#### **PIN Photodiodes**

## **Panasonic**

# PNZ322D (PN322D)

### Dual Division Silicon PIN Photodiode

#### For optical information systems

#### Features

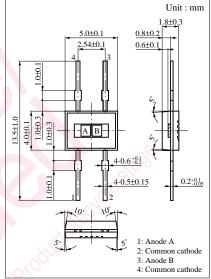
- Fast response :  $t_r$ ,  $t_f = 10$  ns (typ.)
- Good photo current linearity
- Low dark current :  $I_D = 10 \text{ nA} \text{ (max.)}$
- Small plastic package and visible light cutoff resin (flat type)

#### Applications

- Auto focus sensor for still cameras and video cameras etc.
- Distance measuring systems
- Position sensor for automatic assembly lines
- Eye sensor for industrial robots

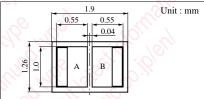
#### Absolute Maximum Ratings ( $Ta = 25^{\circ}C$ )

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



Note) The PNZ0322 package consists of a visible light cutoff resin. Therefore the chips (A and B) shown in the drawing cannot actually be seen.

#### Dimensions of detection area



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

Parameter	Symbol	Conditions	min	typ	max	Unit
Reverse voltage (DC)	V <sub>R</sub>	$I_R = 10\mu A$	30			V
Dark current	I <sub>D</sub>	$V_R = 10V$			10	nA
Photo current	I <sub>L</sub> *3	$V_{\rm R} = 10V, L = 1000  \rm lx^{*1}$	3	5		μΑ
Peak sensitivity wavelength	$\lambda_{\rm P}$	$V_R = 10V$		940		nm
Response time	$t_{\rm r}, t_{\rm f}^{*2}$	$V_R = 10V, R_L = 1k\Omega$		10		ns
Capacitance between pins	Ct	$V_R = 10V, f = 1MHz$		3		pF
Acceptance half angle	θ	Measured from the optical axis to the half power point		65		deg.

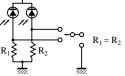
Note) The indicated values for absolute maximum ratings and electro-optical characteristics

are the values corresponding to individual elements.

<sup>\*1</sup> White tungsten lamp light source (color temperature T = 2856K)

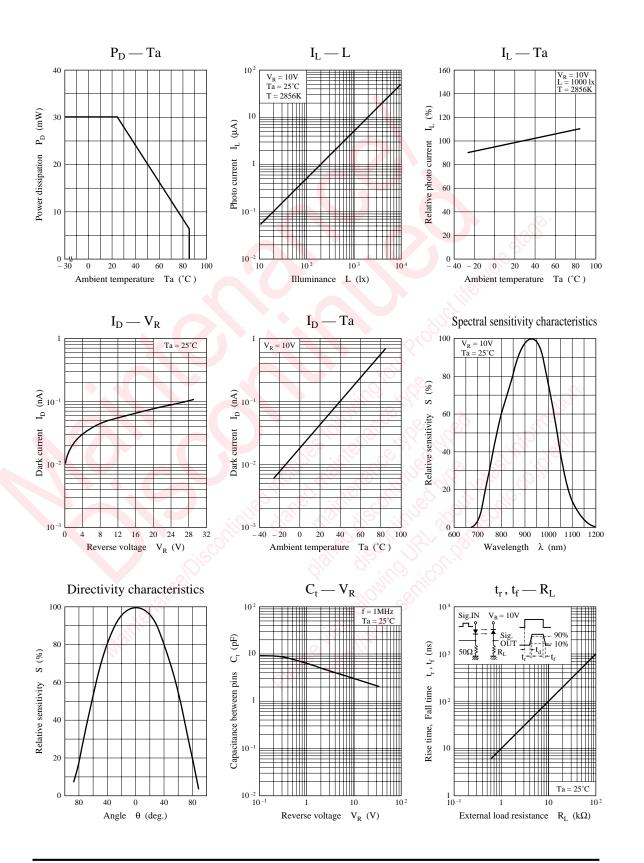
\*2 Semiconductor laser light source ( $\lambda = 800$ nm)

\*<sup>3</sup> Photo current measurement circuit  $\underline{\mathbf{Q}} + \mathbf{10}$ 



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

#### PNZ322D



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