

PNZ3112

PIN Photodiode

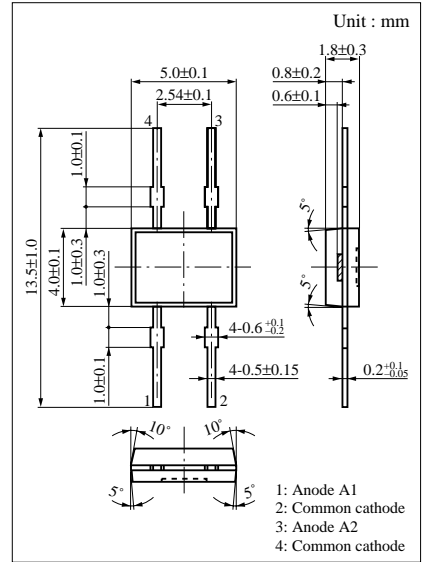
For optical control systems

■ Features

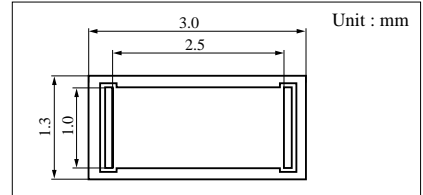
- High sensitivity and low dark current
- For one-dimensional light-point position detection
- Good positional linearity
- Small plastic package
- Adoption of visible light cutoff resin

■ 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 | $V_R = 1V, L = 1000 \text{ lx}^{*1}$ | 16 | 20 | | μA |
| Peak sensitivity wavelength | λ_P | $V_R = 1V$ | | 940 | | nm |
| Response time | t_r, t_f^{*2} | $V_R = 1V, R_L = 1k\Omega$ | | 10 | | μs |
| Capacitance between pins | C_t | $V_R = 1V, f = 1MHz$ | | 10 | | pF |
| Resistance between electrodes | R_S^{*3} | $V_R = 1V, V_a = 0.5V$ | | 120 | | k Ω |
| Gradient of position signal | a^{*4} | $V_R = 1V$ | | 0.08 | | |

^{*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 ($\lambda = 800nm$)

^{*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 $I_1 = I_2$.

