

G6849 series

Quadrant type

Features

- Photosensitive area
G6849 : ϕ 2 mm quadrant element
G6849-01: ϕ 1 mm quadrant element
- Low noise
- High reliability

Applications

- Light spot position detection
- Measurement equipment

Structure

| Parameter | G6849 | G6849-01 | Unit |
|---------------------|--------------------|-------------------|------|
| Photosensitive area | ϕ 2/quadrant | ϕ 1/quadrant | mm |
| Number of elements | 4 | | - |
| Package | TO-5 | | - |
| Window material | Borosilicate glass | | - |

Absolute maximum ratings (Ta=25 °C)

| Parameter | Symbol | Value | Unit |
|-----------------------|--------|-----------------------------|------|
| Reverse voltage | VR | 5 | V |
| Operating temperature | Topr | -40 to +85 | °C |
| Storage temperature | Tstg | -55 to +125 | °C |
| Soldering condition | - | 260 °C or less, within 10 s | - |

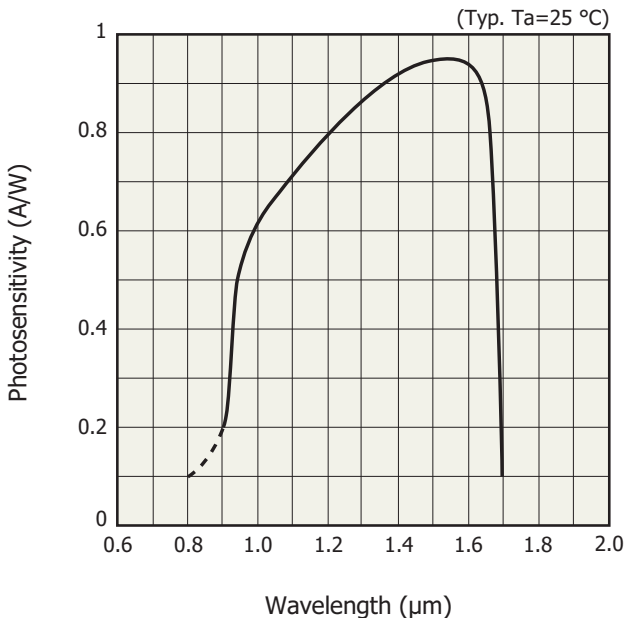
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

Electrical and optical characteristics (Ta=25 °C, per 1 element)

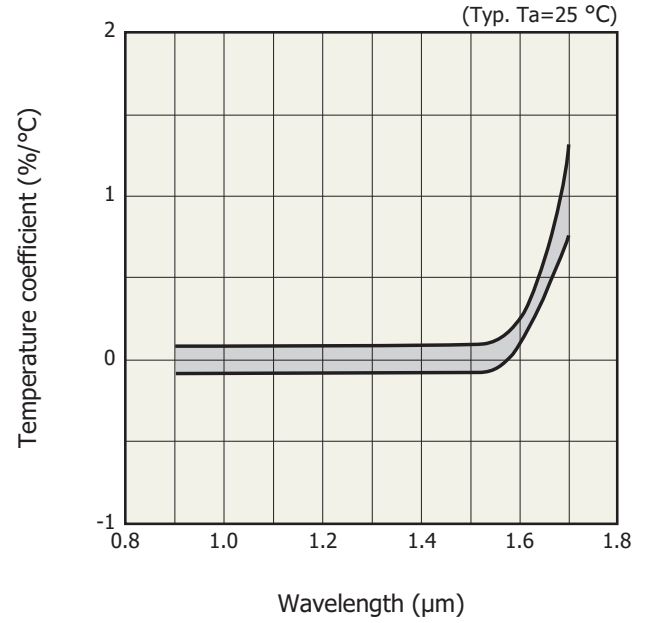
| Parameter | Symbol | Condition | G6849 | | | G6849-01 | | | Unit |
|-------------------------------|--------------|--|--------------------|---------------------|---------------------|--------------------|---------------------|---------------------|---------------------------------|
| | | | Min. | Typ. | Max. | Min. | Typ. | Max. | |
| Spectral response range | λ | | - | 0.9 to 1.7 | - | - | 0.9 to 1.7 | - | μ m |
| Peak sensitivity wavelength | λ_p | | - | 1.55 | - | - | 1.55 | - | μ m |
| Photosensitivity | S | $\lambda=1.3 \mu$ m | 0.8 | 0.9 | - | 0.8 | 0.9 | - | A/W |
| | | $\lambda=1.55 \mu$ m | 0.85 | 0.95 | - | 0.85 | 0.95 | - | |
| Dark current | ID | VR=1 V | - | 0.5 | 5 | - | 0.15 | 1.5 | nA |
| Temperature coefficient of ID | ΔTID | VR=1 V | - | 1.09 | - | - | 1.09 | - | times/°C |
| Cutoff frequency | fc | VR=1 V, RL=50 Ω $\lambda=1.3 \mu$ m, -3 dB | 15 | 30 | - | 80 | 120 | - | MHz |
| Terminal capacitance | Ct | VR=1 V, f=1 MHz | - | 100 | 160 | - | 25 | 40 | pF |
| Shunt resistance | Rsh | VR=10 mV | 10 | 50 | - | 80 | 200 | - | M Ω |
| Detectivity | D* | $\lambda=\lambda_p$ | 1×10^{12} | 5×10^{12} | - | 1×10^{12} | 5×10^{12} | - | cm \cdot Hz ^{1/2} /W |
| Noise equivalent power | NEP | $\lambda=\lambda_p$ | - | 2×10^{-14} | 6×10^{-14} | - | 1×10^{-14} | 4×10^{-14} | W/Hz ^{1/2} |

