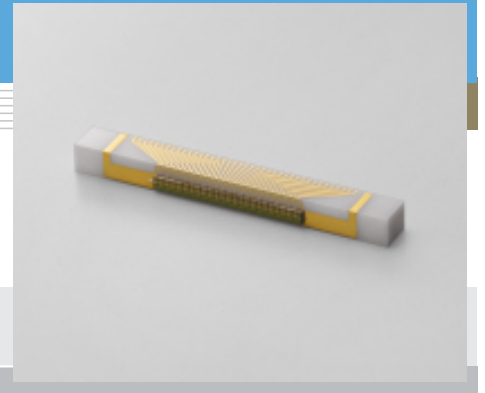


# InGaAs PIN photodiode array

## G8909-01

Photodiode array for DWDM monitor



### Features

- 250  $\mu\text{m}$  pitch, 40 ch parallel readout
- Low cross-talk
- Precise chip position tolerance:  $\pm 0.05$  mm

### Applications

- DWDM monitor with AWG

### General ratings

Parameter	Value	Unit
Active area	$\phi 0.08$	mm
Pixel pitch	250	$\mu\text{m}$
Number of elements	40	ch

### Absolute maximum ratings

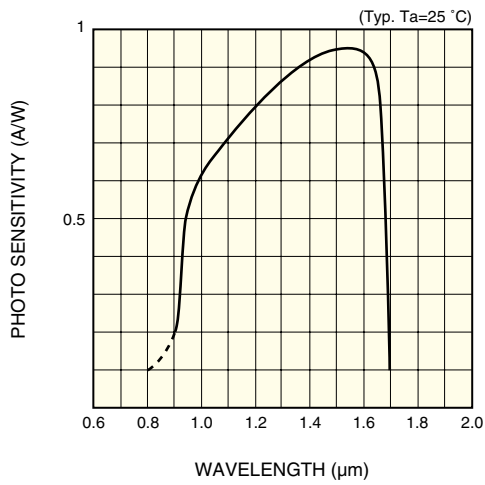
Parameter	Symbol	Remark	Value	Unit
Reverse voltage	$V_R$ Max.		6	V
Allowable input power	$P_{in}$ Max.		10	mW
Operating temperature	$T_{opr}$	*	-40 to +85	$^{\circ}\text{C}$
Storage temperature	$T_{stg}$		-40 to +85	$^{\circ}\text{C}$

\* In  $\text{N}_2$  environment or in vacuum

### Electrical and optical characteristics ( $T_a=25$ $^{\circ}\text{C}$ , per 1 element)

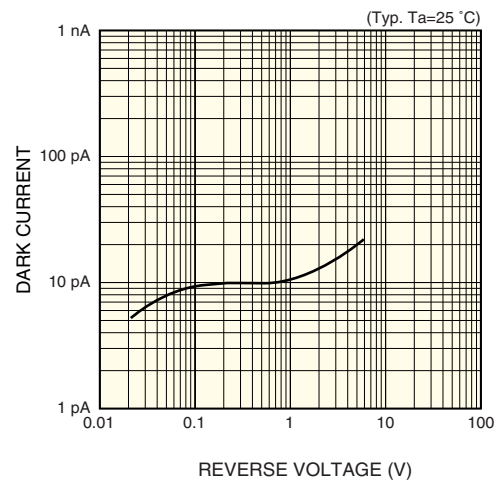
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	$\lambda$		-	0.9 to 1.7	-	$\mu\text{m}$
Photo sensitivity	S	$\lambda=1.31$ $\mu\text{m}$	0.8	0.9	-	A/W
		$\lambda=1.55$ $\mu\text{m}$	0.85	0.95	-	
Photo response non-uniformity	PRNU		-	-	$\pm 5$	%
Dark current	$I_D$	$V_R=5$ V	-	0.02	0.2	nA
Shunt resistance	Rsh	$V_R=10$ mV	-	8	-	$\text{G}\Omega$
Terminal capacitance	$C_t$	$V_R=5$ V, $f=1$ MHz	-	1.4	-	pF
Cross-talk	-	$V_R=0.1$ V	-	-33	-	dB

