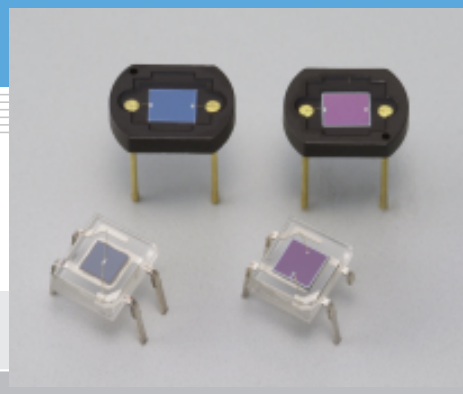


# Si photodiode S6865/S7123 series

## High reliability photodiode



S6865/S7123 series operate with high reliability over a wide temperature range (-40 to +100 °C). S6865 series has spectral response from the visible to infrared range, while S7123 series has spectral response in the visible range.

### Features

- Two package types provided  
S6865-01, S7123-01: plastic package  
S6865-02, S7123-02: ceramic package
- Choice of two spectral response characteristics  
S6865 series: visible to infrared range (320 to 1100 nm)  
S7123 series: visible range (320 to 840 nm)

### Applications

- Automobile sensors (for auto light control, display light dimmer)
- Copiers
- Cameras
- Other visible light sensors

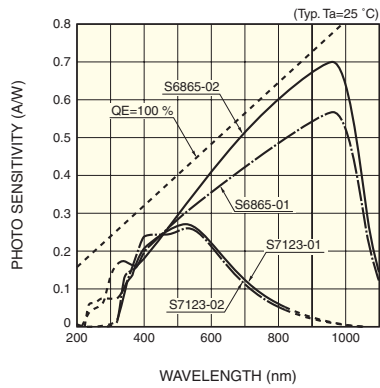
### General ratings / Absolute maximum ratings

| Type No. | Dimensional outline | Active area size<br>(mm) | Effective active area<br>(mm <sup>2</sup> ) | Absolute maximum ratings          |                                       |                                     |
|----------|---------------------|--------------------------|---------------------------------------------|-----------------------------------|---------------------------------------|-------------------------------------|
|          |                     |                          |                                             | Reverse voltage<br>VR Max.<br>(V) | Operating temperature<br>Topr<br>(°C) | Storage temperature<br>Tstg<br>(°C) |
| S6865-01 | ①                   | 2 × 2                    | 4                                           | 10                                | -40 to +100                           | -40 to +125                         |
| S6865-02 | ②                   | 2.4 × 2.8                | 6.7                                         |                                   |                                       | -55 to +125                         |
| S7123-01 | ③                   | 2.46 × 2.46              | 6.0                                         |                                   |                                       | -40 to +125                         |
| S7123-02 | ②                   | 2.4 × 2.8                | 6.7                                         |                                   |                                       | -55 to +125                         |

### Electrical and optical characteristics (Typ. Ta=25 °C, unless otherwise noted)

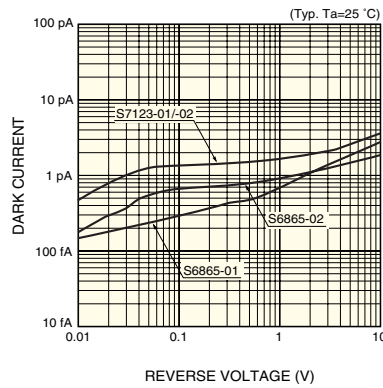
| Type No. | Spectral response range<br>$\lambda$<br>(nm) | Peak sensitivity wavelength<br>$\lambda_p$<br>(nm) | Photo sensitivity<br>S<br>$\lambda = \lambda_p$<br>(A/W) | Short circuit current<br>Isc<br>100 lx<br>2856 K<br>( $\mu$ A) | Dark current<br>ID<br>VR=1 V<br>Max.<br>(pA) | Rise time<br>tr<br>VR=0 V<br>RL=1 k $\Omega$<br>( $\mu$ s) | Terminal capacitance<br>Ct<br>VR=0 V<br>f=10 kHz<br>(nF) |
|----------|----------------------------------------------|----------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------|------------------------------------------------------------|----------------------------------------------------------|
| S6865-01 | 320 to 1100                                  | 960                                                | 0.58                                                     | 4                                                              | 10                                           | 2                                                          | 0.5                                                      |
| S6865-02 |                                              |                                                    | 0.7                                                      | 6.5                                                            |                                              | 2.5                                                        | 0.7                                                      |
| S7123-01 | 320 to 840                                   | 540                                                | 0.3                                                      | 0.9                                                            | 100                                          | 10                                                         | 3                                                        |
| S7123-02 |                                              |                                                    |                                                          |                                                                |                                              |                                                            |                                                          |

