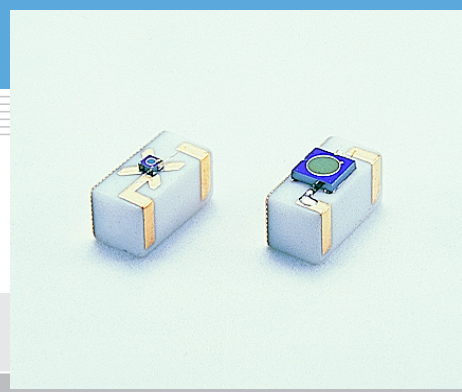


InGaAs PIN photodiode G6742 series

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

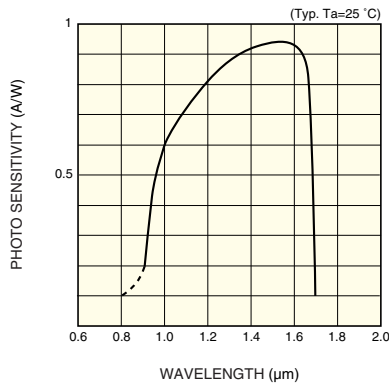
Parameter	Symbol	G6742-003	G6742-01	Unit
Reverse voltage	V_R Max.	20	10	V
Operating temperature	T_{opr}	-40 to +85 *		°C
Storage temperature	T_{stg}	-55 to +125 *		°C

* No condensation

Electrical and optical characteristics ($T_a=25\text{ °C}$)

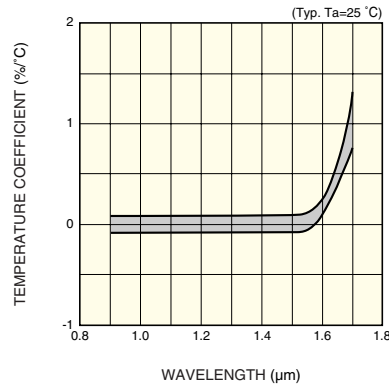
Parameter	Symbol	Condition	G6742-003			G6742-01			Unit
			Min.	Typ.	Max.	Min.	Typ.	Max.	
Spectral response range	λ		-	0.9 to 1.7	-	-	0.9 to 1.7	-	μm
Peak sensitivity wavelength	λ_p		-	1.55	-	-	1.55	-	μm
Photo sensitivity	S	$\lambda=1.3\text{ μm}$ $\lambda=1.55\text{ μm}$	0.8 0.85	0.9 0.95	-	0.8 0.85	0.9 0.95	-	A/W
Dark current	I_D	$V_R=5\text{ V}$	-	0.3	1.5	-	1	5	nA
Cut-off frequency	f_c	$V_R=5\text{ V}$, $R_L=50\text{ Ω}$ -3 dB	-	300	-	-	35	-	MHz
Terminal capacitance	C_t	$f=1\text{ MHz}$ $V_R=5\text{ V}$	-	10	-	-	90	-	pF
Shunt resistance	R_{sh}	$V_R=10\text{ mV}$	-	1000	-	-	100	-	MΩ
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}	-	$\text{W}/\text{Hz}^{1/2}$

Spectral response



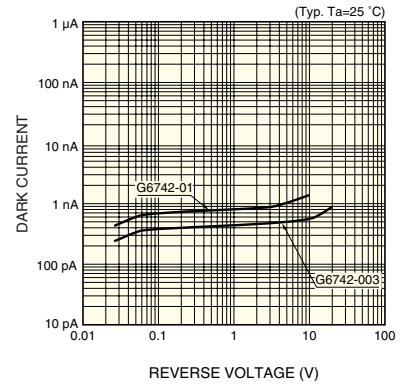
KIRDB0002EB

Photo sensitivity temperature characteristic



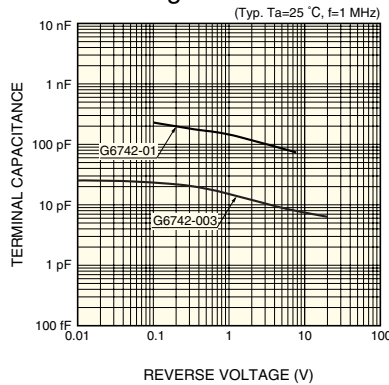
KIRDB0004EA

Dark current vs. reverse voltage



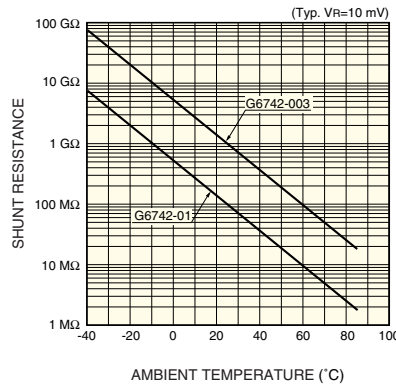
KIRDB0150EA

Terminal capacitance vs. reverse voltage



KIRDB0209EA

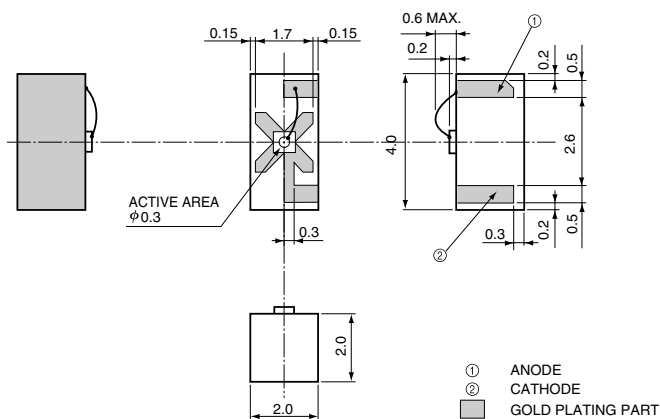
Shunt resistance vs. ambient temperature



KIRDB0210EA

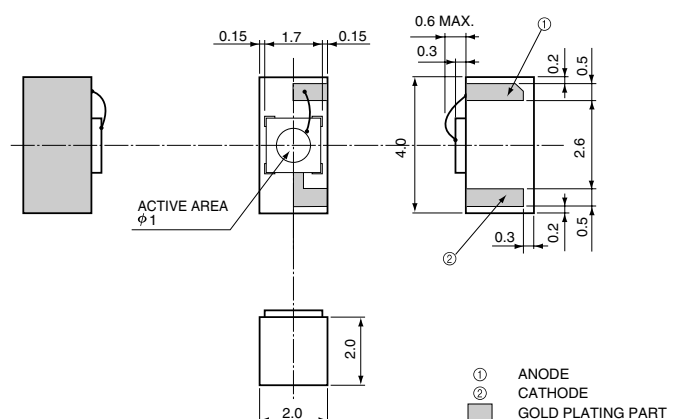
Dimensional outlines (unit: mm, tolerance: ±0.1)

G6742-003



KIRDA0057EA

G6742-01



KIRDA0058EA

HAMAMATSU

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