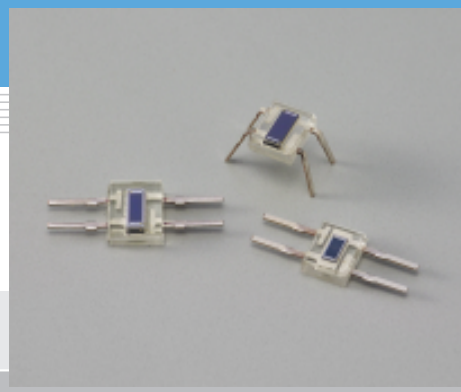


# Si PIN photodiode S2721-02, S3096-02, S4204

## Dual-element, plastic package photodiode



S2721-02, S3096-02 and S4204 are dual-element Si PIN photodiodes molded into small plastic packages. Having high sensitivity and low noise, these photodiodes have very low cross-talk between the elements.

Custom devices (with different element shapes, number of elements, characteristics and packages) are also available to meet your specific needs. Please feel free to contact our sales office.

### Features

- High sensitivity
- Uniform element sensitivity
- Low cross-talk
- Low noise

### Applications

- CD, DVD, MO (Magneto-Optical disc) signal pickups
- Laser beam alignment
- Various position detection applications

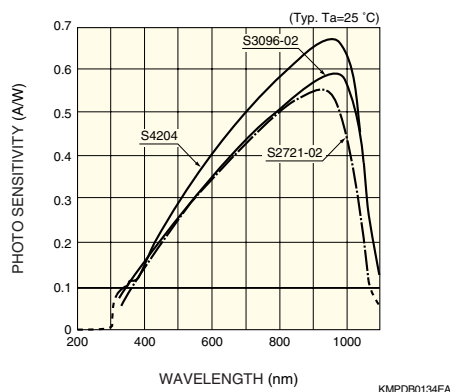
### ■ General ratings / Absolute maximum ratings

| Type No. | Dimensional outline | Active area<br>(mm)  | Element gap<br>(μm) | Absolute maximum ratings                      |                                                   |                                                 |
|----------|---------------------|----------------------|---------------------|-----------------------------------------------|---------------------------------------------------|-------------------------------------------------|
|          |                     |                      |                     | Reverse voltage<br>V <sub>R</sub> Max.<br>(V) | Operating temperature<br>T <sub>opr</sub><br>(°C) | Storage temperature<br>T <sub>stg</sub><br>(°C) |
| S2721-02 | ①                   | 1 × 3 / 2 elements   | 5                   | 20                                            | -25 to +85                                        | -40 to +100                                     |
| S3096-02 | ②                   | 1.2 × 3 / 2 elements | 30                  |                                               |                                                   |                                                 |
| S4204    | ③                   | 1 × 2 / 2 elements   | 20                  |                                               |                                                   |                                                 |

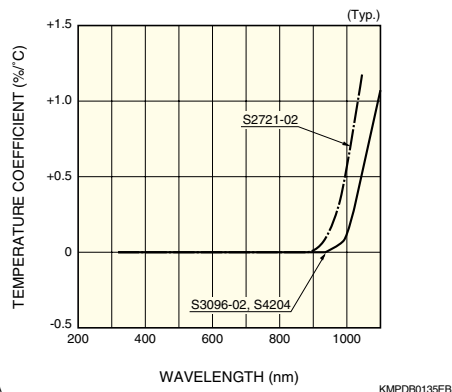
### ■ Electrical and optical characteristics (Typ. T<sub>a</sub>=25 °C, unless otherwise noted, per 1 element)

| Type No. | Spectral response range<br>λ<br>(nm) | Peak sensitivity wavelength<br>λ <sub>p</sub><br>(nm) | Photo sensitivity<br>λ=λ <sub>p</sub><br>(A/W) | Dark current<br>I <sub>D</sub><br>V <sub>R</sub> =10 V<br>all elements |              | Temp. coefficient of<br>I <sub>D</sub><br>T <sub>CID</sub><br>(times/°C) | Cut-off frequency<br>f <sub>c</sub><br>V <sub>R</sub> =10 V<br>R <sub>L</sub> =50 Ω<br>λ=780 nm<br>-3 dB<br>(MHz) | Terminal capacitance<br>C <sub>t</sub><br>V <sub>R</sub> =10 V<br>f=1 MHz<br>(pF) | NEP<br>V <sub>R</sub> =10 V<br>(W/Hz <sup>1/2</sup> ) |
|----------|--------------------------------------|-------------------------------------------------------|------------------------------------------------|------------------------------------------------------------------------|--------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------|
|          |                                      |                                                       |                                                | Typ.<br>(nA)                                                           | Max.<br>(nA) |                                                                          |                                                                                                                   |                                                                                   |                                                       |
| S2721-02 | 320 to 1060                          | 900                                                   | 0.56                                           | 0.1                                                                    | 2.0          | 1.15                                                                     | 50                                                                                                                | 5                                                                                 | 6.4 × 10 <sup>-15</sup>                               |
| S3096-02 | 320 to 1100                          | 960                                                   | 0.58                                           | 0.05                                                                   | 0.5          |                                                                          | 25                                                                                                                |                                                                                   | 7.2 × 10 <sup>-15</sup>                               |
| S4204    |                                      |                                                       | 0.65                                           | 0.1                                                                    | 1.0          |                                                                          | 30                                                                                                                | 3                                                                                 | 8.7 × 10 <sup>-15</sup>                               |

