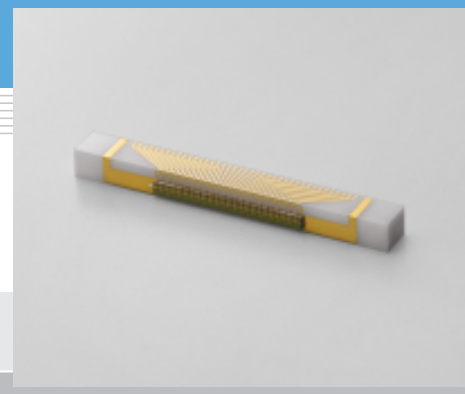


InGaAs PIN photodiode array

G8909-01

Photodiode array for DWDM monitor



Features

- 250 μm pitch, 40 ch parallel readout
- Low cross-talk
- Precise chip position tolerance

Applications

- DWDM monitor with AWG

General ratings

Parameter	Value	Unit
Active area	$\phi 0.08$	mm
Pixel pitch	250	μm
Number of elements	40	ch

Absolute maximum ratings

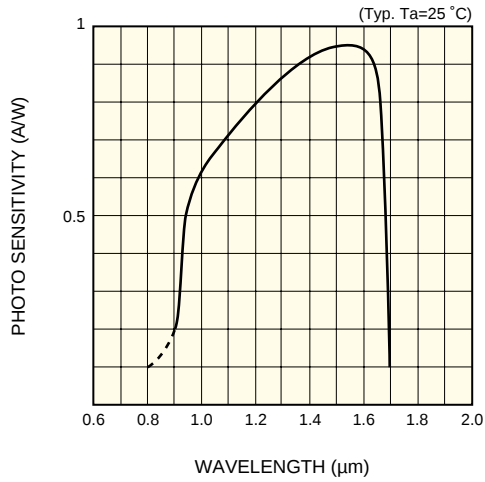
Parameter	Symbol	Remark	Value	Unit
Reverse voltage	V_R Max.		6	V
Allowable input power	P_{in} Max.		10	mW
Operating temperature	T_{opr}	*	-40 to +85	$^{\circ}\text{C}$
Storage temperature	T_{stg}		-40 to +85	$^{\circ}\text{C}$

* In N_2 environment or in vacuum

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

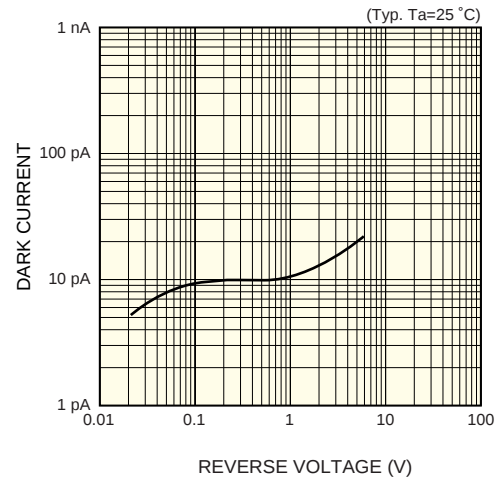
Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Spectral response range	λ		-	0.9 to 1.7	-	μm
Photo sensitivity	S	$\lambda=1.31 \mu\text{m}$	0.8	0.9	-	A/W
		$\lambda=1.55 \mu\text{m}$	0.85	0.95	-	
Photo response non-uniformity	PRNU		-	-	± 5	%
Dark current	I_D	$V_R=5 \text{ V}$	-	0.02	0.2	nA
Shunt resistance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

