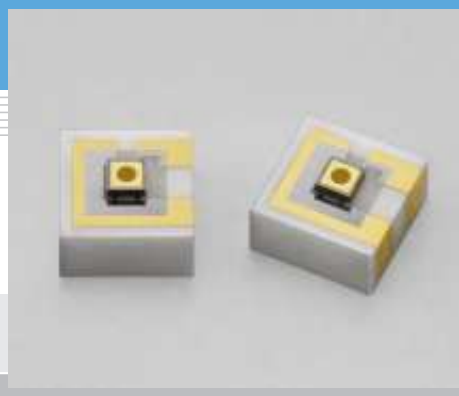


InGaAs PIN photodiode

G9230-01

Back-illuminated type, uses package with no wire



Features

- Back-illuminated type
- Easy to handle since there are no wires on chip (AuSn eutectic bonding)
Optical fibers can be brought closer to the chip
- Miniature package: 2 × 2 × 1 mm
- High sensitivity: 0.95 A/W Typ. ($\lambda=1.55 \mu\text{m}$)
- Precise chip position tolerance: $\pm 0.075 \text{ mm}$

Applications

- LD monitor
- Optical fiber communication

■ General / Absolute maximum ratings

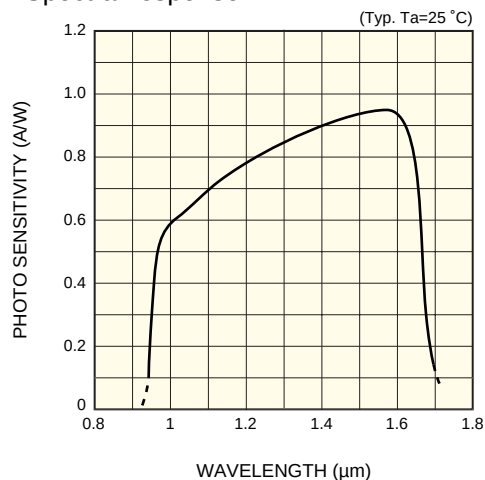
Parameter	Symbol	value	Unit
Active area	-	$\phi 0.3$	mm
Reverse voltage	V_R Max.	10	V
Operating temperature *	$T_{opr.}$	-40 to +85	°C
Storage temperature *	$T_{stg.}$	-40 to +85	°C

* In N_2 environment or in vacuum

■ Electrical and optical characteristics ($T_a=25^\circ\text{C}$)

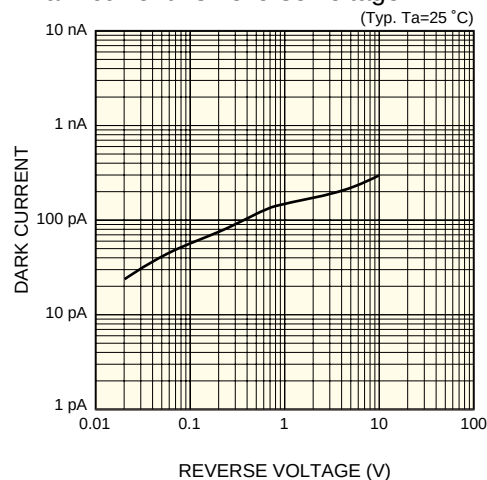
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	0.95 to 1.7	-	μm
Photo sensitivity	S	$\lambda=1.3 \mu\text{m}$	-	0.85	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.85	0.95	-	A/W
Dark current	I_D	$V_R=5 \text{ V}$	-	0.3	1.5	nA
Shunt resistance	R_{sh}	$V_R=10 \text{ mV}$	-	1000	-	$M\Omega$
Terminal capacitance	C_t	$V_R=5 \text{ V}$, $f=1 \text{ MHz}$	-	5	-	pF
Cut-off frequency	f_c	$V_R=5 \text{ V}$, $R_L=50 \Omega$	-	400	-	MHz
Noise equivalent power	NEP	$\lambda=\lambda_p$	-	4×10^{-15}	-	$\text{W/Hz}^{1/2}$

Spectral response



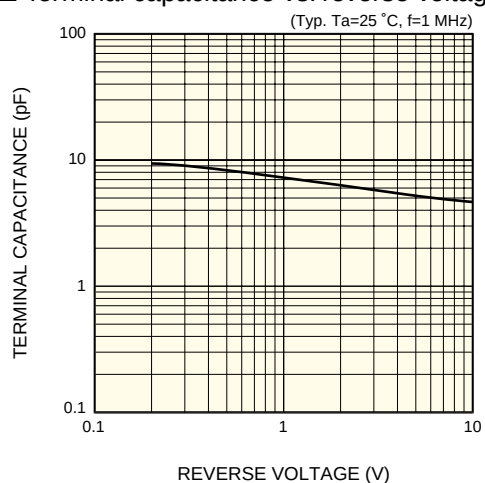
KIRDB0287EA

Dark current vs. reverse voltage



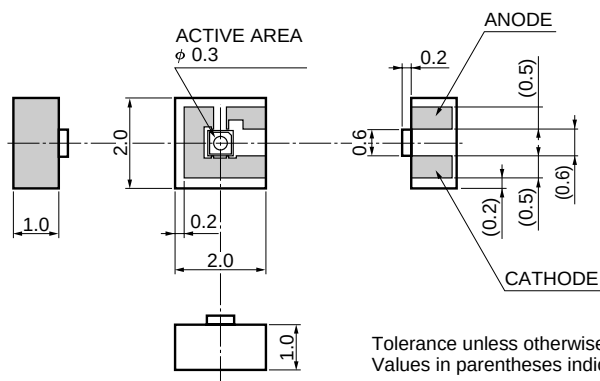
KIRDB0288EA

Terminal capacitance vs. reverse voltage



KIRDB0289EA

Dimensional outline (unit: mm)



KIRDA0168EA

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Cat. No. KIRD1055E02
Dec. 2004 DN