

Type No. : S8168

Ratings and characteristics  
Absolute maximum ratings

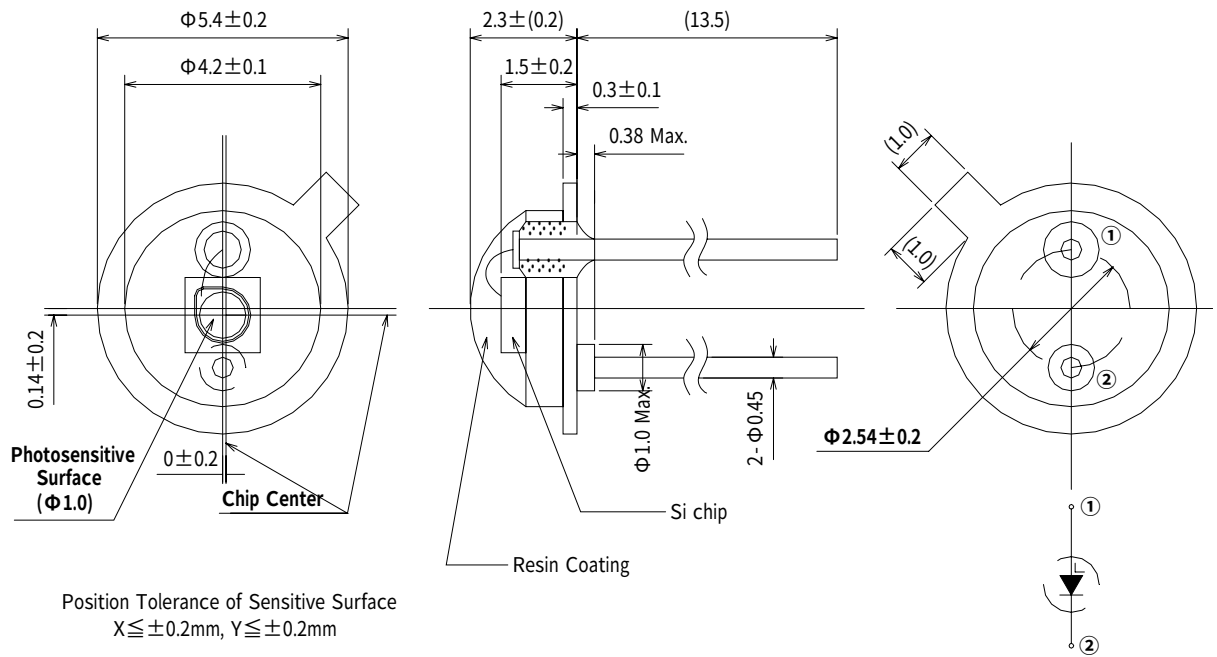
| Parameter             | Symbol | Value      | Unit | Remark |
|-----------------------|--------|------------|------|--------|
| Operating temperature | Topr   | -20 to +60 | °C   |        |
| Storage temperature   | Tstg   | -20 to +80 | °C   |        |

Electrical and optical characteristics (Ta=25 °C)

| Parameter                                  | Symbol          | Condition                                                            | Min. | Typ.        | Max. | Unit |
|--------------------------------------------|-----------------|----------------------------------------------------------------------|------|-------------|------|------|
| Spectral response range                    | $\lambda$       | M=1                                                                  | --   | 320 to 1000 | --   | nm   |
| Peak sensitivity wavelength                | $\lambda_p$     | M=50                                                                 | --   | 620         | --   | nm   |
| Photo sensitivity                          | S               | M=1, $\lambda=620\text{nm}$                                          | --   | 0.42        | --   | A/W  |
| Quantum efficiency                         | QE              | M=1, $\lambda=620\text{nm}$                                          | --   | 80          | --   | %    |
| Breakdown voltage                          | V <sub>BR</sub> | I <sub>D</sub> =100 $\mu$ A                                          | --   | 150         | 200  | V    |
| Temperature coefficient of V <sub>BR</sub> | $\gamma$        |                                                                      | --   | 0.14        | --   | V/°C |
| Dark current                               | I <sub>D</sub>  | M=50                                                                 | --   | 1           | 10   | nA   |
| Cut-off frequency                          | f <sub>c</sub>  | M=50, $\lambda=650\text{nm}$ ,<br>R <sub>L</sub> =50 $\Omega$ , -3dB | --   | 250         | --   | MHz  |
| Terminal capacitance                       | C <sub>t</sub>  | M=50, f=1MHz                                                         | --   | 15          | --   | pF   |
| Excess noise figure                        | x               | M=50, $\lambda=650\text{nm}$                                         | --   | 0.28        | --   |      |
| Gain                                       | M               | $\lambda=650\text{nm}$                                               | --   | 50          | --   |      |

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Dimensional outline ( Unit : mm )



## Packing Specification

Each APD should be packed in a single plastic bag. On each bag a label should be posted specifying the following.

- (1) Type No.
- (2) Breakdown voltage of the detector
- (3) Operation voltage for M=50
- (4) Dark current at M=50