The G6849 series may be damaged by Electro Static Discharge. Be carefull when using the G6849 series.

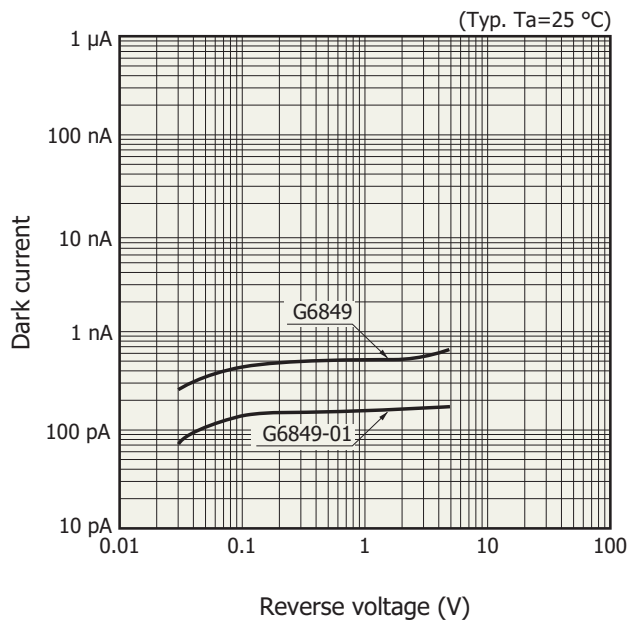
Spectral response



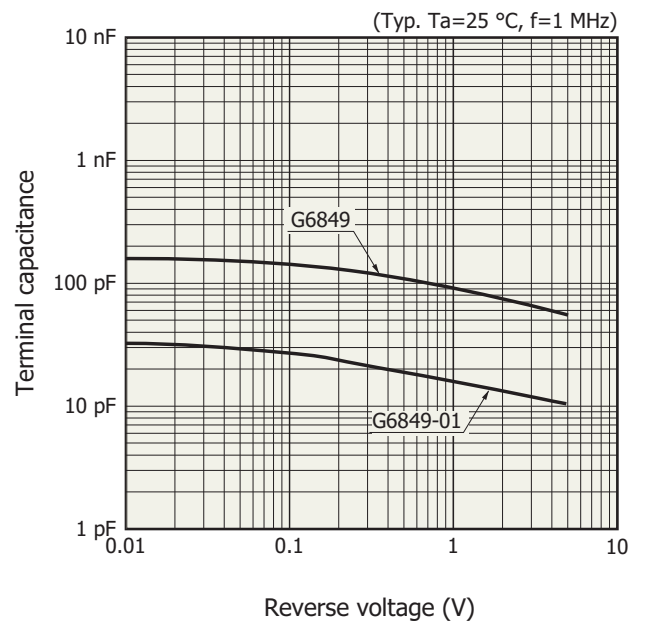
Photosensitivity temperature characteristics



