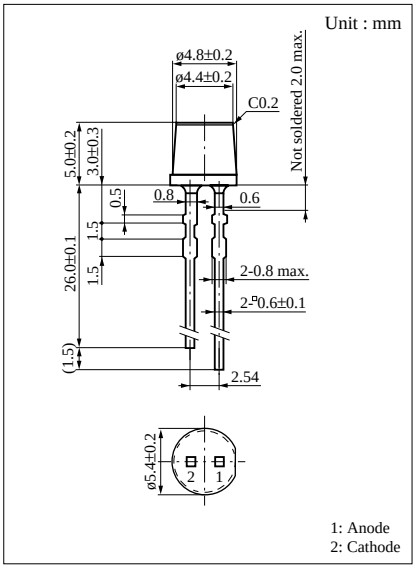
# PNZ334 (PN334)

## PIN Photodiode

For optical fiber communication systems

### Features

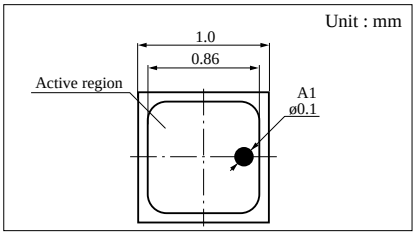
- Plastic type package (ø 5)
- High coupling capability suitable for plastic fiber
- High quantum efficiency
- High-speed response




### Absolute Maximum Ratings (Ta = 25˚C)

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

### Dimensions of detection area

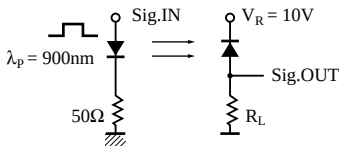


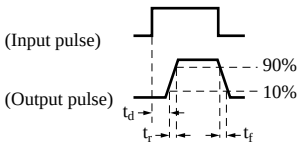

### Electro-Optical Characteristics (Ta = 25˚C)

| Parameter | Symbol | Conditions | min | typ | max | Unit |
|---|---|---|---|---|---|---|
| Dark current | $I_D$ | $V_R$ = 10V | | 0.1 | 10 | nA |
| Photo current | $I_L$ | $V_R$ = 10V, L = 1000 lx*1 | 5 | 7 | | µA |
| Peak sensitivity wavelength | $\lambda_P$ | $V_R$ = 10V | | 850 | | nm |
| Response time | $t_r$, $t_f$*2 | $V_R$ = 10V, $R_L$ = 50Ω | | 2 | | ns |
| Capacitance between pins | $C_t$ | $V_R$ = 0V, f = 1MHz | | 6 | | pF |
| Acceptance half angle | θ | Measured from the optical axis to the half power point | | 70 | | deg. |

*1 Measurements were made using a tungsten lamp (color temperature T = 2856K) as a light source.

*2 Switching time measurement circuit



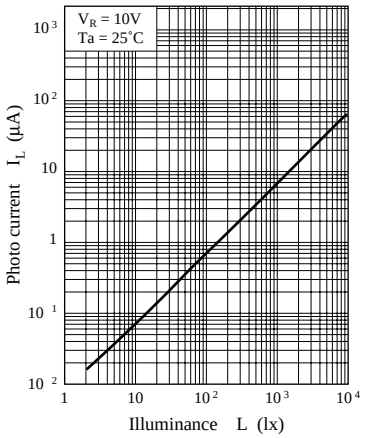

$t_d$: Delay time

$t_r$: Rise time (Time required for the collector photo current to increase from 10% to 90% of its final value)

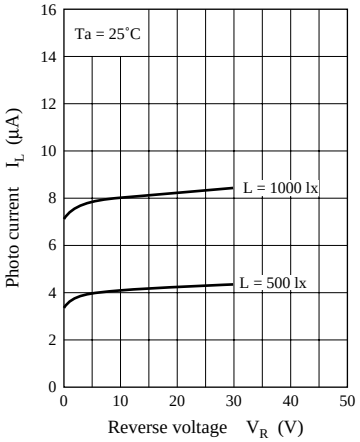
$t_f$: Fall time (Time required for the collector photo current to decrease from 90% to 10% of its initial value)

Note) The part number in the parenthesis shows conventional part number.

