

### Key Features Overview

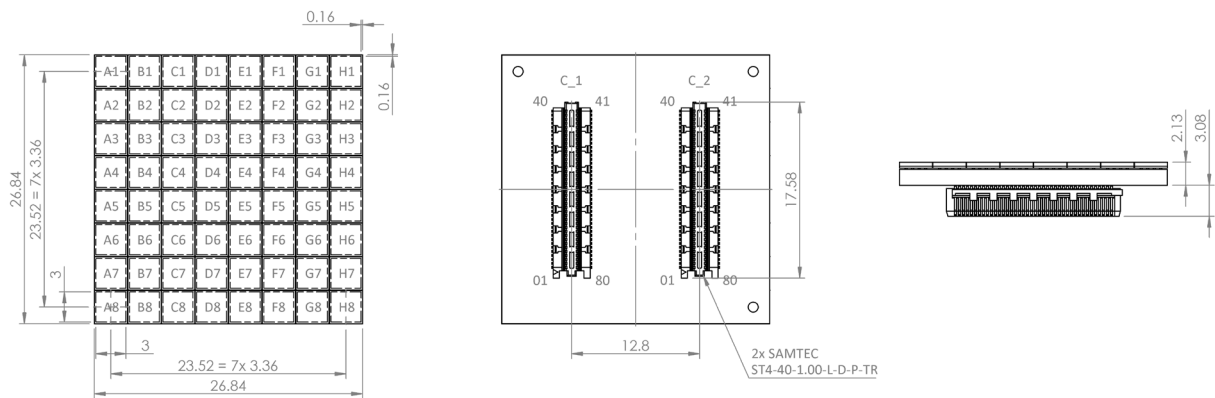
- 8 x 8 Array, 3 x 3 mm<sup>2</sup> Pixel Size
- 3.36 mm Pixel Pitch
- Array Fill Factor 80%, 4-side seamless tileable
- Replacement for PMTs, APDs and PIN Diodes
- Low Voltage Operation (< 40 V)
- Excellent Uniformity of V<sub>BD</sub> with ± 125 mV

### Application Examples

- Positron Emission Tomography
- Gamma and Compton Cameras
- Optical Sorting
- Scintillator Readout
- Handhelds
- Hazard & Threat Detection
- Medical Imaging
- High Energy Physics & Research
- Analytical Instrumentation

### Mechanical Specifications

#### PA33xx-WL-0808 Dimensions



General Tolerances ± 0.1 mm unless otherwise noted

### General Parameters and Order Information

SiPM Type*	Active Area of SiPM Pixel [mm <sup>2</sup> ]	Microcell Size of SiPM Pixel [μm]	SiPM Pixel Pitch in Array [mm]	Array Dimensions [mm <sup>3</sup> ]	Order-Code
PM3315-WL	3.0 x 3.0	25	3.36	26.835 x 26.835 x 5.4	PA3315-WL-A0-0808
PM3335-WL	3.0 x 3.0	35	3.36	26.835 x 26.835 x 5.4	PA3335-WL-A0-0808
PM3347-WL	3.0 x 3.0	47	3.36	26.835 x 26.835 x 5.4	PA3347-WL-A0-0808

\* Full SiPM specification can be found in the corresponding WL Series SiPM Datasheet  
<https://www.ketek.net/wp-content/uploads/KETEK-PM33xx-WL-A0-Datasheet.pdf>

### Main Characteristics

Parameter	Typ.	Unit
Breakdown Voltage ( $V_{BD}$ ) at 21°C	min. 28.75, max. 30.25	V
Breakdown Voltage Variation per Array	±0.125	V
Recommended Overvoltage ( $V_{OV}$ )	1.0 – 6.5 (max. 7.5)	V
Temperature Dependency of $V_{BD}$	22.0	mV/K
Temperature Dependency of Gain	0.4% @ 5.0 $V_{OV}$	1/K
Operating Temperature Range	-40 to + 60	°C
Reliability Classification	MSL1	
Index of Refraction of Glass Entrance Window	1.52 @ 430 nm	
Surface Roughness of the Array	< 10	µm (sigma)