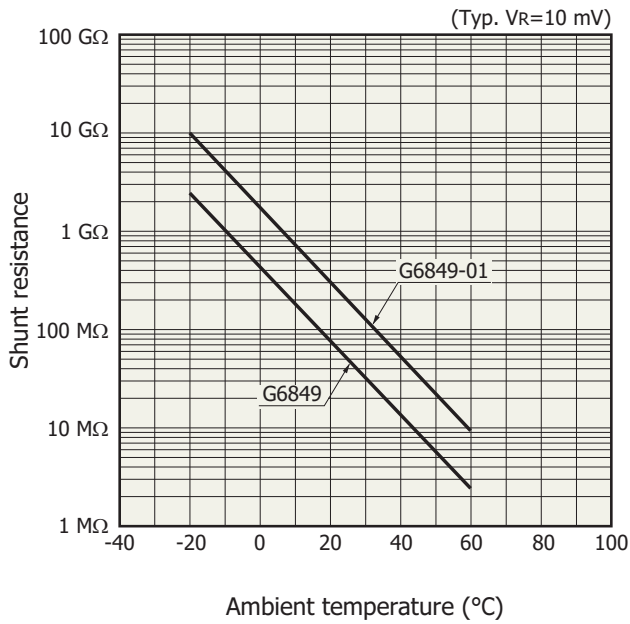
Dark current vs. reverse voltage



Terminal capacitance vs. reverse voltage



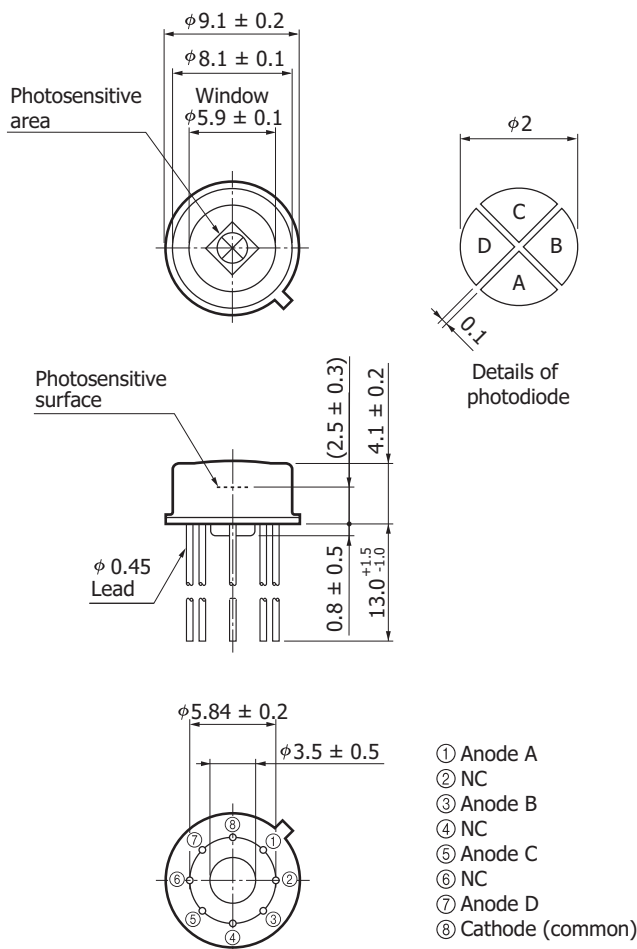
Shunt resistance vs. ambient temperature



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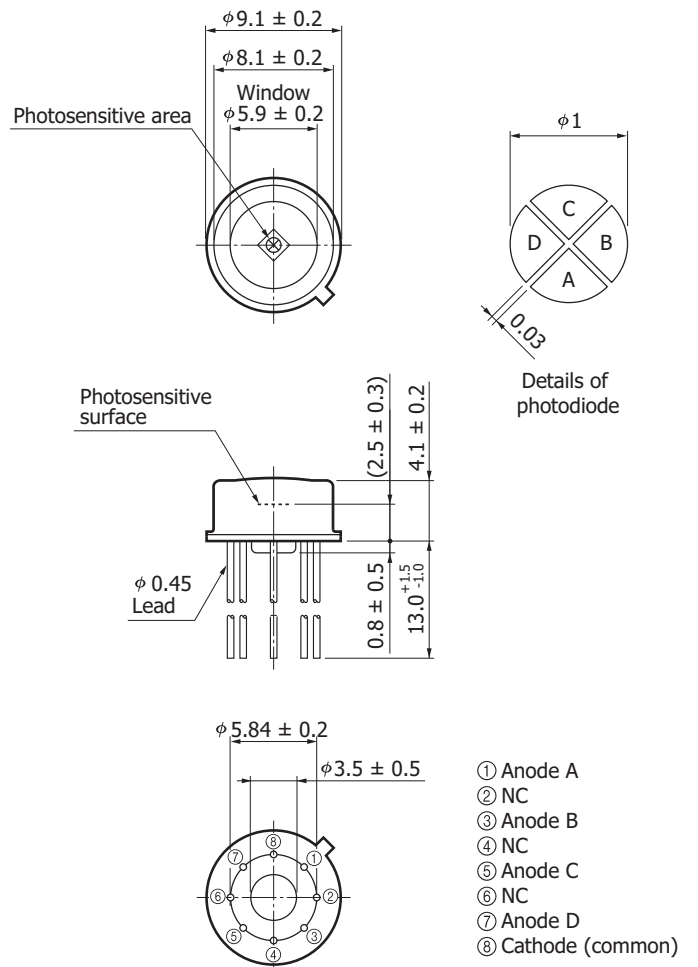
Dimensional outlines (unit: mm)

G6849



KIRDA0059EB

G6849-01



KIRDA0143EB

Related information

www.hamamatsu.com/sp/ssd/doc_en.html

■ Precautions

- Notice
- Metal, ceramic, plastic products/Precautions

■ Technical information

- Infrared detector/Technical information

Information described in this material is current as of October, 2013.

Product specifications are subject to change without prior notice due to improvements or other reasons. This document has been carefully prepared and the information contained is believed to be accurate. In rare cases, however, there may be inaccuracies such as text errors. Before using these products, always contact us for the delivery specification sheet to check the latest specifications.

The product warranty is valid for one year after delivery and is limited to product repair or replacement for defects discovered and reported to us within that one year period. However, even if within the warranty period we accept absolutely no liability for any loss caused by natural disasters or improper product use.

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