

PNZ316K2

Hex. Division Silicon PIN Photodiode

For optical information systems

Features

- Fast response : $t_r = 3 \text{ ns}$ (typ.)
- Good photo current linearity
- Low dark current : $I_D = 2 \text{ nA}$ (max.)
- Wide spectral sensitivity
- Small plastic package (flat type)
- High S/N ratio due to chip slant of 3°

Applications

- CD, VD
- Data file systems
- Facsimiles
- Document filing systems, still picture filing systems

Absolute Maximum Ratings ($T_a = 25^\circ\text{C}$)

| 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 | $^\circ\text{C}$ |
| Storage temperature | T_{stg} | -30 to +100 | $^\circ\text{C}$ |

Electro-Optical Characteristics ($T_a = 25^\circ\text{C}$)

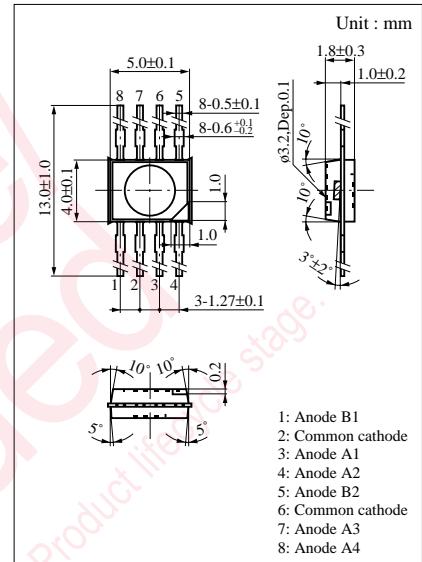
| Parameter | Symbol | Conditions | min | typ | max | Unit |
|-----------------------------|-----------------|--|------|------|------|---------------|
| Dark current | $I_{D(A)}$ | $V_R = 10\text{V}$ | | 0.05 | 1.00 | nA |
| | $I_{D(B)}$ | | | 0.1 | 2.0 | nA |
| Photo current | $I_{L(A)}^{*1}$ | $V_R = 10\text{V}, L = 1000 \text{ lx}$ | 0.1 | 1.5 | | μA |
| | $I_{L(B)}^{*1}$ | | 0.8 | 1.2 | | μA |
| Photo sensitivity | S | $V_R = 10\text{V}, \lambda = 800\text{nm}$ | 0.40 | 0.50 | | A/W |
| Peak sensitivity wavelength | λ_P | $V_R = 10\text{V}$ | | 900 | | nm |
| Response time | t_r, t_f^{*2} | $V_R = 10\text{V}, R_L = 1\text{k}\Omega$ | | 3 | | ns |
| Capacitance between pins | $C_{i(A)}$ | $V_R = 10\text{V}, f = 1\text{MHz}$ | | 1 | | pF |
| | $C_{i(B)}$ | | | 2 | | pF |
| Acceptance half angle | θ | Measured from the optical axis to the half power point | | 65 | | deg. |

Note) The indicated values for absolute maximum ratings and electro-optical characteristics are the values corresponding to individual elements.

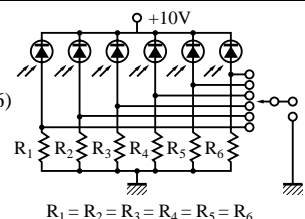
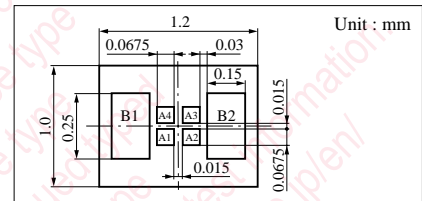
*1 Tungsten lamp light source (color temperature $T = 2856\text{K}$)

