pin30	-510	-2142	75	Pin75	-1122	-1734
31	Pin31	-306	-2142	76	Pin76	-918	-1734
32	Pin32	-102	-2142	77	Pin77	-714	-1734
33	Pin33	102	-2142	78	Pin78	-510	-1734
34	Pin34	306	-2142	79	Pin79	-306	-1734
35	Pin35	510	-2142	80	Pin80	-102	-1734
36	Pin36	714	-2142	81	Pin81	102	-1734
37	Pin37	918	-2142	82	Pin82	306	-1734
38	Pin38	1122	-2142	83	Pin83	510	-1734
39	Pin39	1326	-2142	84	Pin84	714	-1734
40	Pin40	1530	-2142	85	Pin85	918	-1734
41	Pin41	1734	-2142	86	Pin86	1122	-1734
42	Pin42	1938	-2142	87	Pin87	1326	-1734
43	Pin43	2142	-2142	88	Pin88	1530	-1734
44	Pin44	2346	-2142	89	Pin89	1734	-1734
45	Pin45	-2346	-1938	90	Pin90	1938	-1734

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Microns				Microns			
PIN#	NAME	X	Y	PIN#	NAME	X	Y
91	Pin91	2142	-1734	139	Pin139	2142	-1326
92	Pin92	2346	-1734	140	Pin140	2346	-1326
93	Pin93	-2346	-1530	141	Pin141	-2346	-1122
94	Pin94	-2142	-1530	142	Pin142	-2142	-1122
95	Pin95	-1938	-1530	143	Pin143	-1938	-1122
96	Pin96	-1734	-1530	144	Pin144	-1734	-1122
97	Pin97	-1530	-1530	145	Pin145	-1530	-1122
98	Pin98	-1326	-1530	146	Pin146	-1326	-1122
99	Pin99	-1122	-1530	147	Pin147	-1122	-1122
100	Pin100	-918	-1530	148	Pin148	-918	-1122
101	Pin101	-714	-1530	149	Pin149	-714	-1122
102	Pin102	-510	-1530	150	Pin150	-510	-1122
103	Pin103	-306	-1530	151	Pin151	-306	-1122
104	Pin104	-102	-1530	152	Pin152	-102	-1122
105	Pin105	102	-1530	153	Pin153	102	-1122
106	Pin106	306	-1530	154	Pin154	306	-1122
107	Pin107	510	-1530	155	Pin155	510	-1122
108	Pin108	714	-1530	156	Pin156	714	-1122
109	Pin109	918	-1530	157	Pin157	918	-1122
110	Pin110	1122	-1530	158	Pin158	1122	-1122
111	Pin111	1326	-1530	159	Pin159	1326	-1122
112	Pin112	1530	-1530	160	Pin160	1530	-1122
113	Pin113	1734	-1530	161	Pin161	1734	-1122
114	Pin114	1938	-1530	162	Pin162	1938	-1122
115	Pin115	2142	-1530	163	Pin163	2142	-1122
116	Pin116	2346	-1530	164	Pin164	2346	-1122
117	Pin117	-2346	-1326	165	Pin165	-2346	-918
118	Pin118	-2142	-1326	166	Pin166	-2142	-918
119	Pin119	-1938	-1326	167	Pin167	-1938	-918
120	Pin120	-1734	-1326	168	Pin168	-1734	-918
121	Pin121	-1530	-1326	169	Pin169	-1530	-918
122	Pin122	-1326	-1326	170	Pin170	-1326	-918
123	Pin123	-1122	-1326	171	Pin171	-1122	-918
124	Pin124	-918	-1326	172	Pin172	-918	-918
125	Pin125	-714	-1326	173	Pin173	-714	-918
126	Pin126	-510	-1326	174	Pin174	-510	-918
127	Pin127	-306	-1326	175	Pin175	-306	-918
128	Pin128	-102	-1326	176	Pin176	-102	-918
129	Pin129	102	-1326	177	Pin177	102	-918
130	Pin130	306	-1326	178	Pin178	306	-918
131	Pin131	510	-1326	179	Pin179	510	-918
132	Pin132	714	-1326	180	Pin180	714	-918
133	Pin133	918	-1326	181	Pin181	918	-918
134	Pin134	1122	-1326	182	Pin182	1122	-918
135	Pin135	1326	-1326	183	Pin183	1326	-918
136	Pin136	1530	-1326	184	Pin184	1530	-918
137	Pin137	1734	-1326	185	Pin185	1734	-918
138	Pin138	1938	-1326	186	Pin186	1938	-918

