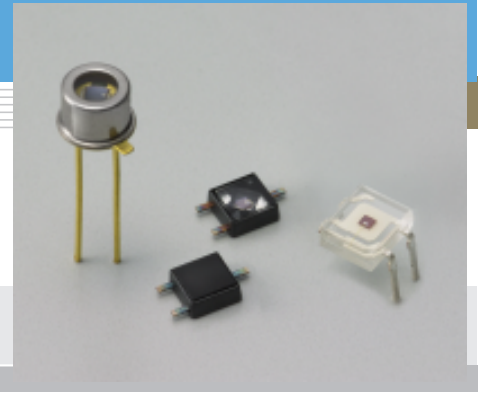


# GaAsP photodiode

## Diffusion type

Short-wavelength type photodiode



### Features

- Low dark current
- Narrow spectral response range

### Applications

- Analytical instruments
- UV detection

#### ■ General ratings / Absolute maximum ratings

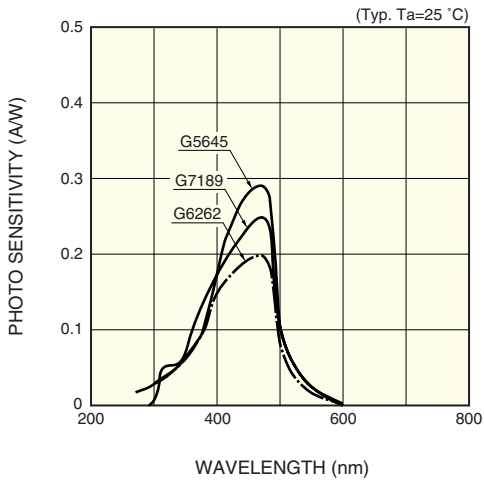
| Type No. | Dimensional outline/<br>Window material * | Package | Active area size<br>(mm) | Effective active area<br>(mm <sup>2</sup> ) | Absolute maximum ratings                      |   |   |
|----------|---|---------|--------------------------|---|---|---|---|
|          |   |         |                          |   | 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) |
| G5645    | ①/K                                       | TO-18   | 0.8 × 0.8                | 0.58  | 5   | -30 to +80  | -40 to +85                                      |
| G5842    | ②   | Plastic |                          |   |   |   |   |
| G6262    | ②   | Plastic |                          |   |   |   |   |
| G7189    | ③/R                                       | Plastic |                          |   |   |   |   |

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

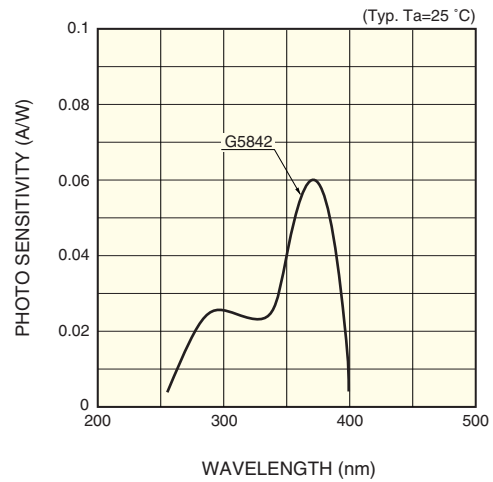
| Type No. | Spectral response range<br>λ<br>(nm) | Peak sensitivity wavelength<br>λ <sub>p</sub><br>(nm) | Photo sensitivity S<br>(A/W) |                   | Short circuit current I <sub>sc</sub><br>1000 lx |              | Dark current I <sub>D</sub><br>V <sub>R</sub> =5 V<br>Max.<br>(pA) | Temp. coefficient of I <sub>D</sub><br>T <sub>CID</sub><br>(times/°C) | Rise time t <sub>f</sub><br>V <sub>R</sub> =0 V<br>R <sub>L</sub> =1 kΩ<br>(μs) | Terminal capacitance C <sub>t</sub><br>V <sub>R</sub> =0 V<br>f=10 kHz<br>(pF) | Shunt resistance R <sub>sh</sub><br>V <sub>R</sub> =10 mV |              | NEP<br>(W/Hz <sup>1/2</sup> ) |
|----------|--------------------------------------|---|------------------------------|-------------------|--|--------------|--|---|---|--|---|--------------|-------------------------------|
|          |                                      |   | λ <sub>p</sub>               | GaP LED<br>560 nm | Min.<br>(nA)                                     | Typ.<br>(nA) |  |   |   |  | Min.<br>(GΩ)  | Typ.<br>(GΩ) |                               |
|          |                                      |   |                              |                   |  |              |  |   |   |  |   |              |                               |
| G5645    | 300 to 580                           | 470   | 0.28                         | 0.05              | 60   | 90           | 50   | 1.07  | 3   | 80   | 10  | 80           | 2.3 × 10 <sup>-15</sup>       |
| G5842    | 260 to 400                           | 370   | 0.06                         | -                 | -  | 2            |  |   |   |  |   |              | 7.6 × 10 <sup>-15</sup>       |
| G6262    | 280 to 580                           | 470   | 0.2                          | 0.05              | 45   | 65           |  |   |   |  |   |              | 2.3 × 10 <sup>-15</sup>       |
| G7189    | 300 to 580                           | 470   | 0.25                         | 0.02              | 45   | 65           |  |   |   |  |   |              | 2.3 × 10 <sup>-15</sup>       |

