

PNZ3108

PIN Photodiode

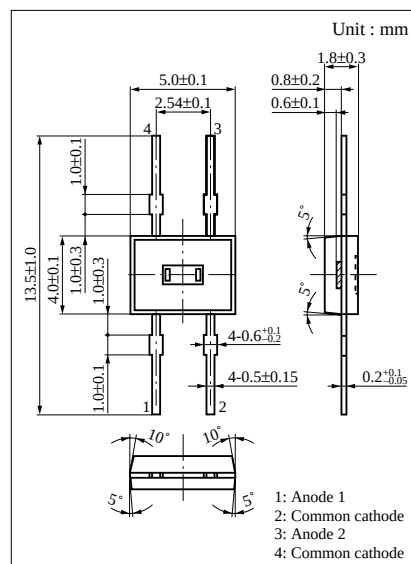
For optical control systems

Features

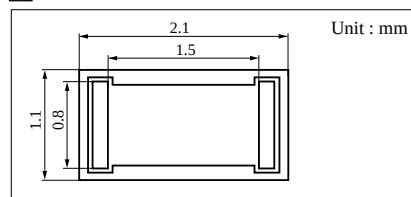
- High sensitivity and low dark current
- For one-dimensional light-point position detection
- Good positional linearity
- Small plastic package

Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Reverse voltage (DC)	V_R	30	V
Power dissipation	P_D	30	mW
Operating ambient temperature	T_{opr}	-25 to +85	°C
Storage temperature	T_{stg}	-30 to +100	°C



Dimensions of detection area



Electro-Optical Characteristics (Ta = 25°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Dark current	I_D	$V_R = 1V$			2	nA
Photo current	I_L^{*1}	$V_R = 1V, L = 1000 \text{ lx}$	7	12		μA
		$V_R = 1V, \lambda = 900\text{nm}, E = 1\text{mW/cm}^2$		8		μA
Peak sensitivity wavelength	λ_p	$V_R = 1V$		940		nm
Response time	t_r, t_f^{*2}	$V_R = 1V, R_L = 1k\Omega$		5		μs
Capacitance between pins	C_t	$V_R = 1V, f = 1\text{MHz}$		8		pF
Resistance between electrodes	R_S^{*3}	$V_R = 1V, V_a = 0.5V$		250		k Ω
Gradient of position signal	a^{*4}	$V_R = 1V$		0.133		

^{*1} $I_L = I_1 + I_2$

Note: I_1 and I_2 are the photoelectric currents of anodes A1 and A2.

White tungsten lamp light source (color temperature $T = 2856K$)

^{*2} GaAs light emitting diode light source ($\lambda = 800\text{nm}$)

^{*3} V_a is the potential difference between anodes A1 and A2.

^{*4} $a = |(I_1 - I_2) / (I_1 + I_2)|$

Note : Incident light is at the position 100 μm from the reference position.

The reference position is the position where $I_1 = I_2$.