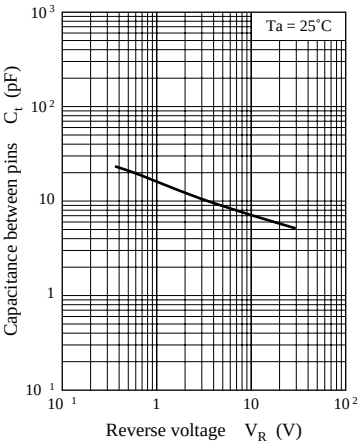
$I_L$ — L



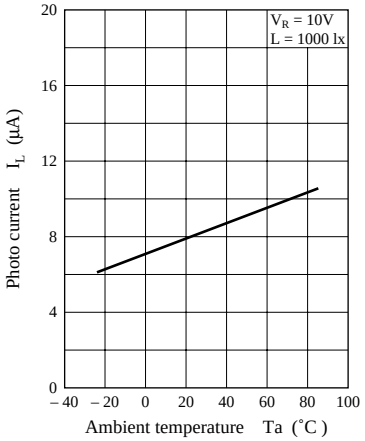

$I_L$ — $V_R$



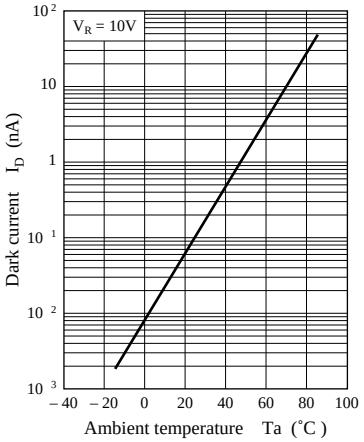

$C_t$ — $V_R$



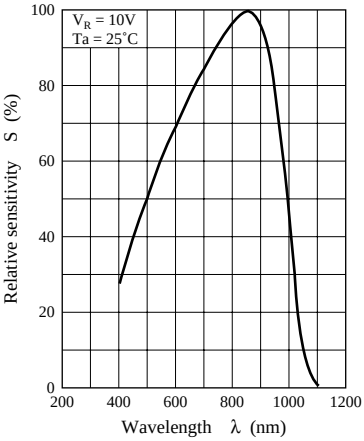

$I_L$ — Ta



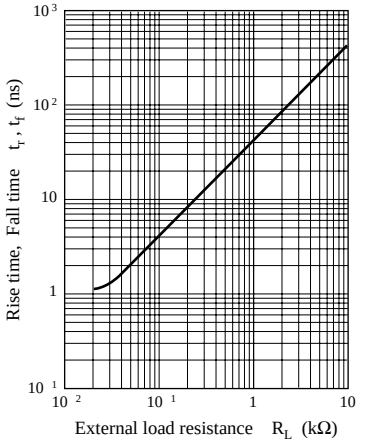

$I_D$ — Ta



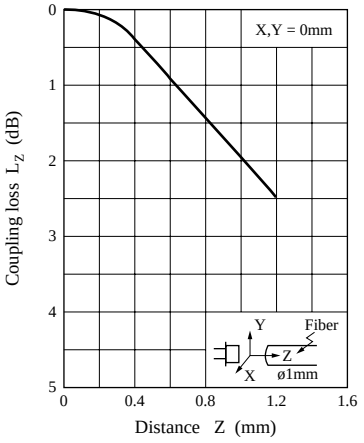

Spectral sensitivity characteristics



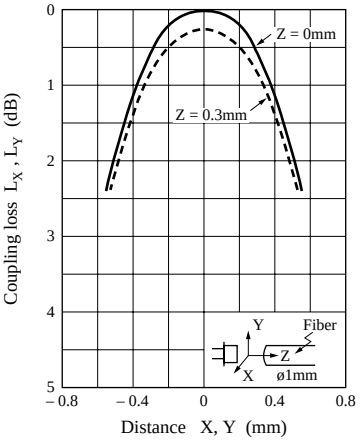

$t_r$ , $t_f$ — $R_L$




Coupling loss characteristics




Coupling loss characteristics



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