\* Window material K: borosilicate glass, R: resin coating

## Spectral response

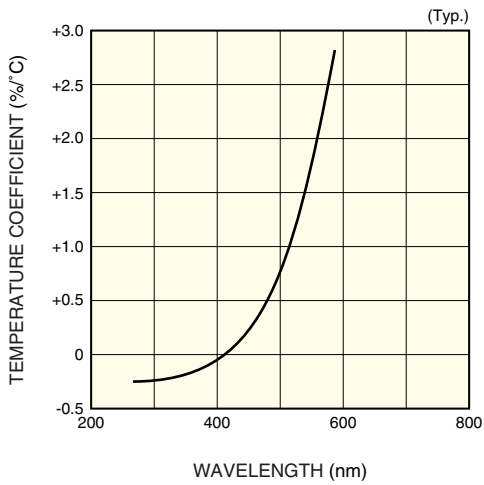


KGPDB0029EA



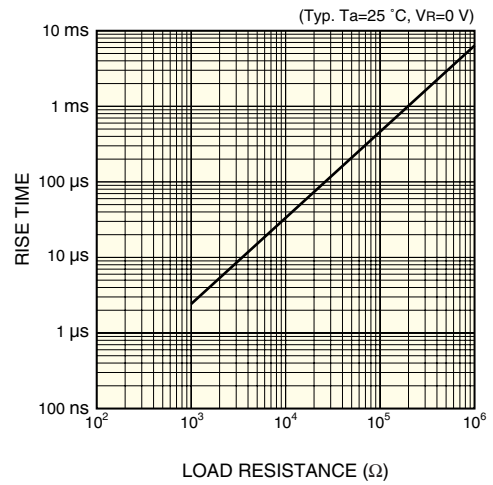
KGPDB0001EC

## Photo sensitivity temperature characteristic



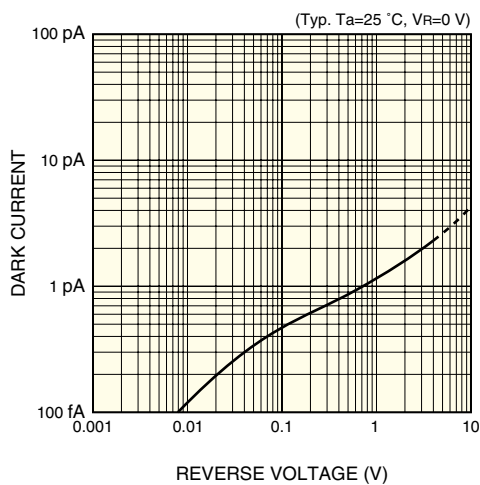
KGPDB0030EA

## Rise time vs. load resistance



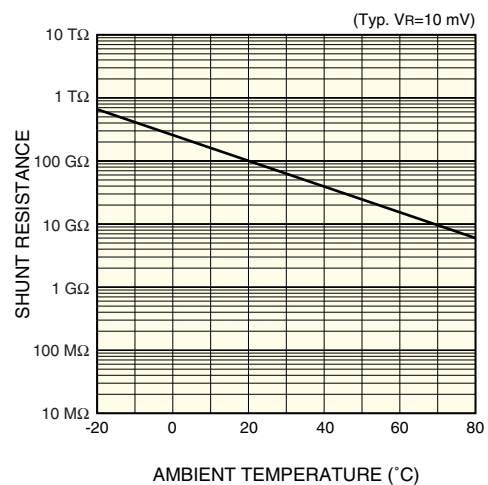
KGPDB0031EA

## Dark current vs. reverse voltage



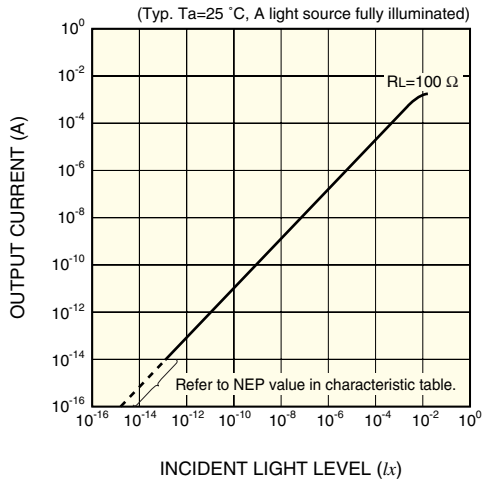
KGPDB0032EA

## Shunt resistance vs. ambient temperature



KGPDB0033EA

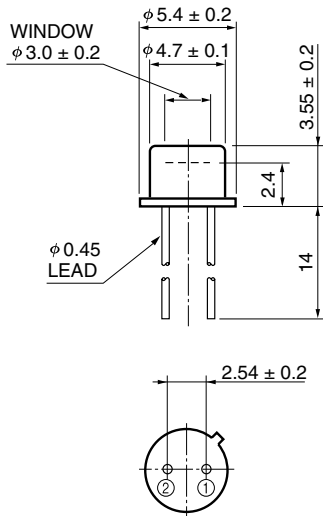
■ Short circuit current linearity



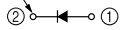
KGPD80008EA

■ Dimensional outlines (unit: mm)