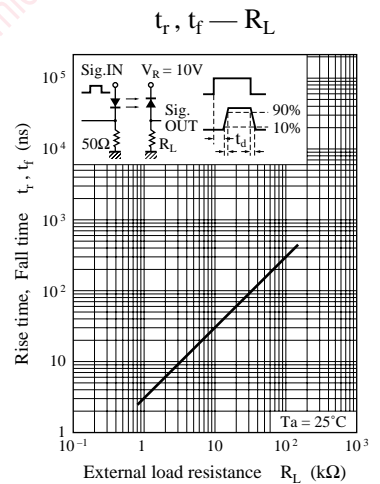
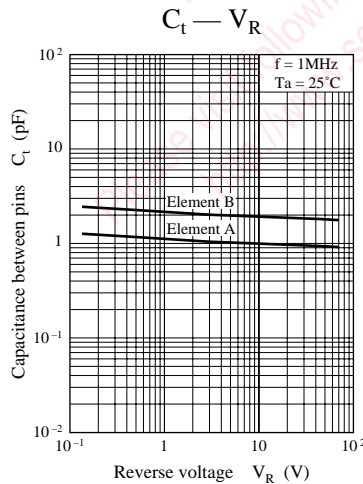
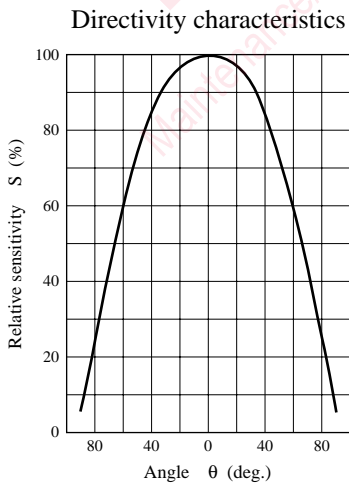
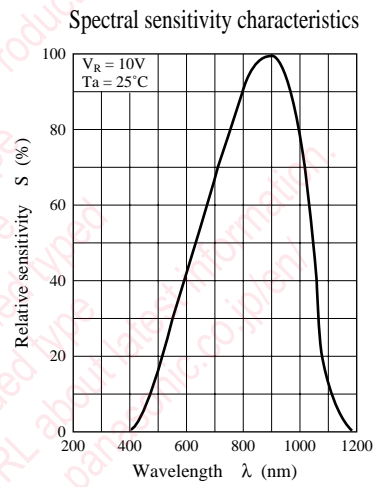
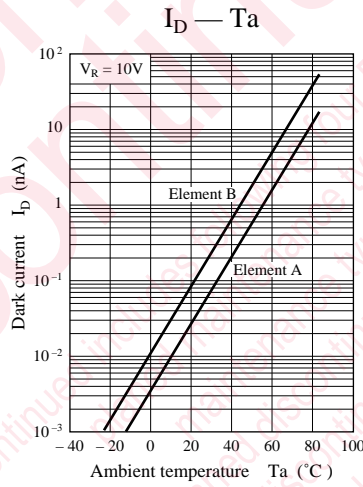
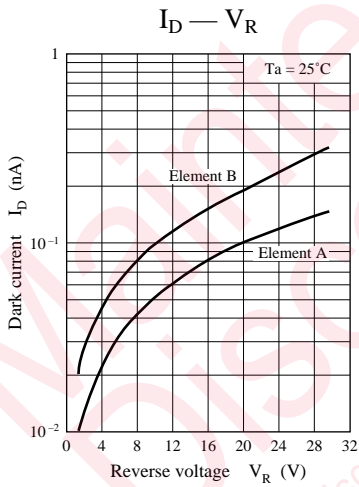
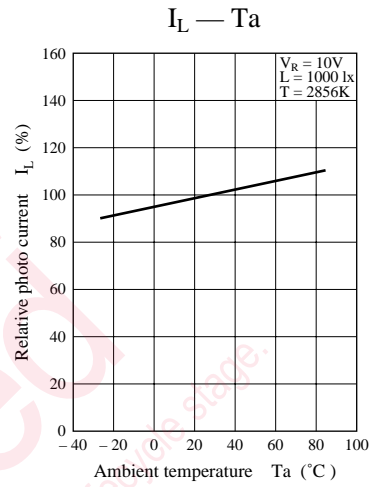
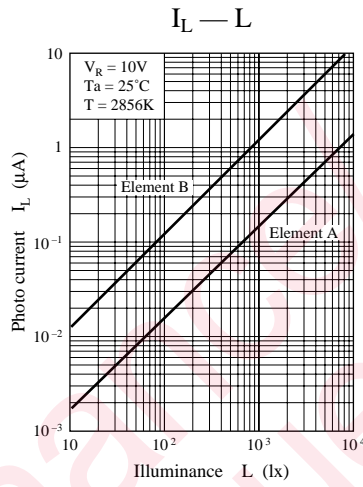
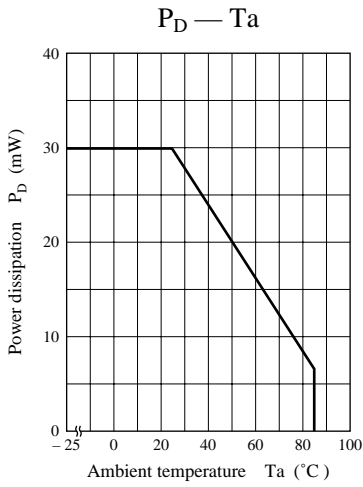
Measured with the circuit in the diagram on the right (note: $R_1 = R_2 = R_3 = R_4 = R_5 = R_6$)

*2 Semiconductor laser light source ($\lambda = 800\text{nm}$)



Dimensions of detection area





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