Microns				Microns			
PIN#	NAME	X	Y	PIN#	NAME	X	Y
187	Pin187	2142	-918	235	Pin235	2142	-510
188	Pin188	2346	-918	236	Pin236	2346	-510
189	Pin189	-2346	-714	237	Pin237	-2346	-306
190	Pin190	-2142	-714	238	Pin238	-2142	-306
191	Pin191	-1938	-714	239	Pin239	-1938	-306
192	Pin192	-1734	-714	240	Pin240	-1734	-306
193	Pin193	-1530	-714	241	Pin241	-1530	-306
194	Pin194	-1326	-714	242	Pin242	-1326	-306

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195	Pin195	-1122	-714	243	Pin243	-1122	-306
196	Pin196	-918	-714	244	Pin244	-918	-306
197	Pin197	-714	-714	245	Pin245	-714	-306
198	Pin198	-510	-714	246	Pin246	-510	-306
199	Pin199	-306	-714	247	Pin247	-306	-306
200	Pin200	-102	-714	248	Pin248	-102	-306
201	Pin201	102	-714	249	Pin249	102	-306
202	Pin202	306	-714	250	Pin250	306	-306
203	Pin203	510	-714	251	Pin251	510	-306
204	Pin204	714	-714	252	Pin252	714	-306
205	Pin205	918	-714	253	Pin253	918	-306
206	Pin206	1122	-714	254	Pin254	1122	-306
207	Pin207	1326	-714	255	Pin255	1326	-306
208	Pin208	1530	-714	256	Pin256	1530	-306
209	Pin209	1734	-714	257	Pin257	1734	-306
210	Pin210	1938	-714	258	Pin258	1938	-306
211	Pin211	2142	-714	259	Pin259	2142	-306
212	Pin212	2346	-714	260	Pin260	2346	-306
213	Pin213	-2346	-510	261	Pin261	-2346	-102
214	Pin214	-2142	-510	262	Pin262	-2142	-102
215	Pin215	-1938	-510	263	Pin263	-1938	-102
216	Pin216	-1734	-510	264	Pin264	-1734	-102
217	Pin217	-1530	-510	265	Pin265	-1530	-102
218	Pin218	-1326	-510	266	Pin266	-1326	-102
219	Pin219	-1122	-510	267	Pin267	-1122	-102
220	Pin220	-918	-510	268	Pin268	-918	-102
221	Pin221	-714	-510	269	Pin269	-714	-102
222	Pin222	-510	-510	270	Pin270	-510	-102
223	Pin223	-306	-510	271	Pin271	-306	-102
224	Pin224	-102	-510	272	Pin272	-102	-102
225	Pin225	102	-510	273	Pin273	102	-102
226	Pin226	306	-510	274	Pin274	306	-102
227	Pin227	510	-510	275	Pin275	510	-102
228	Pin228	714	-510	276	Pin276	714	-102
229	Pin229	918	-510	277	Pin277	918	-102
230	Pin230	1122	-510	278	Pin278	1122	-102
231	Pin231	1326	-510	279	Pin279	1326	-102
232	Pin232	1530	-510	280	Pin280	1530	-102
233	Pin233	1734	-510	281	Pin281	1734	-102
234	Pin234	1938	-510	282	Pin282	1938	-102

Microns				Microns			
PIN#	NAME	X	Y	PIN#	NAME	X	Y
283	Pin283	2142	-102	331	Pin331	2142	306
284	Pin284	2346	-102	332	Pin332	2346	306
285	Pin285	-2346	102	333	Pin333	-2346	510
286	Pin286	-2142	102	334	Pin334	-2142	510
287	Pin287	-1938	102	335	Pin335	-1938	510
288	Pin288	-1734	102	336	Pin336	-1734	510
289	Pin289	-1530	102	337	Pin337	-1530	510
290	Pin290	-1326	102	338	Pin338	-1326	510
291	Pin291	-1122	102	339	Pin339	-1122	510
292	Pin292	-918	102	340	Pin340	-918	510
293	Pin293	-714	102	341	Pin341	-714	510
294	Pin294	-510	102	342	Pin342	-510	510
295	Pin295	-306	102	343	Pin343	-306	510
296	Pin296	-102	102	344	Pin344	-102	510
297	Pin297	102	102	345	Pin345	102	510
298	Pin298	306	102	346	Pin346	306	510
299	Pin299	510	102	347	Pin347	510	510
300	Pin300	714	102	348	Pin348	714	510
301	Pin301	918	102	349	Pin349	918	510