■ Spectral response



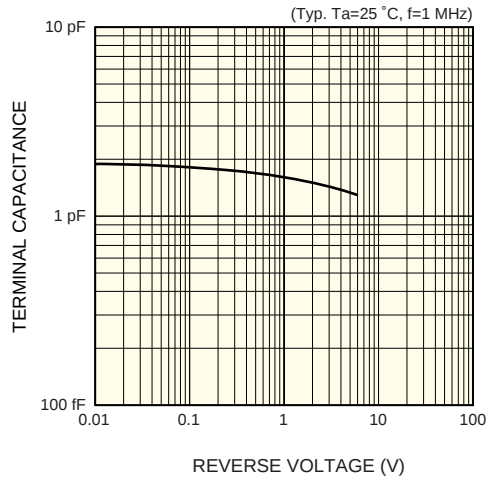
KIRDB0002EB

■ Dark current vs. reverse voltage



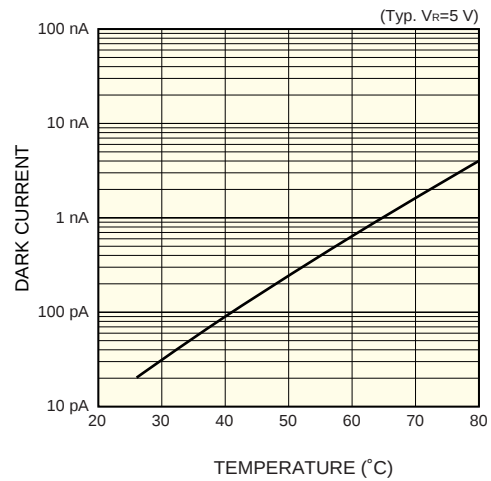
KIRDB0266EA

■ Terminal capacitance vs. reverse voltage



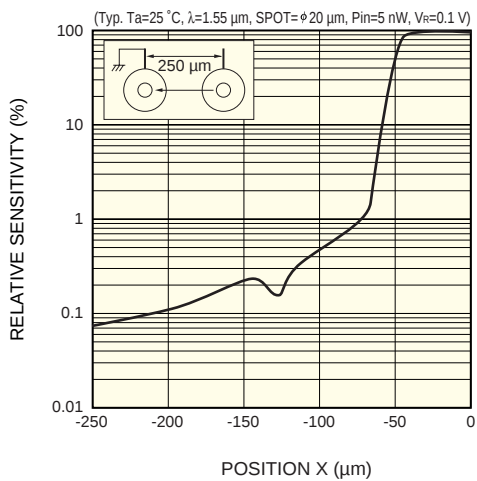
KIRDB0267EA

■ Dark current vs. temperature



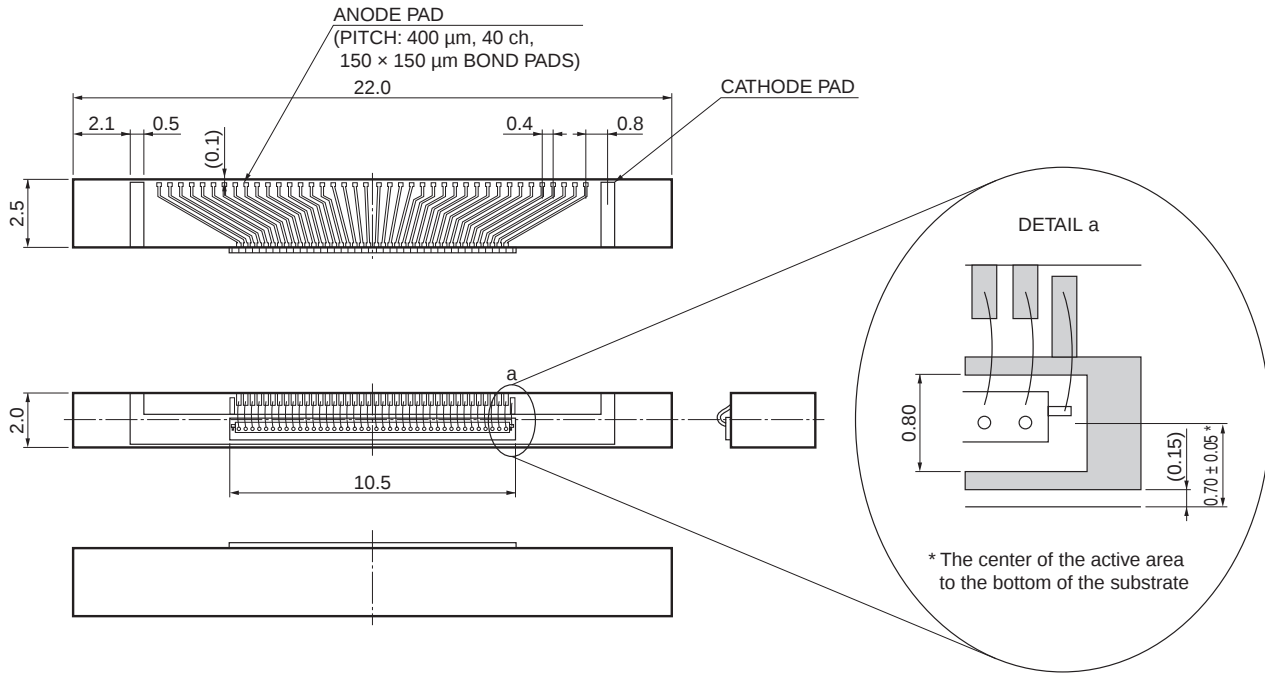
KIRDB0268EA

■ Cross-talk characteristic



KIRDB0269EA

■ Dimensional outline (unit: mm)



KIRDA0158EA

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