

# PN332F

## PIN Photodiode

For optical fiber communication systems

### Features

- Metal package with shield pin
- High coupling capability suitable for glass fiber (GI50/125)
- 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 +100 | °C   |
| Storage temperature           | $T_{sig}$ | -30 to +100 | °C   |

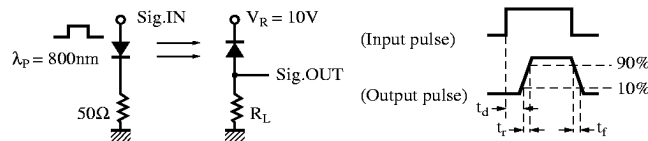
### Electro-Optical Characteristics (Ta = 25°C)

| Parameter                   | Symbol          | Conditions                                             | min | typ | max | Unit    |
|-----------------------------|-----------------|--------------------------------------------------------|-----|-----|-----|---------|
| Dark current                | $I_D$           | $V_R = 10V$                                            |     | 0.1 | 1   | nA      |
| Photo current               | $I_L$           | $V_R = 10V, L = 1000 \text{ lx}^{*1}$                  |     | 1   |     | $\mu A$ |
| Peak sensitivity wavelength | $\lambda_P$     | $V_R = 10V$                                            |     | 800 |     | nm      |
| Response time               | $t_r, t_f^{*2}$ | $V_R = 10V, R_L = 50\Omega$                            |     |     | 1   | ns      |
| Capacitance between pins    | $C_t$           | $V_R = 10V, f = 1\text{MHz}$                           |     | 2   |     | pF      |
| Acceptance half angle       | $\theta$        | Measured from the optical axis to the half power point |     | 40  |     | deg.    |
| Quantum efficiency          | $\eta$          | $V_R = 10V, \lambda = 850\text{nm}$                    | 60  | 75  |     | %       |
| Photo sensitivity           | $S$             | $V_R = 10V, \lambda = 800\text{nm}$                    |     | 0.6 |     | A/W     |

Note) The glass strength of this product cannot withstand loads of 0.5 kg or greater. This fact needs to be taken into consideration if optical fibers are to be mounted on the product.

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

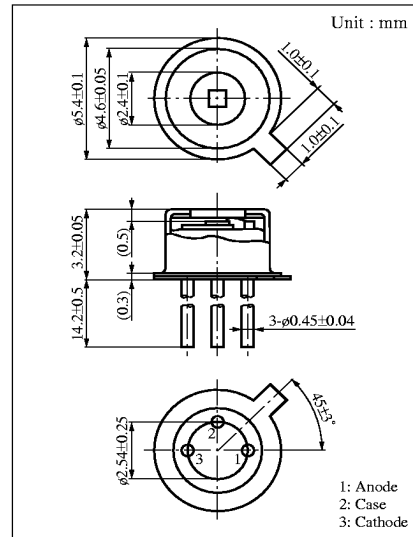
\*2 Switching time measurement circuit



$t_d$ : 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)



### Dimensions of detection area