### Pin Mapping

Connector C_1			
SAMTEC ST4-40-1.00-L-D-P-TR*			
Pin	SiPM Pixel	Pin	SiPM Pixel
1	Cathode (G8)	41	Cathode (F1)
2	Cathode (H8)	42	Cathode (E1)
3	NC**	43	NC
4	Anode (G8)	44	Anode (F1)
5	Anode (H8)	45	Anode (E1)
6	Anode (H7)	46	Anode (E2)
7	Anode (G7)	47	Anode (F2)
8	NC	48	NC
9	Cathode (H7)	49	Cathode (E2)
10	Cathode (G7)	50	Cathode (F2)
11	Cathode (G6)	51	Cathode (F3)
12	Cathode (H6)	52	Cathode (E3)
13	NC	53	NC
14	Anode (G6)	54	Anode (F3)
15	Anode (H6)	55	Anode (E3)
16	Anode (H5)	56	Anode (E4)
17	Anode (G5)	57	Anode (F4)
18	NC	58	NC
19	Cathode (H5)	59	Cathode (E4)
20	Cathode (G5)	60	Cathode (F4)
21	Cathode (G4)	61	Cathode (F5)
22	Cathode (H4)	62	Cathode (E5)
23	NC	63	NC
24	Anode (G4)	64	Anode (F5)
25	Anode (H4)	65	Anode (E5)
26	Anode (H3)	66	Anode (E6)
27	Anode (G3)	67	Anode (F6)
28	NC	68	NC
29	Cathode (H3)	69	Cathode (E6)
30	Cathode (G3)	70	Cathode (F6)
31	Cathode (G2)	71	Cathode (F7)
32	Cathode (H2)	72	Cathode (E7)
33	NC	73	NC
34	Anode (G2)	74	Anode (F7)
35	Anode (H2)	75	Anode (E7)
36	Anode (H1)	76	Anode (E8)
37	Anode (G1)	77	Anode (F8)
38	NC	78	NC
39	Cathode (H1)	79	Cathode (E8)
40	Cathode (G1)	80	Cathode (F8)

Connector C_2			
SAMTEC ST4-40-1.00-L-D-P-TR*			
Pin	SiPM Pixel	Pin	SiPM Pixel
1	Cathode (C8)	41	Cathode (B1)
2	Cathode (D8)	42	Cathode (A1)
3	NC	43	NC
4	Anode (C8)	44	Anode (B1)
5	Anode (D8)	45	Anode (A1)
6	Anode (D7)	46	Anode (A2)
7	Anode (C7)	47	Anode (B2)
8	NC	48	NC
9	Cathode (D7)	49	Cathode (A2)
10	Cathode (C7)	50	Cathode (B2)
11	Cathode (C6)	51	Cathode (B3)
12	Cathode (D6)	52	Cathode (A3)
13	NC	53	NC
14	Anode (C6)	54	Anode (B3)
15	Anode (D6)	55	Anode (A3)
16	Anode (D5)	56	Anode (A4)
17	Anode (C5)	57	Anode (B4)
18	NC	58	NC
19	Cathode (D5)	59	Cathode (A4)
20	Cathode (C5)	60	Cathode (B4)
21	Cathode (C4)	61	Cathode (B5)
22	Cathode (D4)	62	Cathode (A5)
23	NC	63	NC
24	Anode (C4)	64	Anode (B5)
25	Anode (D4)	65	Anode (A5)
26	Anode (D3)	66	Anode (A6)
27	Anode (C3)	67	Anode (B6)
28	NC	68	NC
29	Cathode (D3)	69	Cathode (A6)
30	Cathode (C3)	70	Cathode (B6)
31	Cathode (C2)	71	Cathode (B7)
32	Cathode (D2)	72	Cathode (A7)
33	NC	73	NC
34	Anode (C2)	74	Anode (B7)
35	Anode (D2)	75	Anode (A7)
36	Anode (D1)	76	Anode (A8)
37	Anode (C1)	77	Anode (B8)
38	NC	78	NC
39	Cathode (D1)	79	Cathode (A8)
40	Cathode (C1)	80	Cathode (B8)

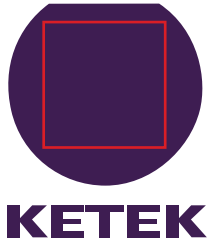
\* SAMTEC ST4-40-1.00-L-D-P-TR mates with SAMTEC SS4-40-3.00-L-D-K-TR, Mated Stacking Height 4 mm

\*\* NC = Not Connected

# Product Data Sheet

## SiPM – Silicon Photomultiplier

PA33xx-WL-0808



### Revision History

Revision and Date	Changes
Rev. 2021-A Feb 2021	Initial Release

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