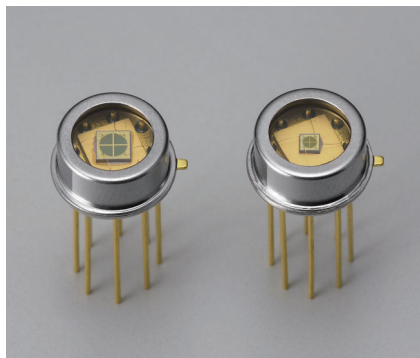


InGaAs PIN photodiodes



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	-

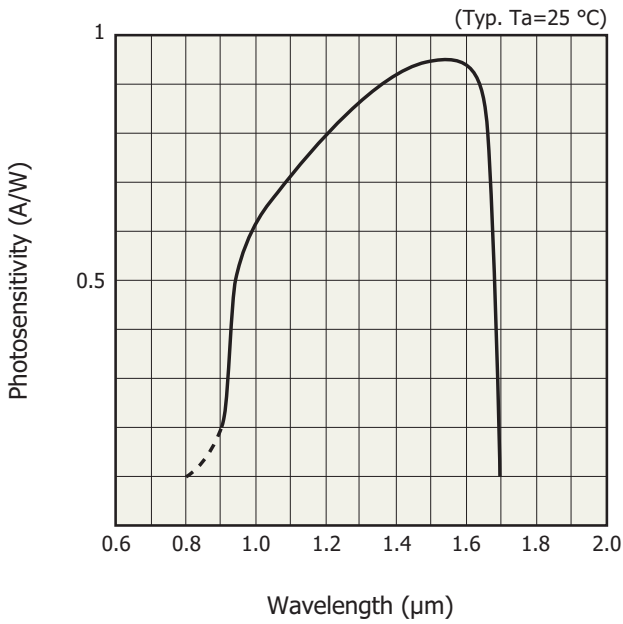
Note: Exceeding the absolute maximum ratings even momentarily may cause a drop in product quality. Always be sure to use the product within the absolute maximum ratings.

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}

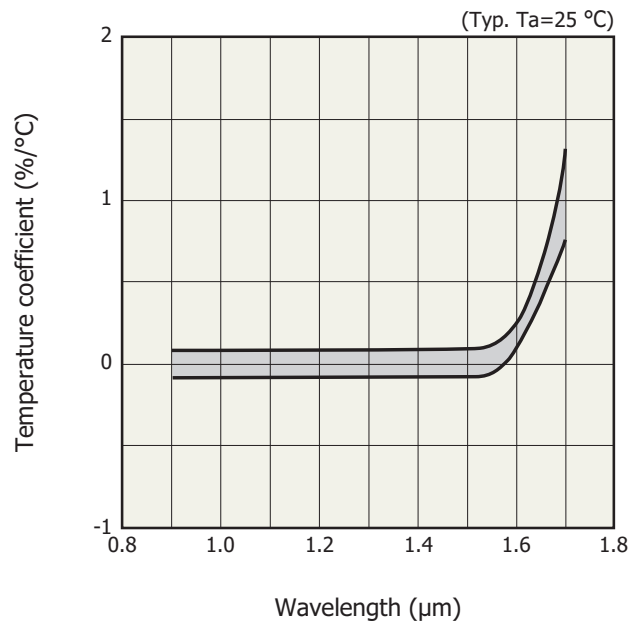
The G6849 series may be damaged by Electro Static Discharge. Be carefull when using the G6849 series.

