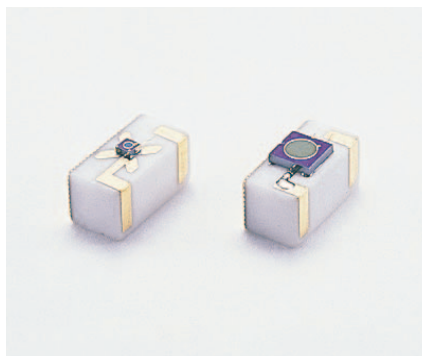


InGaAs PIN photodiode

G6742 series



Surface-mount type

Features

- Small chip carrier package
- High reliability
- Low price

Applications

- Laser diode monitors

General ratings

Parameter	G6742-003	G6742-01	Unit
Package	Ceramic base		-
Active area	φ0.3	φ1.0	mm

Absolute maximum ratings

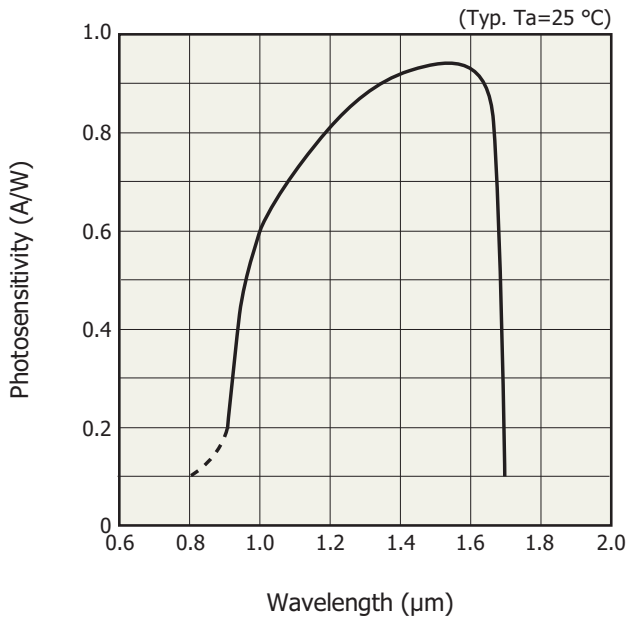
Parameter	Symbol	G6742-003	G6742-01	Unit
Reverse voltage	V_R Max.	20	10	V
Operating temperature	T_{opr}	-40 to +85 *		°C
Storage temperature	T_{stg}	-55 to +125 *		°C

* No condensation

Electrical and optical characteristics (Ta=25 °C)

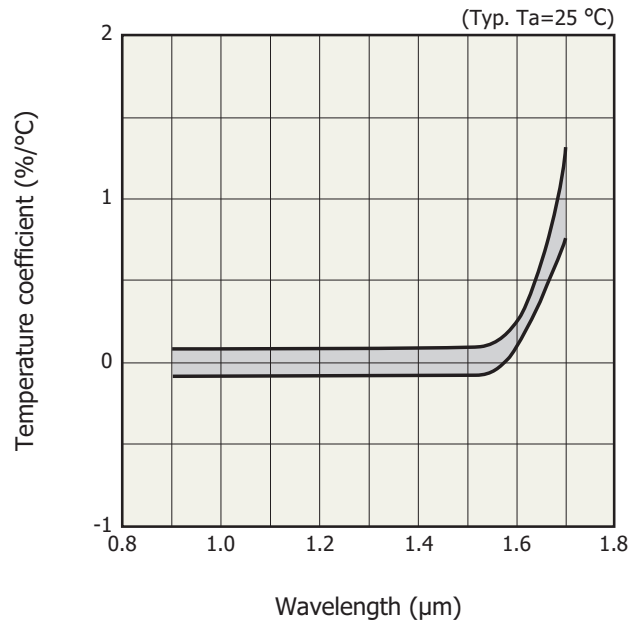
Parameter	Symbol	Condition	G6742-003			G6742-01			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	λ		-	0.9 to 1.7	-	-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	λ_p		-	1.55	-	-	1.55	-	μm
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$	0.8	0.9	-	0.8	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.85	0.95	-	0.85	0.95	-	
Dark current	I_D	$V_R=5 \text{ V}$	-	0.3	1.5	-	1	5	nA
Cutoff frequency	f_c	$V_R=5 \text{ V}, R_L=50 \Omega$ -3 dB	-	300	-	-	35	-	MHz
Terminal capacitance	C_t	$f=1 \text{ MHz}, V_R=5 \text{ V}$	-	10	-	-	90	-	pF
Shunt resistance	Rsh	$V_R=10 \text{ mV}$	-	1000	-	-	100	-	M Ω
Detectivity	D^*	$\lambda=\lambda_p$	-	5×10^{12}	-	-	5×10^{12}	-	$\text{cm} \cdot \text{Hz}^{1/2}/\text{W}$
Noise equivalent power	NEP	$\lambda=\lambda_p$	-	4×10^{-15}	-	-	2×10^{-14}	-	W/Hz ^{1/2}

