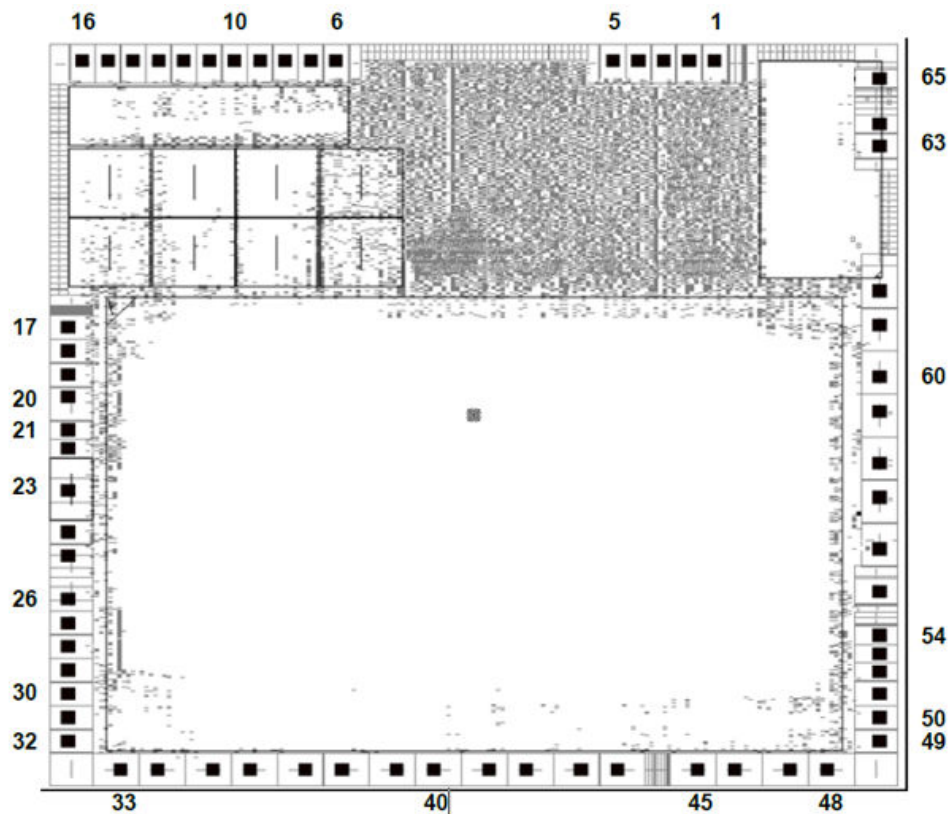


## Microcontroller Die Specification Sheet

### Die Layout Diagram and Pad Location

The following figure shows the ATmega128L/SAD0 (Revision U) die layout diagram.

**Figure 1. ATmega128L/SAD0 (Revision U) Die Layout Diagram**



The following table lists the ATmega128L/SAD0 microcontroller die specifications.

**Table 1. Die Specifications**

Description	Measurement
<b>Wafer Dimensions</b>	
Diameter	150 mm
Thickness	475 $\mu\text{m}$
Backside	SI
<b>Die Dimensions</b>	
Die length x width	4382 $\mu\text{m}$ x 4113 $\mu\text{m}$

.....continued	
Description	Measurement
Die length x width w/scribe line	4459 $\mu\text{m}$ x 4190 $\mu\text{m}$
<b>Die Substrate</b>	
Material	Silicon
<b>Glassivation</b>	
Material	HDP Oxide/Oxynitride
Thickness	1100 nm/1000 nm
<b>Top Metal</b>	
Material	Al 0.5%Cu + Ti + TiN ARC
Thickness	800 nm + 60 nm TiN ARC
<b>Bond Pad</b>	
Material	AlCu
Opening/Pitch	66 $\mu\text{m}$ x 66 $\mu\text{m}$
<b>Scribe Line</b>	
Dimensions	77 $\mu\text{m}$ x 77 $\mu\text{m}$

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### 1. Pad Names and Coordinates

The following table lists the pad names and the coordinates.

**Table 1-1. Pad Names and Coordinates**

Number	X Coordinate	Y Coordinate	Pad Name
1	1238.65	1953.14	pen_bar
2	1107.47	1953.14	pe0
3	977.97	1953.14	pe1
4	846.79	1953.14	pe2
5	717.29	1953.14	pe3
6	-710.64	1953.14	pe4
7	-840.14	1953.14	pe5
8	-971.32	1953.14	pe6
9	-1100.82	1953.14	pe7
10	-1232	1953.14	pb0
11	-1361.5	1953.14	pb1
12	-1492.68	1953.14	pb2
13	-1622.18	1953.14	pb3
14	-1753.36	1953.14	pb4
15	-1882.86	1953.14	pb5
16	-2014.04	1953.14	pb6
17	-2087.47	484.54	pb7
18	-2087.47	353.36	pg3
19	-2087.47	223.86	pg4
20	-2087.47	100.415	reset_bar
21	-2087.47	-81.795	vdd
22	-2087.47	-181.545	gnd
23	-2087.47	-413.21	xtal2
24	-2087.47	-644.14	xtal1
25	-2087.47	-773.64	pd0
26	-2087.47	-1013.88	pd1
27	-2087.47	-1143.38	pd2
28	-2087.47	-1274.56	pd3
29	-2087.47	-1404.06	pd4
30	-2087.47	-1535.24	pd5
31	-2087.47	-1664.74	pd6
32	-2087.47	-1795.92	pd7

# ATmega128L/SAD0

## Pad Names and Coordinates

.....continued			
Number	X Coordinate	Y Coordinate	Pad Name
33	-1816.01	-1953.14	pg0
34	-1626.03	-1953.14	pg1
35	-1342.53	-1953.14	pc0
36	-1152.55	-1953.14	pc1
37	-869.05	-1953.14	pc2
38	-679.07	-1953.14	pc3
39	-395.57	-1953.14	pc4
40	-205.59	-1953.14	pc5
41	77.91	-1953.14	pc6
42	267.89	-1953.14	pc7
43	551.39	-1953.14	pg2
44	741.37	-1953.14	pa7
45	1152.55	-1953.14	pa6
46	1342.53	-1953.14	pa5
47	1626.03	-1953.14	pa4
48	1816.01	-1953.14	pa3
49	2087.47	-1795.92	pa2
50	2087.47	-1664.74	pa1
51	2087.47	-1535.24	pa0
52	2087.47	-1411.795	vdd
53	2087.47	-1312.045	gnd
54	2087.47	-1212.295	vpp
55	2087.47	-970.01	pf7
56	2087.47	-736.26	pf6
57	2087.47	-452.76	pf5
58	2087.47	-262.78	pf4
59	2087.47	20.72	pf3
60	2087.47	210.7	pf2
61	2087.47	494.2	pf1
62	2087.47	684.18	pf0
63	2087.47	1481.2	AREF
64	2087.47	1604.645	gnd
65	2087.47	1853.355	vdd

# ATmega128L/SAD0

## Pad Names and Coordinates

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**Notes:**

1. All dimensions are in  $\mu\text{m}$  unless specified.
2. Origin is at center of the die.

## 2. Revision History

Revision	Date	Description
A	June 2020	This is the initial version of this document.

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