## ■ Spectral response



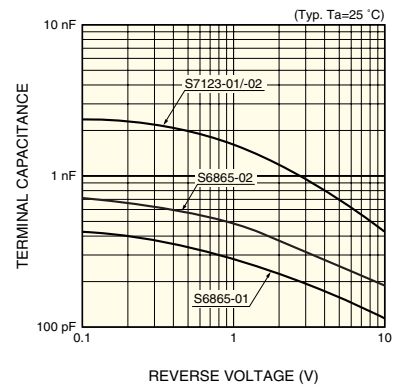
KSPDB0134EB

## ■ Dark current vs. reverse voltage



KSPDB0168EA

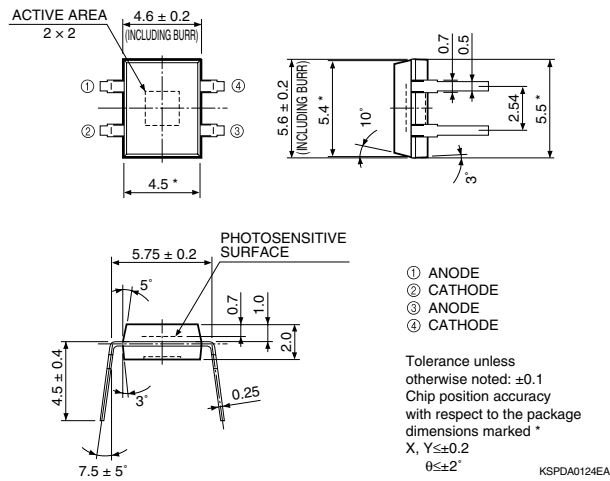
## ■ Terminal capacitance vs. reverse voltage



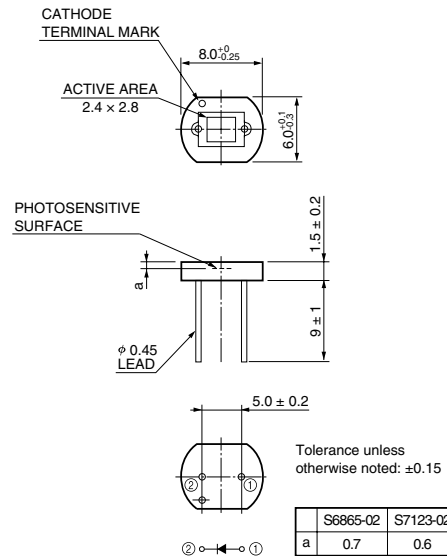
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## ■ Dimensional outline (unit: mm)

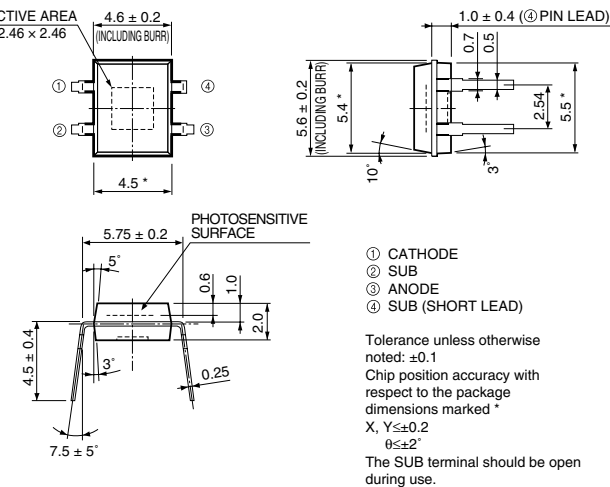
### ① S6865-01



### ② S6865-02, S7123-02



### ③ S7123-01



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