Spectral response



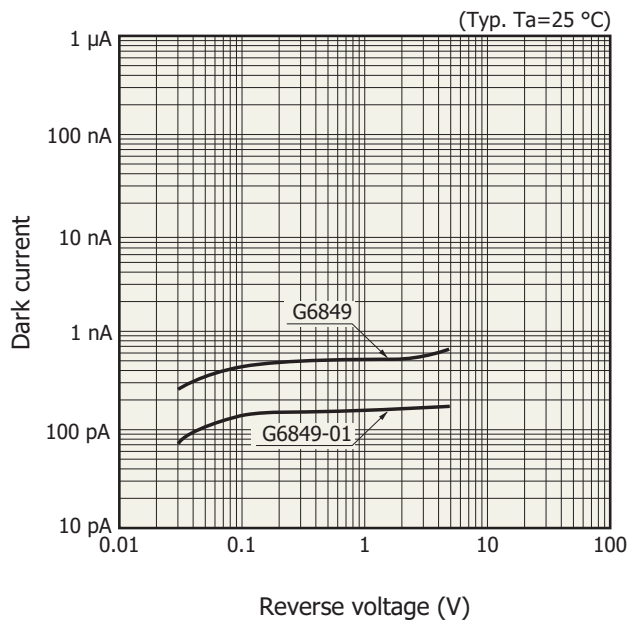
KKIRD0002EB

Photosensitivity temperature characteristics



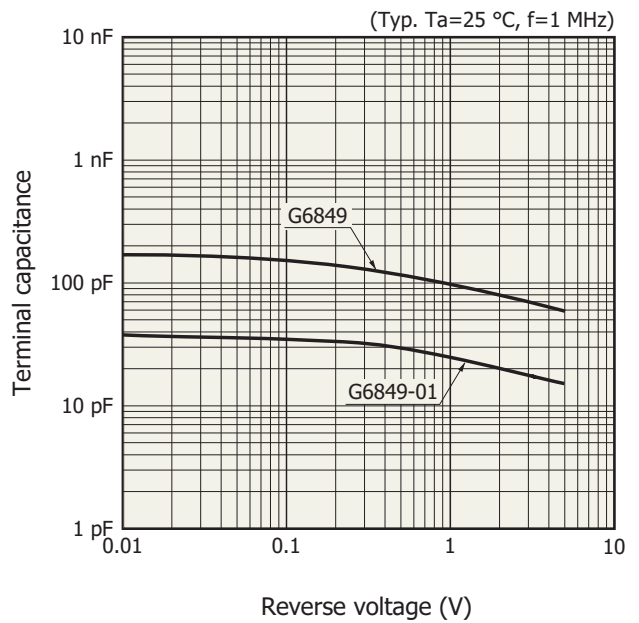
KIRD00042EA

Dark current vs. reverse voltage



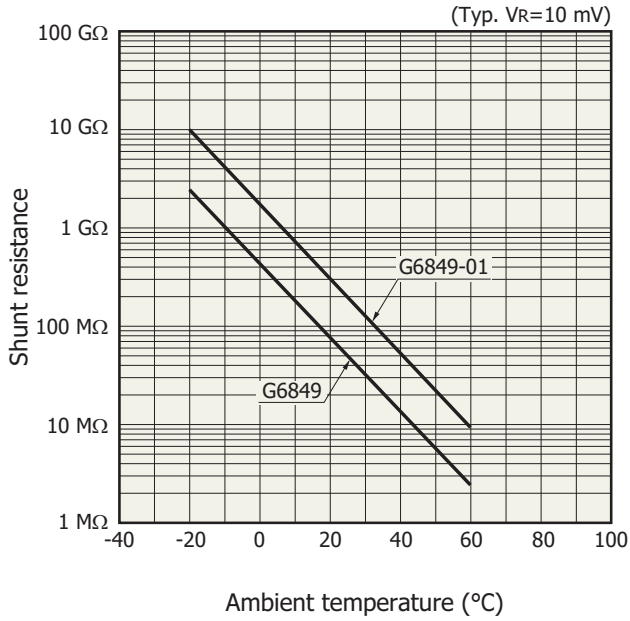
KMIRB0016EC

Terminal capacitance vs. reverse voltage



KMIRB0015ED

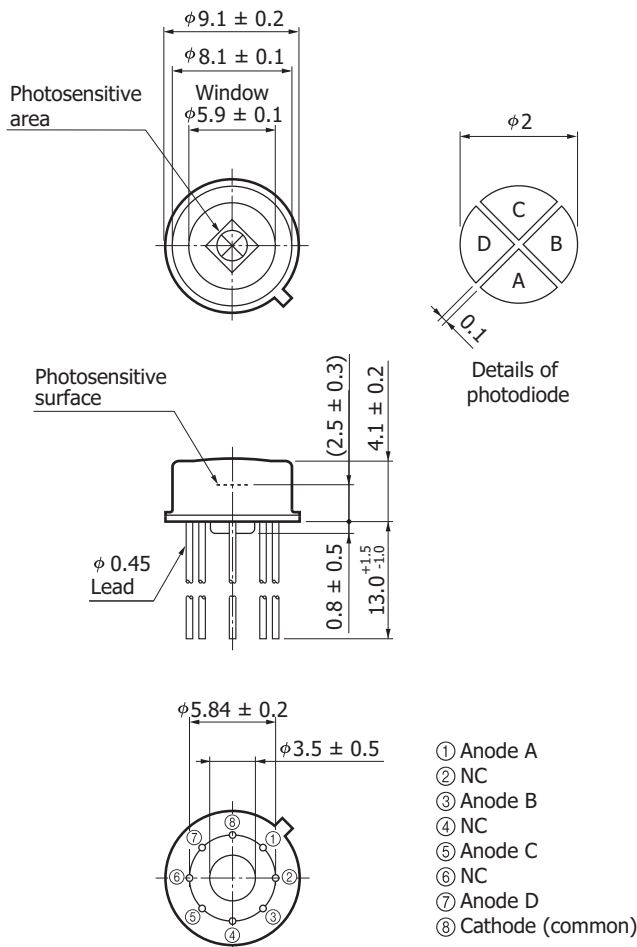
Shunt resistance vs. ambient temperature



