

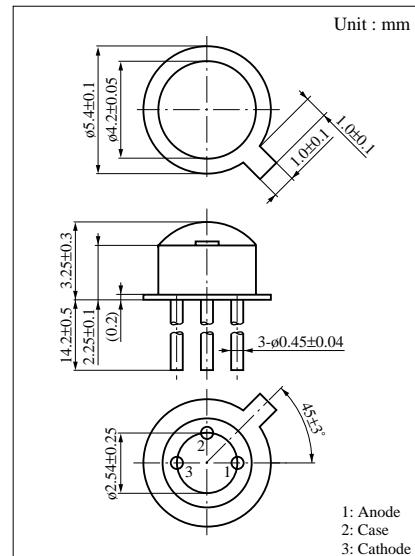
# PNZ331CL

## PIN Photodiode

For optical fiber communication systems

### ■ Features

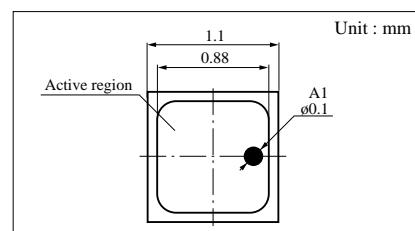
- TO-18 standard type package
- High coupling capability suitable for plastic fiber
- High quantum efficiency
- High-speed response



### ■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Reverse voltage (DC)	V <sub>R</sub>	30	V
Power dissipation	P <sub>D</sub>	50	mW
Operating ambient temperature	T <sub>opr</sub>	-25 to +85	°C
Storage temperature	T <sub>stg</sub>	-30 to +100	°C

### ■ Dimensions of detection area



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

Parameter	Symbol	Conditions	min	typ	max	Unit
Dark current	I <sub>D</sub>	V <sub>R</sub> = 10V		0.1	10	nA
Photo current	I <sub>L</sub>	V <sub>R</sub> = 10V, L = 1000 lx <sup>*1</sup>	7	14		µA
Peak sensitivity wavelength	λ <sub>P</sub>	V <sub>R</sub> = 10V		900		nm
Response time	t <sub>r</sub> , t <sub>f</sub> <sup>*2</sup>	V <sub>R</sub> = 10V, R <sub>L</sub> = 50Ω		2		ns
Capacitance between pins	C <sub>t</sub>	V <sub>R</sub> = 10V		3		pF
Photodetection sensitivity	R	V <sub>R</sub> = 10V, λ = 800nm		0.55		A/W
Acceptance half angle	θ	Measured from the optical axis to the half power point		70		deg.
Photodetection surface shape	D	Effective detection area		□0.88		mm

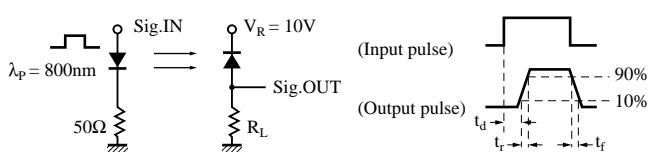
Note 1) Spectral sensitivity: Sensitivity at wavelengths exceeding 400 nm as a percentage of maximum sensitivity is 100%

Note 2) This product is not designed to withstand electromagnetic radiation or heavy-charge particles.

Note 3) Difficult to guarantee compliance with moisture resistance standard (MIL-STD-202D)

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

<sup>\*2</sup> Switching time measurement circuit (see figure below)



t<sub>d</sub>: Delay time

t<sub>r</sub>: Rise time (Time required for the collector photo current to increase from 10% to 90% of its final value)

t<sub>f</sub>: Fall time (Time required for the collector photo current to decrease from 90% to 10% of its initial value)