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302	Pin302	1122	102	350	Pin350	1122	510
303	Pin303	1326	102	351	Pin351	1326	510
304	Pin304	1530	102	352	Pin352	1530	510
305	Pin305	1734	102	353	Pin353	1734	510
306	Pin306	1938	102	354	Pin354	1938	510
307	Pin307	2142	102	355	Pin355	2142	510
308	Pin308	2346	102	356	Pin356	2346	510
309	Pin309	-2346	306	357	Pin357	-2346	714
310	Pin310	-2142	306	358	Pin358	-2142	714
311	Pin311	-1938	306	359	Pin359	-1938	714
312	Pin312	-1734	306	360	Pin360	-1734	714
313	Pin313	-1530	306	361	Pin361	-1530	714
314	Pin314	-1326	306	362	Pin362	-1326	714
315	Pin315	-1122	306	363	Pin363	-1122	714
316	Pin316	-918	306	364	Pin364	-918	714
317	Pin317	-714	306	365	Pin365	-714	714
318	Pin318	-510	306	366	Pin366	-510	714
319	Pin319	-306	306	367	Pin367	-306	714
320	Pin320	-102	306	368	Pin368	-102	714
321	Pin321	102	306	369	Pin369	102	714
322	Pin322	306	306	370	Pin370	306	714
323	Pin323	510	306	371	Pin371	510	714
324	Pin324	714	306	372	Pin372	714	714
325	Pin325	918	306	373	Pin373	918	714
326	Pin326	1122	306	374	Pin374	1122	714
327	Pin327	1326	306	375	Pin375	1326	714
328	Pin328	1530	306	376	Pin376	1530	714
329	Pin329	1734	306	377	Pin377	1734	714
330	Pin330	1938	306	378	Pin378	1938	714

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Microns				Microns			
PIN#	NAME	X	Y	PIN#	NAME	X	Y
379	Pin379	2142	714	427	Pin427	2142	1122
380	Pin380	2346	714	428	Pin428	2346	1122
381	Pin381	-2346	918	429	Pin429	-2346	1326
382	Pin382	-2142	918	430	Pin430	-2142	1326
383	Pin383	-1938	918	431	Pin431	-1938	1326
384	Pin384	-1734	918	432	Pin432	-1734	1326
385	Pin385	-1530	918	433	Pin433	-1530	1326
386	Pin386	-1326	918	434	Pin434	-1326	1326
387	Pin387	-1122	918	435	Pin435	-1122	1326
388	Pin388	-918	918	436	Pin436	-918	1326
389	Pin389	-714	918	437	Pin437	-714	1326
390	Pin390	-510	918	438	Pin438	-510	1326
391	Pin391	-306	918	439	Pin439	-306	1326
392	Pin392	-102	918	440	Pin440	-102	1326
393	Pin393	102	918	441	Pin441	102	1326
394	Pin394	306	918	442	Pin442	306	1326
395	Pin395	510	918	443	Pin443	510	1326
396	Pin396	714	918	444	Pin444	714	1326
397	Pin397	918	918	445	Pin445	918	1326
398	Pin398	1122	918	446	Pin446	1122	1326
399	Pin399	1326	918	447	Pin447	1326	1326
400	Pin400	1530	918	448	Pin448	1530	1326
401	Pin401	1734	918	449	Pin449	1734	1326
402	Pin402	1938	918	450	Pin450	1938	1326
403	Pin403	2142	918	451	Pin451	2142	1326
404	Pin404	2346	918	452	Pin452	2346	1326
405	Pin405	-2346	1122	453	Pin453	-2346	1530
406	Pin406	-2142	1122	454	Pin454	-2142	1530
407	Pin407	-1938	1122	455	Pin455	-1938	1530
408	Pin408	-1734	1122	456	Pin456	-1734	1530
409	Pin409	-1530	1122	457	Pin457	-1530	1530
410	Pin410	-1326	1122	458	Pin458	-1326	1530
411	Pin411	-1122	1122	459	Pin459	-1122	1530
412	Pin412	-918	1122	460	Pin460	-918	1530
413	Pin413	-714	1122	461	Pin461	-714	1530
414	Pin414	-510	1122	462	Pin462	-510	1530
415	Pin415	-306	1122	463	Pin463	-306	1530
416	Pin416	-102	1122	464	Pin464	-102	1530
417	Pin417	102	1122	465	Pin465	102	1530
418	Pin418	306	1122	466	Pin466	306	1530
419	Pin419	510	1122	467	Pin467	510	1530
420	Pin420	714	1122	468	Pin468	714	1530
421	Pin421	918	1122	469	Pin469	918	1530
422	Pin422	1122	1122	470	Pin470	1122	1530
423	Pin423	1326	1122	471	Pin471	1326	1530
424	Pin424	1530	1122	472	Pin472	1530	1530
425	Pin425	1734	1122	473	Pin473	1734	1530
426	Pin426	1938	1122	474	Pin474	1938	1530

