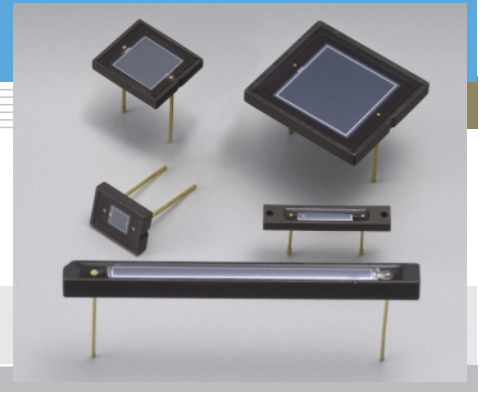


# Si photodiode S2387 series

For visible to IR, general-purpose photometry



## Features

- High sensitivity
- Low dark current
- High linearity

## Applications

- Analytical equipment
- Optical measurement equipment, etc.

### ■ General ratings / Absolute maximum ratings

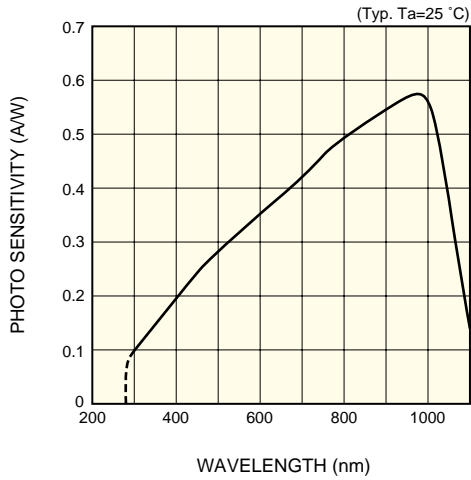
| Type No.    | Dimensional outline/<br>Window material * | Package<br>(mm) | Active area size<br>(mm) | Effective active area<br>(mm <sup>2</sup> ) | Absolute maximum ratings          |                                       |                                     |
|-------------|---|-----------------|--------------------------|---|-----------------------------------|---------------------------------------|-------------------------------------|
|             |   |                 |                          |   | Reverse voltage<br>VR Max.<br>(V) | Operating temperature<br>Topr<br>(°C) | Storage temperature<br>Tstg<br>(°C) |
| S2387-16R   | ①/R                                       | 2.7 × 15        | 1.1 × 5.9                | 6.4   | 30                                | -20 to +60                            | -20 to +80                          |
| S2387-33R   | ②/R                                       | 6 × 7.6         | 2.4 × 2.4                | 5.7   |                                   |                                       |                                     |
| S2387-66R   | ③/R                                       | 8.9 × 10.1      | 5.8 × 5.8                | 33  |                                   |                                       |                                     |
| S2387-1010R | ④/R                                       | 15 × 16.5       | 10 × 10                  | 100   |                                   |                                       |                                     |
| S2387-130R  | ⑤/R                                       | 3.0 × 40        | 1.2 × 29.1               | 35  |                                   |                                       |                                     |