Spectral response



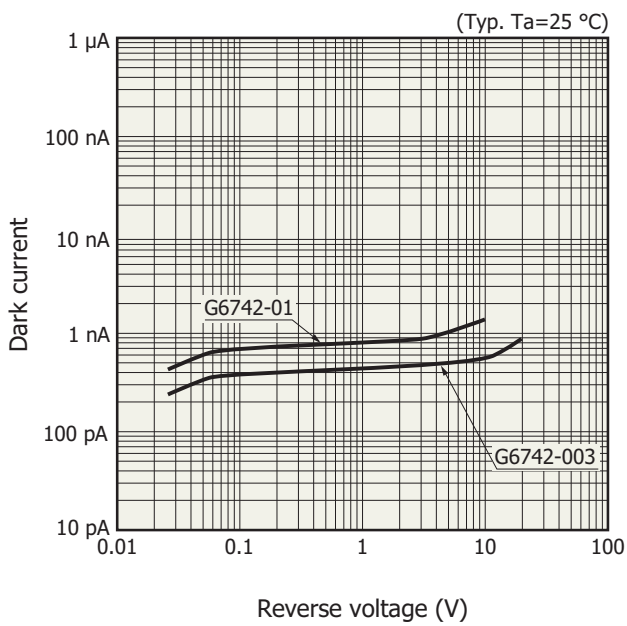
KIRDB0002EC

Photosensitivity temperature characteristic



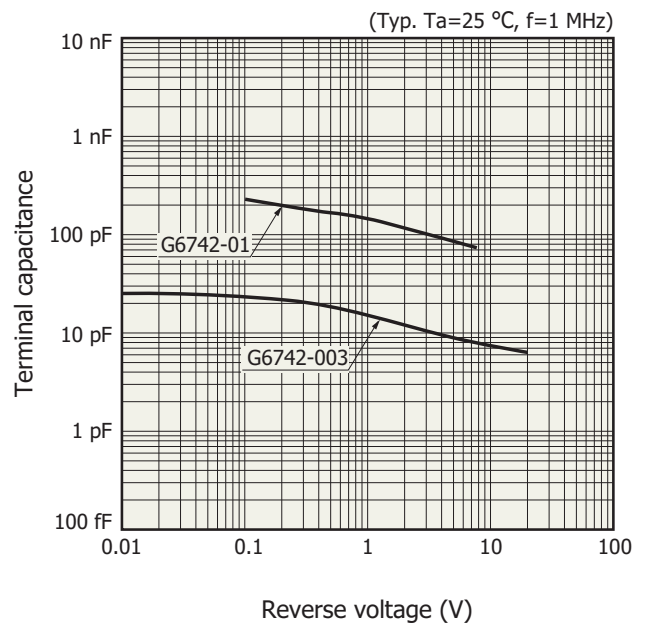
KIRDB0042EA

Dark current vs. reverse voltage



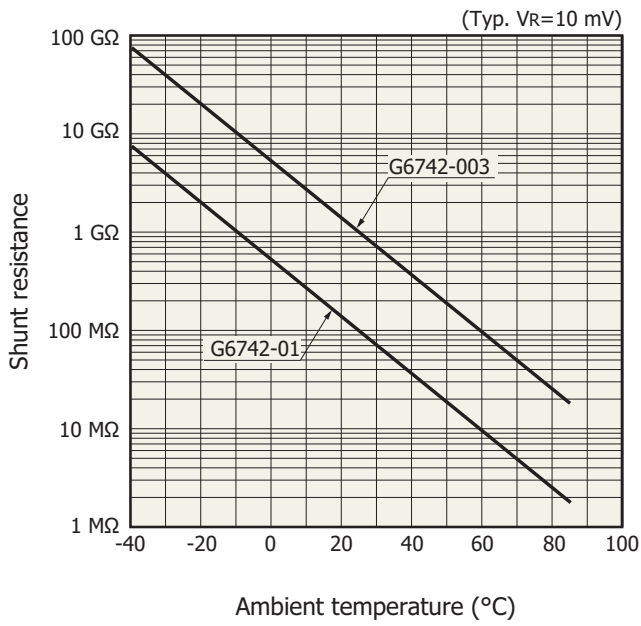
KIRDB0150EB

Terminal capacitance vs. reverse voltage



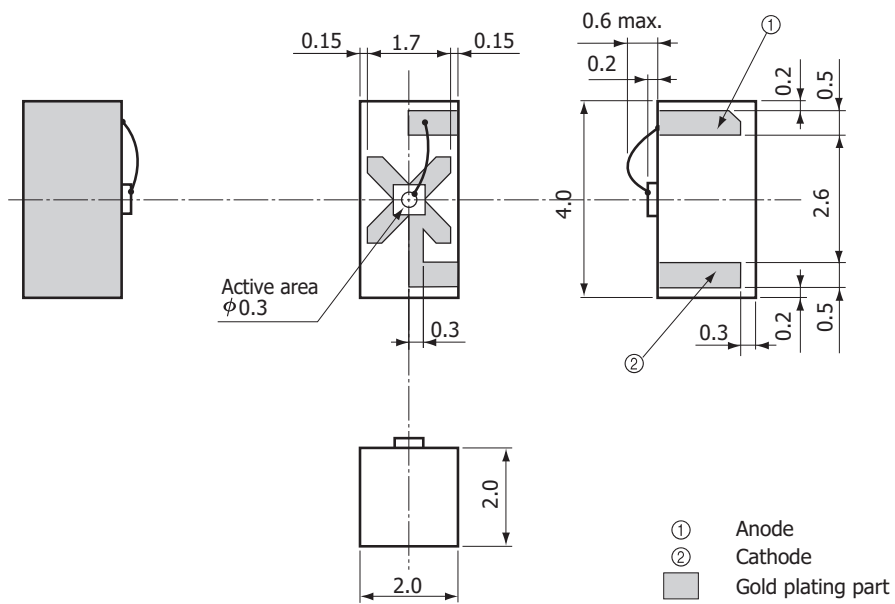
KIRDB0209EB

Shunt resistance vs. ambient temperature