KMIRB0014EA

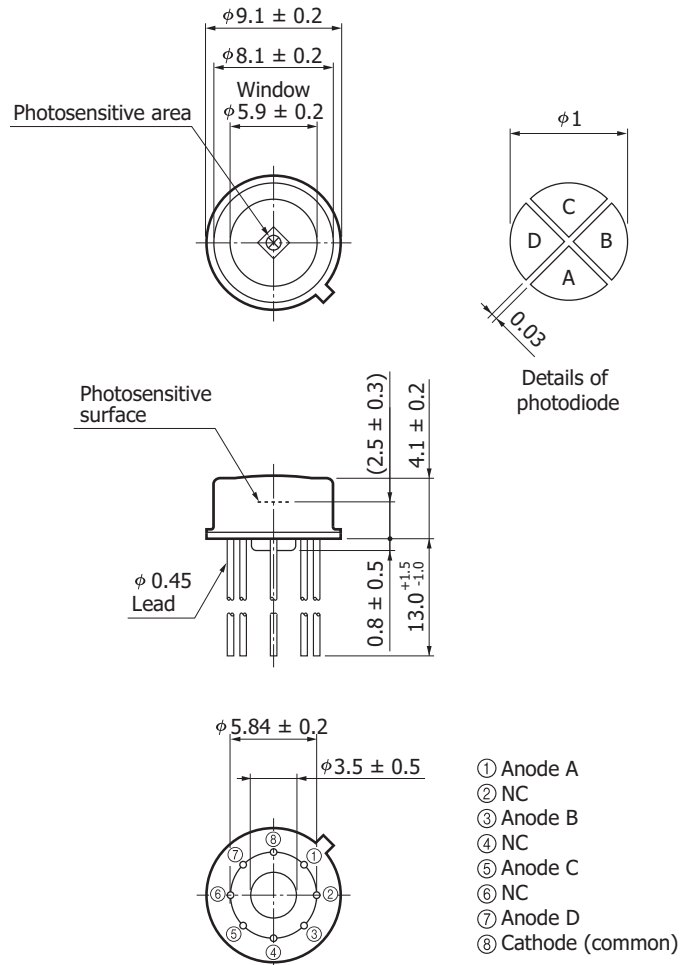
Dimensional outlines (unit: mm)

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 April, 2019.

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HAMAMATSU

www.hamamatsu.com

HAMAMATSU PHOTONICS K.K., Solid State Division

1126-1 Ichino-cho, Higashi-ku, Hamamatsu City, 435-8558 Japan, Telephone: (81)53-434-3311, Fax: (81)53-434-5184

U.S.A.: Hamamatsu Corporation: 360 Foothill Road, Bridgewater, N.J. 08807, U.S.A., Telephone: (1)908-231-0960, Fax: (1)908-231-1218, E-mail: usa@hamamatsu.com

Germany: Hamamatsu Photonics Deutschland GmbH: Arzbergerstr. 10, D-82211 Herrsching am Ammersee, Germany, Telephone: (49)8152-375-0, Fax: (49)8152-265-8, E-mail: info@hamamatsu.de

France: Hamamatsu Photonics France S.A.R.L.: 19, 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, E-mail: infos@hamamatsu.fr

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, E-mail: info@hamamatsu.co.uk

North Europe: Hamamatsu Photonics Norden AB: Torshamnsgatan 35 16440 Kista, Sweden, Telephone: (46)8-509 031 00, Fax: (46)8-509 031 01, E-mail: info@hamamatsu.se

Italy: Hamamatsu Photonics Italia S.r.l.: Strada della Moia, 1 int. 6, 20020 Arese (Milano), Italy, Telephone: (39)02-93 58 17 33, Fax: (39)02-93 58 17 41, E-mail: info@hamamatsu.it

China: Hamamatsu Photonics (China) Co., Ltd.: B1201, Jiaming Center, No.27 Dongsanhuan Bellu, Chaoyang District, 100020 Beijing, P.R.China, Telephone: (86)10-6586-6006, Fax: (86)10-6586-2866, E-mail: hpc@hamamatsu.com.cn

Taiwan: Hamamatsu Photonics Taiwan Co., Ltd.: 8F-3, No. 158, Section2, Gongdao 5th Road, East District, Hsinchu, 300, Taiwan R.O.C. Telephone: (886)3-659-0080, Fax: (886)3-659-0081, E-mail: info@hamamatsu.com.tw