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

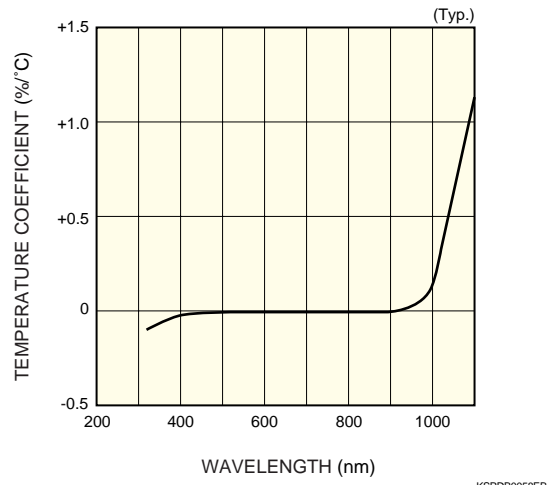
| Type No.    | Spectral response range<br>$\lambda$<br>(nm) | Peak sensitivity wavelength<br>$\lambda_p$<br>(nm) | Photo sensitivity S (A/W) |                   |                       | Short circuit current Isc 100 lx |              | Dark current ID<br>VR=10 mV<br>Max.<br>(pA) | Temp. coefficient of ID<br>TCID<br>(times/°C) | Rise time tr<br>VR=0 V<br>RL=1 kΩ<br>(μs) | Terminal capacitance Ct<br>VR=0 V<br>f=10 kHz<br>(pF) | Shunt resistance Rsh<br>VR=10 mV |              | NEP<br>(W/Hz <sup>1/2</sup> ) |  |  |  |  |
|-------------|--|--|---------------------------|-------------------|-----------------------|----------------------------------|--------------|---|---|---|---|----------------------------------|--------------|-------------------------------|--|--|--|--|
|             |  |  | $\lambda_p$               | GaP LED<br>560 nm | He-Ne laser<br>633 nm | Min.<br>(μA)                     | Typ.<br>(μA) |   |   |   |   | Min.<br>(GΩ)                     | Typ.<br>(GΩ) |                               |  |  |  |  |
|             |  |  |                           |                   |                       |                                  |              |   |   |   |   |                                  |              |                               |  |  |  |  |
| S2387-16R   | 320 to 1100                                  | 960  | 0.58                      | 0.33              | 0.37                  | 4.4                              | 6.0          | 5   | 1.12  | 1.8                                       | 730   | 2                                | 50           | $9.9 \times 10^{-16}$         |  |  |  |  |
| S2387-33R   |  |  |                           |                   |                       | 4.4                              | 5.8          |   |   |   |   |                                  |              |                               |  |  |  |  |
| S2387-66R   |  |  |                           |                   |                       | 24                               | 31           | 50  |   |   |   |                                  |              |                               |  |  |  |  |
| S2387-1010R |  |  |                           |                   |                       | 68                               | 91           | 200   |   |   |   |                                  |              |                               |  |  |  |  |
| S2387-130R  |  |  |                           |                   |                       | 25                               | 32           | 100   |   |   |   |                                  |              |                               |  |  |  |  |

\* Window material, R: resin coating

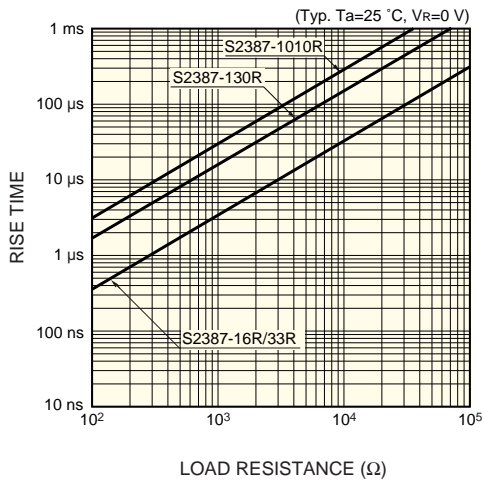
■ Spectral response



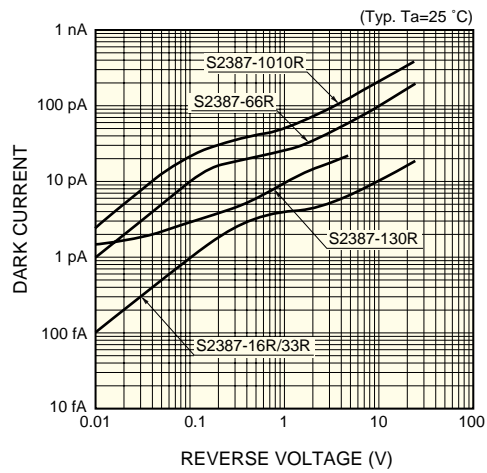
■ Photo sensitivity temperature characteristic



