

# Silicon Photodiodes KPD1803K

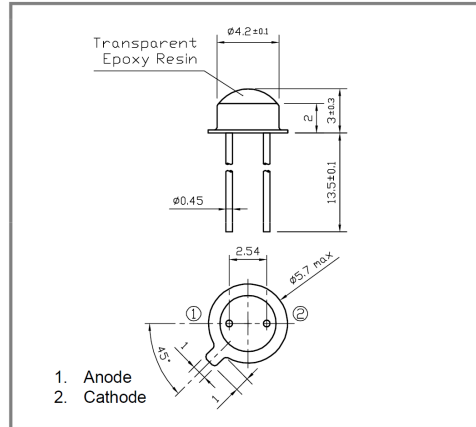
## ■ Features

- Transparent epoxy lens
- Broad directivity

## ■ Applications

- Optical switches
- Optical encoders
- Remote control
- Sensors and industrial controls

Dimensions (unit: mm)



## ■ Specifications

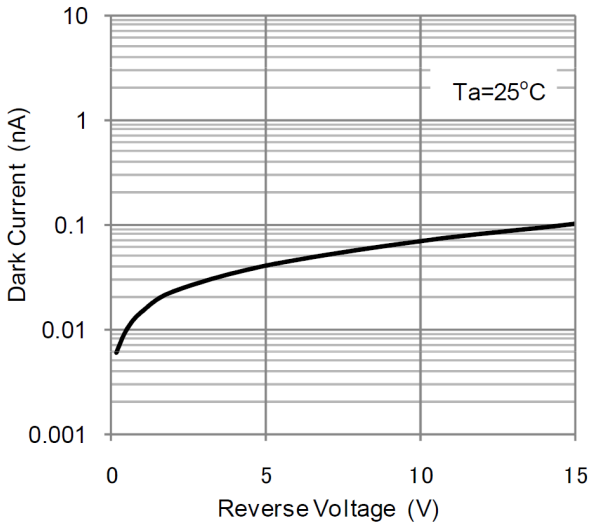
### ▼ Absolute Maximum Ratings

| Parameter             | Symbol    | Value       | Unit | Conditions             |
|-----------------------|-----------|-------------|------|------------------------|
| Reverse voltage       | $V_R$     | 10          | V    |                        |
| Reverse Current       | $I_R$     | 0.5         | mA   |                        |
| Forward current       | $I_F$     | 10          | mA   |                        |
| Operating temperature | $T_{opr}$ | -20 to +100 |      | Avoid dew condensation |
| Storage temperature   | $T_{stg}$ | -30 to +100 |      | Avoid dew condensation |

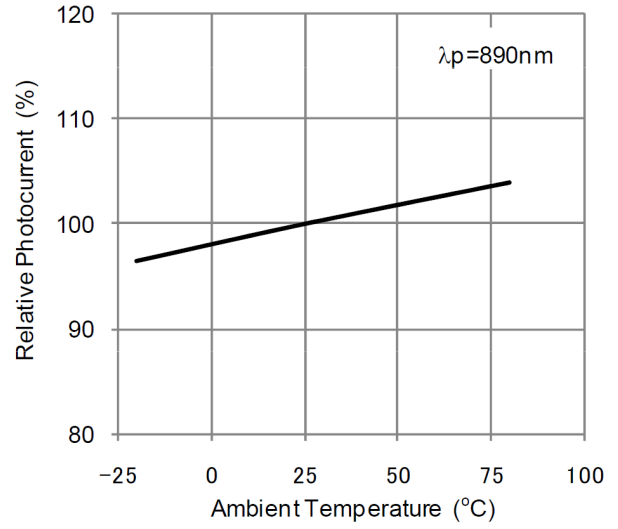
### ▼ Electrical and Optical characteristics