## ■ Spectral response



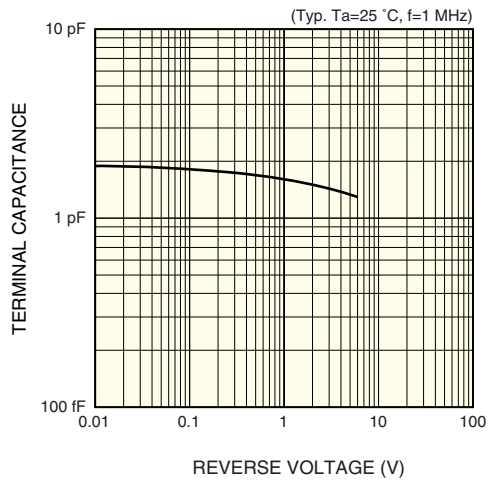
KIRDB0002EB

## ■ Dark current vs. reverse voltage



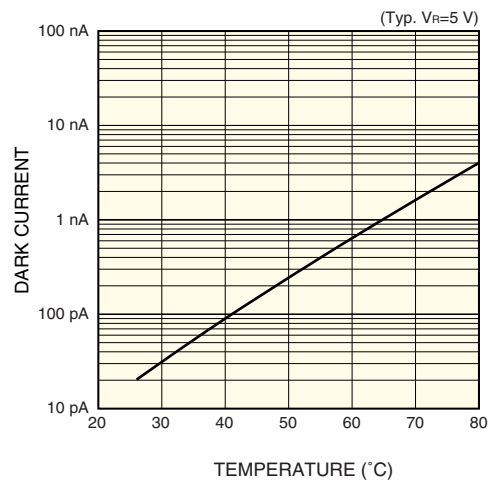
KIRDB0266EA

## ■ Terminal capacitance vs. reverse voltage



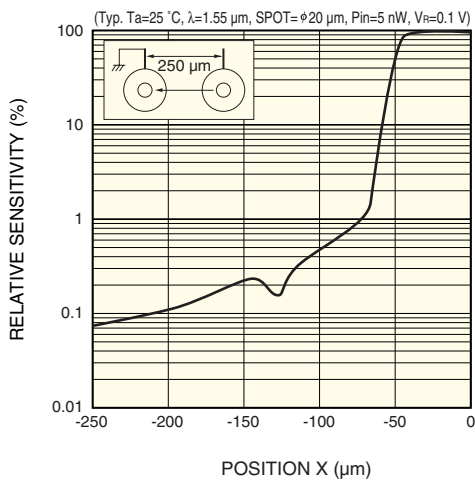
KIRDB0267EA

## ■ Dark current vs. temperature



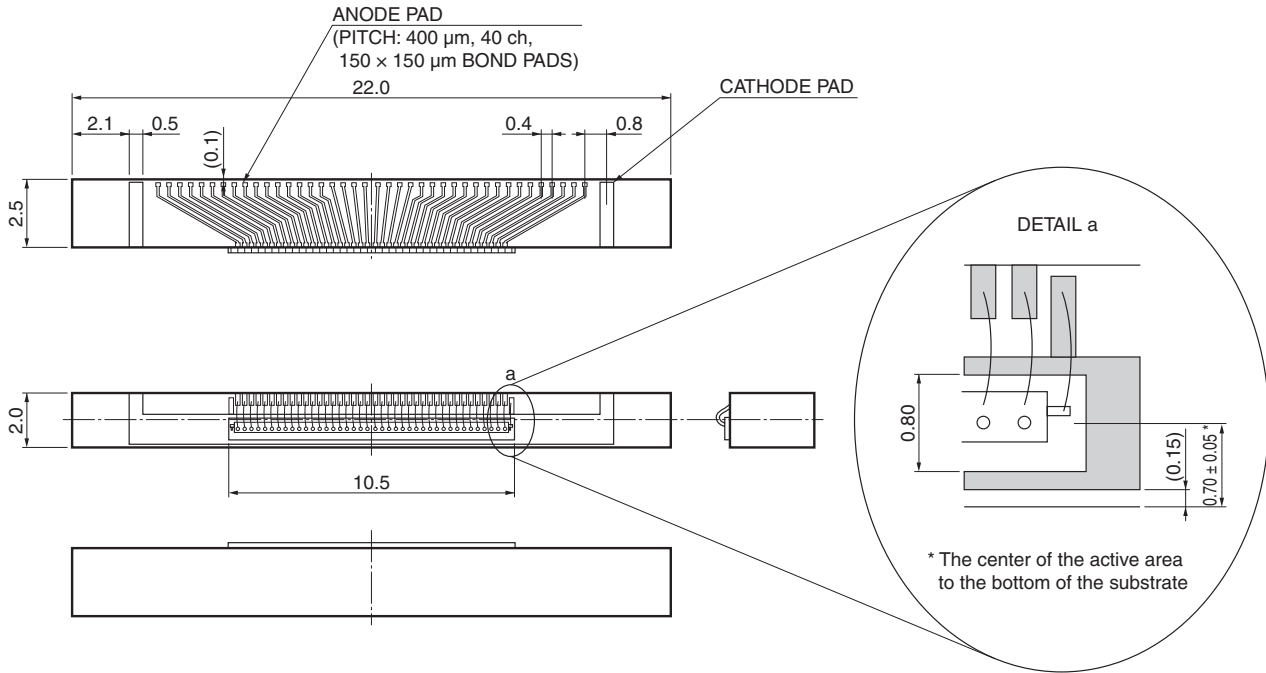
KIRDB0268EA

## ■ Cross-talk characteristic



KIRDB0269EA

■ Dimensional outline (unit: mm)



KIRDA0158EA

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