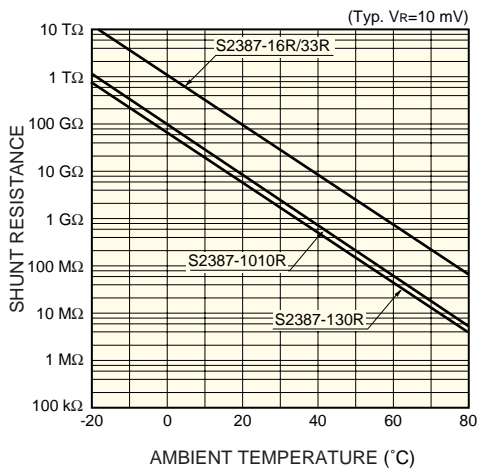
■ Rise time vs. load resistance



■ Dark current vs. reverse voltage

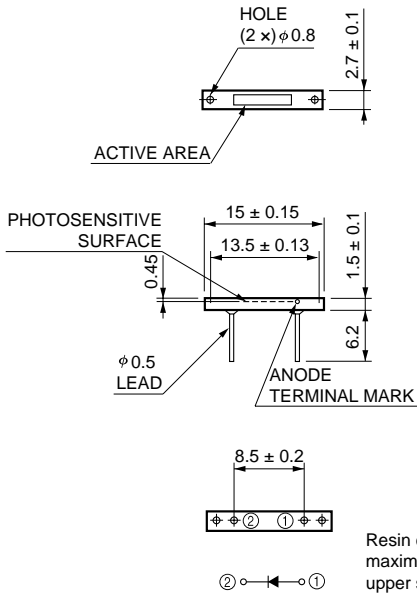


■ Shunt resistance vs. ambient temperature



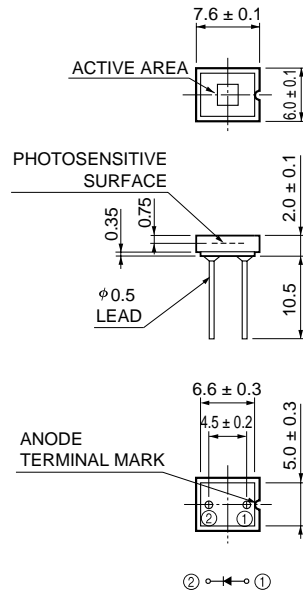
■ Dimensional outlines (unit: mm)

① S2387-16R



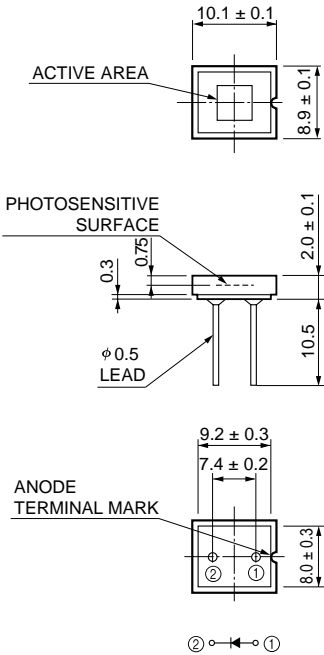
KSPDA0106EA

② S2387-33R



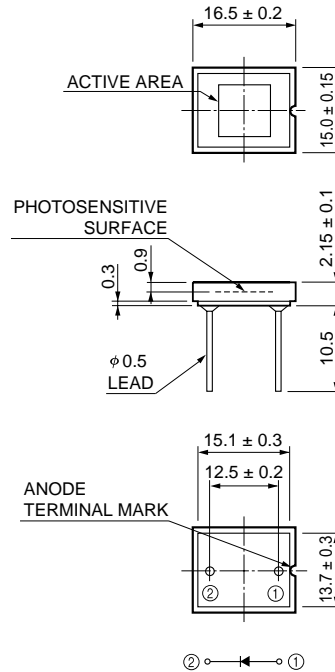
KSPDA0108EA

③ S2387-66R



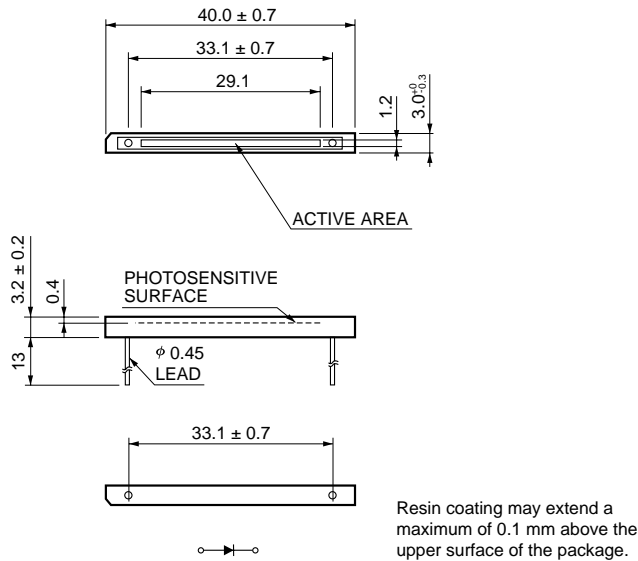
KSPDA0110EA

④ S2387-1010R



KSPDA0112EA

## ⑤ S2387-130R



KSPDA0117EA

**HAMAMATSU**

Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions. Specifications are subject to change without notice. No patent rights are granted to any of the circuits described herein. ©2004 Hamamatsu Photonics K.K.

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