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Microns				Microns			
PIN#	NAME	X	Y	PIN#	NAME	X	Y
475	Pin475	2142	1530	523	Pin523	2142	1938
476	Pin476	2346	1530	524	Pin524	2346	1938
477	Pin477	-2346	1734	525	Pin525	-2346	2142
478	Pin478	-2142	1734	526	Pin526	-2142	2142
479	Pin479	-1938	1734	527	Pin527	-1938	2142
480	Pin480	-1734	1734	528	Pin528	-1734	2142
481	Pin481	-1530	1734	529	Pin529	-1530	2142
482	Pin482	-1326	1734	530	Pin530	-1326	2142
483	Pin483	-1122	1734	531	Pin531	-1122	2142
484	Pin484	-918	1734	532	Pin532	-918	2142
485	Pin485	-714	1734	533	Pin533	-714	2142
486	Pin486	-510	1734	534	Pin534	-510	2142
487	Pin487	-306	1734	535	Pin535	-306	2142
488	Pin488	-102	1734	536	Pin536	-102	2142
489	Pin489	102	1734	537	Pin537	102	2142
490	Pin490	306	1734	538	Pin538	306	2142
491	Pin491	510	1734	539	Pin539	510	2142
492	Pin492	714	1734	540	Pin540	714	2142
493	Pin493	918	1734	541	Pin541	918	2142
494	Pin494	1122	1734	542	Pin542	1122	2142
495	Pin495	1326	1734	543	Pin543	1326	2142
496	Pin496	1530	1734	544	Pin544	1530	2142
497	Pin497	1734	1734	545	Pin545	1734	2142
498	Pin498	1938	1734	546	Pin546	1938	2142
499	Pin499	2142	1734	547	Pin547	2142	2142
500	Pin500	2346	1734	548	Pin548	2346	2142
501	Pin501	-2346	1938	549	Pin549	-2142	2346
502	Pin502	-2142	1938	550	Pin550	-1938	2346
503	Pin503	-1938	1938	551	Pin551	-1734	2346
504	Pin504	-1734	1938	552	Pin552	-1530	2346
505	Pin505	-1530	1938	553	Pin553	-1326	2346
506	Pin506	-1326	1938	554	Pin554	-1122	2346
507	Pin507	-1122	1938	555	Pin555	-918	2346
508	Pin508	-918	1938	556	Pin556	-714	2346
509	Pin509	-714	1938	557	Pin557	-510	2346
510	Pin510	-510	1938	558	Pin558	-306	2346
511	Pin511	-306	1938	559	Pin559	-102	2346
512	Pin512	-102	1938	560	Pin560	102	2346
513	Pin513	102	1938	561	Pin561	306	2346
514	Pin514	306	1938	562	Pin562	510	2346
515	Pin515	510	1938	563	Pin563	714	2346
516	Pin516	714	1938	564	Pin564	918	2346
517	Pin517	918	1938	565	Pin565	1122	2346
518	Pin518	1122	1938	566	Pin566	1326	2346
519	Pin519	1326	1938	567	Pin567	1530	2346
520	Pin520	1530	1938	568	Pin568	1734	2346
521	Pin521	1734	1938	569	Pin569	1938	2346
522	Pin522	1938	1938				

The test die offered on this web site are to be used to characterize assembly processes and materials. Applying the data from the test die to a functional system is the responsibility of the user. Kokomo Semiconductor makes no warranty, express or implied including the implied warranties of merchantability and fitness for a particular purpose, that the user's system designed using that data will perform as intended by the user.