① G5645



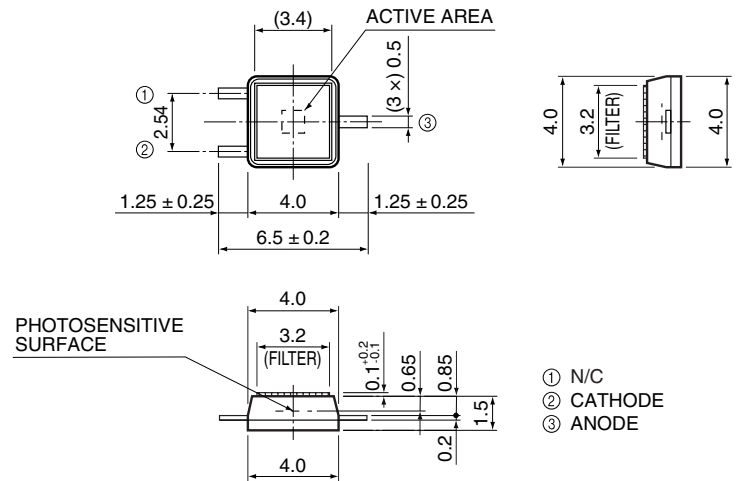
CONNECTED TO CASE



Borosilicate glass window may extend a maximum of 0.1 mm beyond the upper surface of the cap.

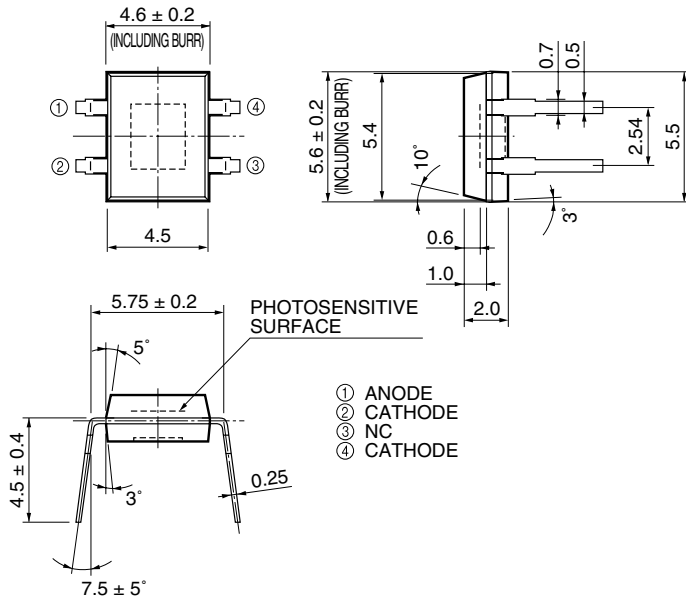
KGPD40012EA

② G5842, G6262



KGPD40004EA

③ G7189



KGPD40003EA

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HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Hamamatsu City, 435-8558 Japan, Telephone: (81) 053-434-3311, Fax: (81) 053-434-5184, <http://www.hamamatsu.com>

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, P.O.Box 6910, Bridgewater, N.J. 08807-0910, U.S.A., Telephone: (1) 908-231-0960, Fax: (1) 908-231-1218

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49) 08152-3750, Fax: (49) 08152-2658

France: Hamamatsu Photonics France S.A.R.L.: 8, Rue du Saule Trapu, Parc du Moulin de Massy, 91882 Massy Cedex, France, Telephone: 33-(1) 69 53 71 00, Fax: 33-(1) 69 53 71 10

United Kingdom: Hamamatsu Photonics UK Limited: 2 Howard Court, 10 Tewin Road, Welwyn Garden City, Hertfordshire AL7 1BW, United Kingdom, Telephone: (44) 1707-294888, Fax: (44) 1707-325777

North Europe: Hamamatsu Photonics Norden AB: Smidesvägen 12, SE-171 41 Solna, Sweden, Telephone: (46) 8-509-031-00, Fax: (46) 8-509-031-01

Italy: Hamamatsu Photonics Italia S.R.L.: Strada della Moia, 1/E, 20020 Arese, (Milano), Italy, Telephone: (39) 02-935-81-733, Fax: (39) 02-935-81-741