

PNZ323B (PN323B)

Silicon planar type

For optical control systems

■ Features

- Fast response which is well suited to high speed modulated light detection: $t_r, t_f = 50$ ns (typ.)
- High sensitivity, high reliability
- Peak sensitivity wavelength matched with infrared light emitting diodes: $\lambda_{PD} = 970$ nm (typ.)
- Wide detection area, wide half-power angle: $\theta = 70^\circ$ (typ.)
- Adoption of visible light cutoff resin

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

Parameter	Symbol	Rating	Unit
Reverse voltage	V_R	30	V
Power dissipation	P_D	100	mW
Operating ambient temperature	T_{opr}	-30 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-40 to +100	$^\circ\text{C}$

■ Electrical-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Sensitivity to infrared radiation *1	S_{IR}	$V_R = 5$ V, $H = 0.1$ mW/cm ²	3.2	4		μA
Photocurrent *2	I_L	$V_R = 10$ V, $L = 1000$ lx		31		μA
Drain current	I_D	$V_R = 10$ V		5	50	nA
Terminal capacitance	C_t	$V_R = 0$ V, $f = 1$ MHz		70		pF
Peak sensitivity wavelength	λ_{PD}	$V_R = 10$ V		970		nm
Half-power angle	θ	The angle when the sensitivity to infrared radiation is halved		70		$^\circ$
Rise time *3	t_r	$V_R = 10$ V, $R_L = 1$ k Ω		50		ns
Fall time *3	t_f			50		ns
Rise time *3	t_r	$V_R = 10$ V, $R_L = 100$ k Ω		5		μs
Fall time *3	t_f			5		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7031 measuring methods for diodes.

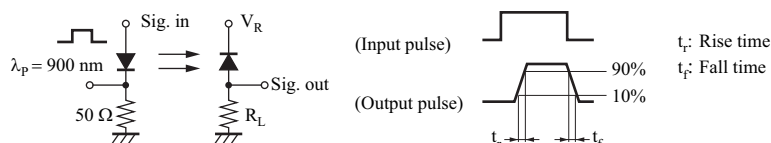
2. Spectral sensitivity characteristics: Sensitivity for wave length over 400 nm maximum sensitivity ratio is 100%.