| Parameter             | Symbol    | Value |           |      | Unit            | Conditions        |
|-----------------------|-----------|-------|-----------|------|-----------------|-------------------|
|                       |           | Min.  | Typ.      | Max  |                 |                   |
| Sensitive size        | S         |       | 1.30x1.60 |      | mm <sup>2</sup> |                   |
| Operating voltage     | $V_{opr}$ |       |           | 5    | V               |                   |
| Sensitive wavelength  |           | 400   | 840( p)   | 1100 | nm              | p=Peak wavelength |
| Open circuit voltage  | $V_{op}$  |       | 450       |      | mV              | 1000lx @2856k     |
| Short Circuit Current | $I_{sh}$  |       | 24        |      | μA              | 1000lx @2856k     |
| Dark current          | $I_D$     |       |           | 1    | nA              | $V_R=5V$          |
| Terminal capacitance  | $C_t$     |       | 250       |      | pF              | $V_R=0V, f=1MHz$  |
| Half angle            | 2         |       | 120       |      | deg             |                   |

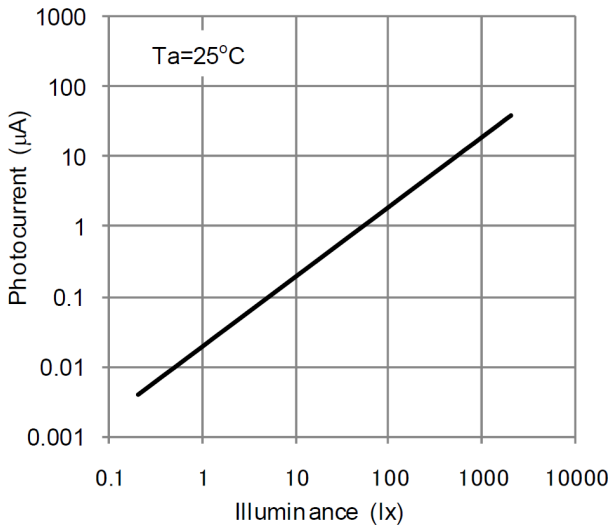
**Dark Current - Reverse Voltage**



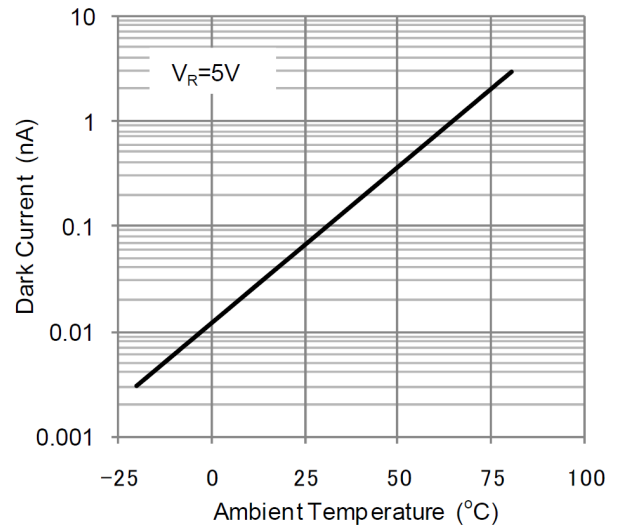
**Photocurrent - Ambient Temperature**



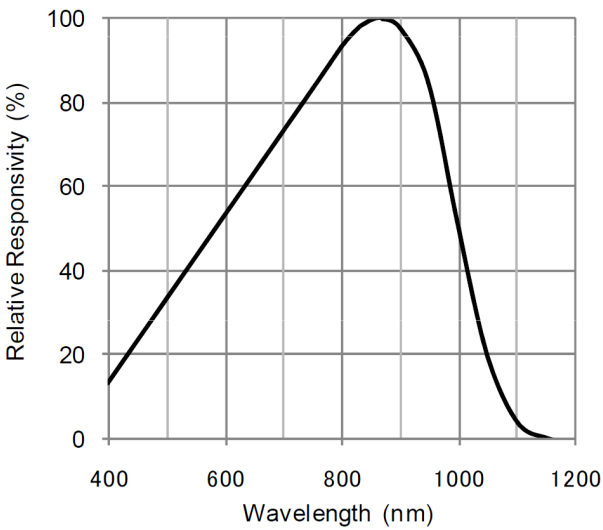
**Photocurrent - Illuminance**



**Dark Current - Ambient Temperature**



**Spectral Responsivity**



**Directivity**