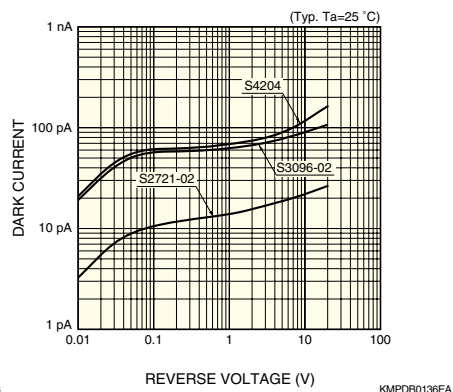
## Spectral response



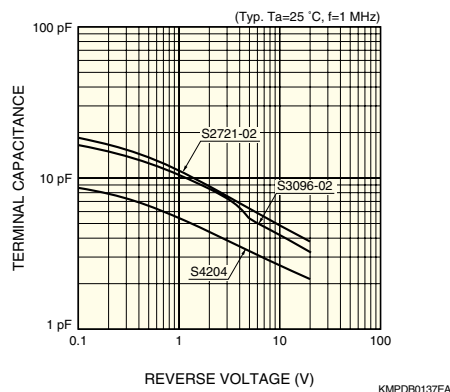
## Photo sensitivity temperature characteristics



## Dark current vs. reverse voltage

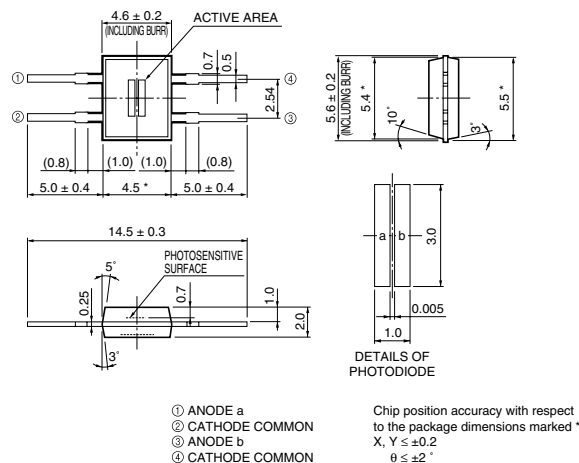


## Terminal capacitance vs. reverse voltage

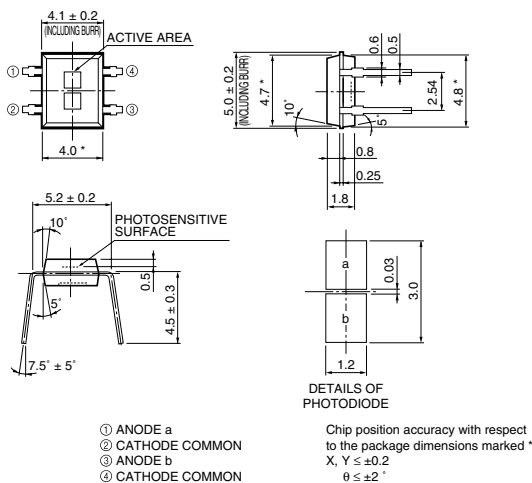


## Dimensional outlines (unit: mm, tolerance unless otherwise noted: $\pm 0.1$ )

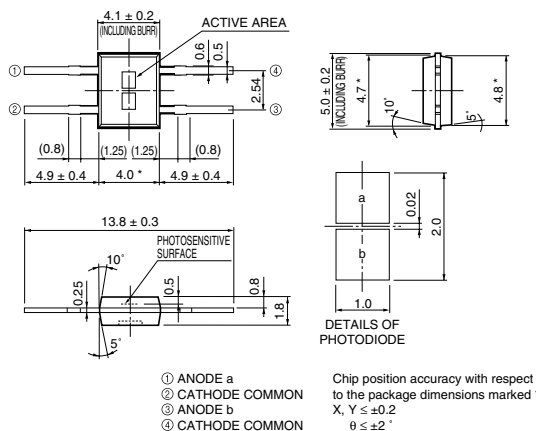
### ① S2721-02



### ② S3096-02



### ③ S4204



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