3. This device is designed by disregarding radiation.

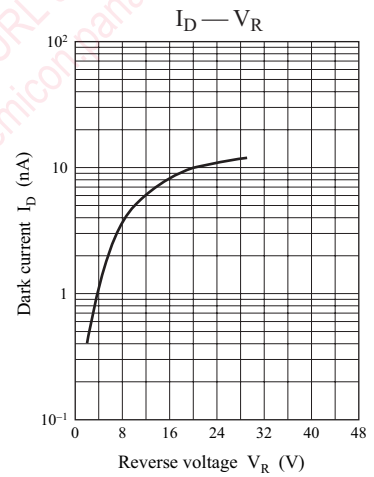
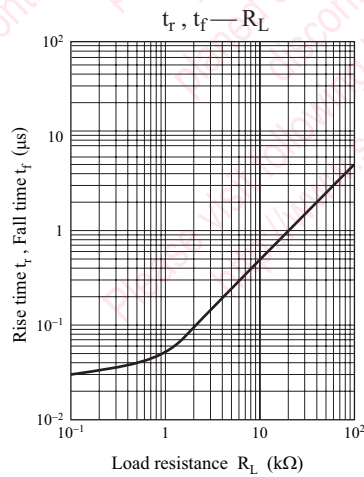
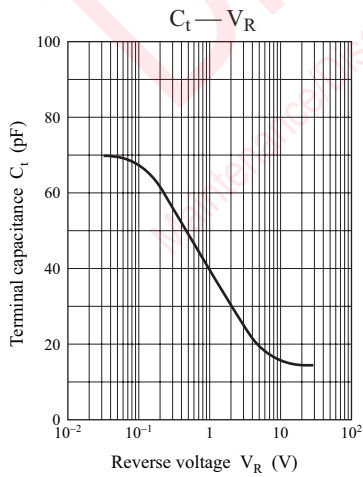
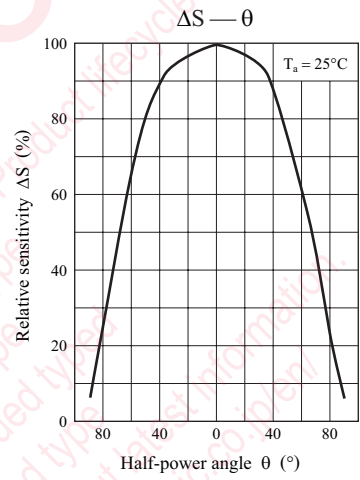
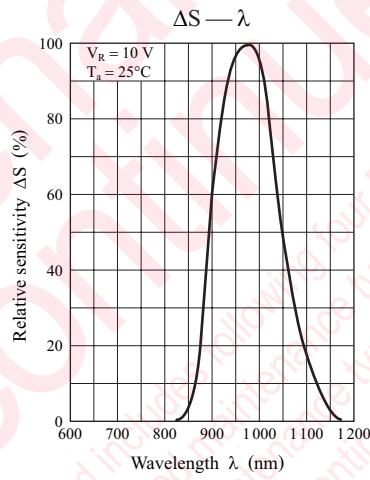
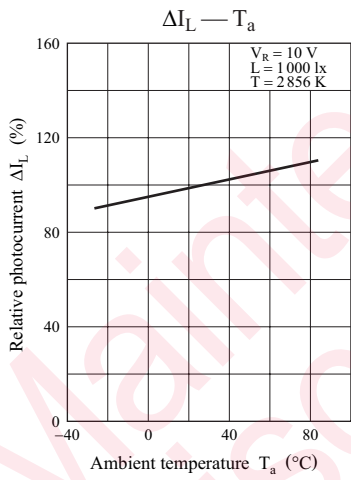
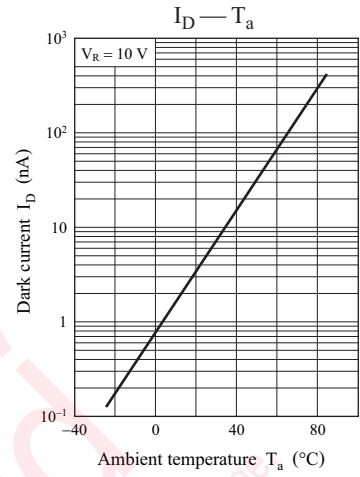
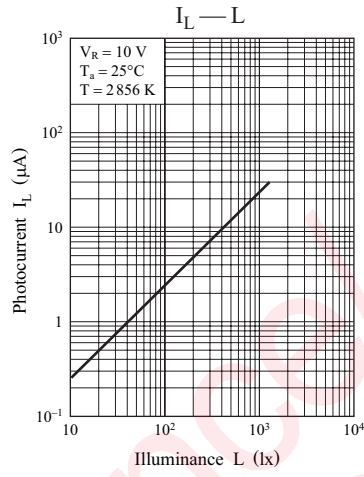
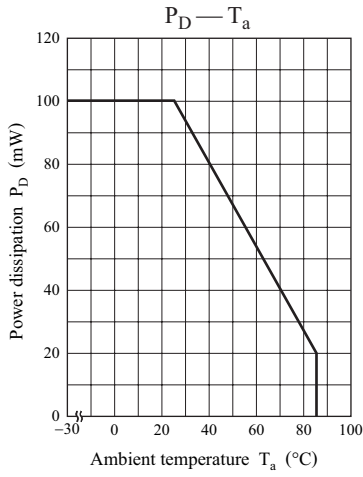
4. *1: Source: Infrared emitters ($\lambda = 940$ nm)

*2: Source: Tungsten lamp (color temperature 2 856K)

*3: Switching time measurement circuit



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



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