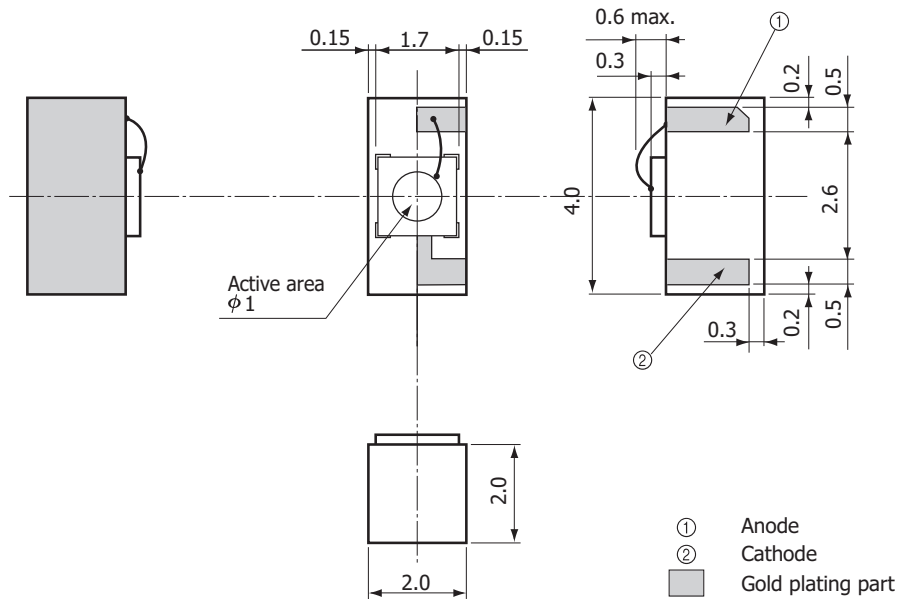
Dimensional outlines (unit: mm, tolerance: ± 0.1)

G6742-003



KIRDA0057EB

G6742-01



KIRDA0058EB

Related information

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

Precautions

- Disclaimer
- Surface mount type products

Technical information

- Infrared detectors

Information described in this material is current as of September 2017.

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