

# SiPM S17624-0510WM

## ■ Features

- Low operation voltage  $V_{br} = 25V$ ,  $V_{op} = V_{br} + 10V$
- Photon detection efficiency 6% @ 905nm
- Photon detection efficiency 33% @ 650nm
- Low crosstalk probability 0.5%
- Smaller after pulse probability <1%



## ■ Structure

- Micro lens
- Surface mount type 2.5 x 3.0 x 1.3 mm
- Active area size 0.5 x 0.5 mm 2500 pixels
- Pixel pitch 10  $\mu m$

## ■ Application

- Distance measurement (LiDAR)

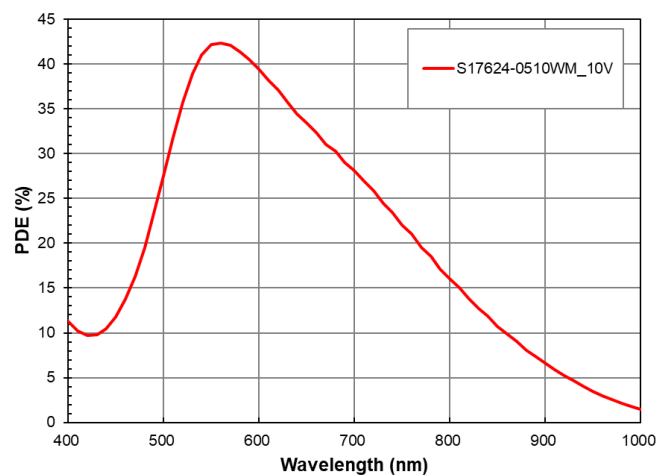
## ■ Specifications (Ta = 25°C, unless otherwise noted)

| Parameter                      | Symbol      | Conditions                 |         | Typ.              | Unit |
|--------------------------------|-------------|----------------------------|---------|-------------------|------|
| Photon detection Efficiency *1 | PDE         | $\lambda = 905 \text{ nm}$ | VBR+10V | 6                 | %    |
|                                |             | $\lambda = 650 \text{ nm}$ | VBR+10V | 33                | %    |
| Breakdown voltage              | $V_{BR}$    |                            |         | 25                | V    |
| Recommended operating voltage  | $V_{op}$    |                            |         | VBR + 10          | V    |
| Dark current                   | $I_d$       |                            | VBR+10V | 20                | nA   |
| Dark current rate              | DCR         |                            | VBR+10V | 0.2               | Mcps |
| Crosstalk probability          | Pct         |                            | VBR+10V | 0.5               | %    |
| After pulse probability        | -           |                            | VBR+10V | < 1               | %    |
| Gain                           | M           |                            | VBR+10V | $3.0 \times 10^5$ | -    |
| Recovery time (slow pulse)     | $T_{recov}$ | 90% to 10%                 | VBR+10V | 20                | nsec |

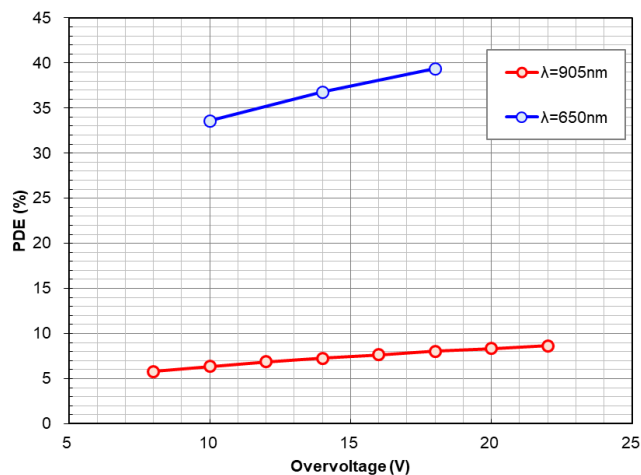
\*1 PDE does not include crosstalk and after pulse.

\*2 at 0.5p.e. threshold

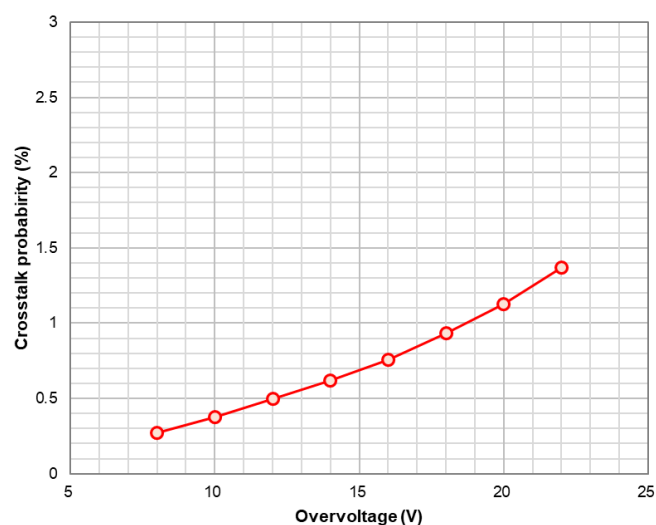
## ■ PDE – Wavelength (Vbr+10V) (Ta=25°C)



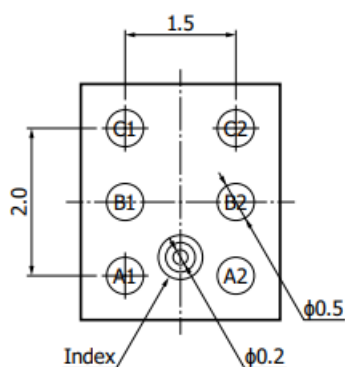
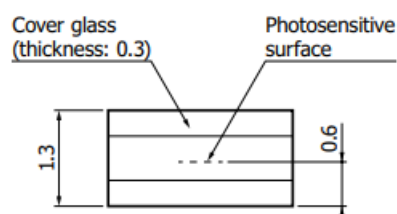
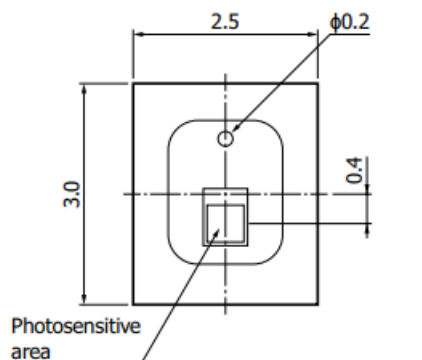
## ■ PDE – Overvoltage (Ta = 25°C)



## ■ Crosstalk – Overvoltage (Ta = 25°C)



## ■ Dimension outline (unit: mm)



| Pad No. | Electrode |
|---------|-----------|
| A1      | Anode     |
| A2      | Cathode   |
| B1      | Anode     |
| B2      | Anode     |
| C1      | Anode     |
| C2      | Anode     |

Tolerance unless otherwise noted:  $\pm 0.2$  mm

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