PNZ313 (PN313)

Silicon planar type

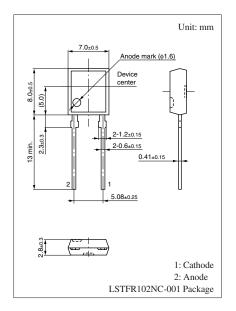
For optical control systems

■ 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 emission wavelength matched with infrared light emitting diodes: $\lambda_p = 940 \text{ nm (typ.)}$
- Wide detection area, wide half-power angle: $\theta = 65^{\circ}$ (typ.)
- Adoption of visible light cutoff resin

■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit
Reverse voltage	V _R	30	V
Power dissipation	P_{D}	100	mW
Operating ambient temperature	Topr	-30 to +80	°C
Storage temperature	T _{stg}	-40 to +80	°C

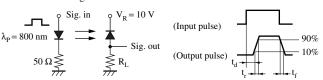


■ Electrical-Optical Characteristics $T_a = 25$ °C ± 3 °C

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Dark current	I_D	$V_R = 10 \text{ V}$		5	50	nA
Photocurrent *1	I_{L}	$V_R = 10 \text{ V}, L = 1000 \text{ lx}$	35	50		μΑ
Peak emission wavelength	$\lambda_{\rm p}$	$V_R = 10 \text{ V}$		940		nm
Rise time *2	t _r	$V_R = 10 \text{ V}, R_L = 1 \text{ k}\Omega$		50		ns
Fall time *2	$t_{\rm f}$			50		ns
Rise time *2	t _r	$V_R = 10 \text{ V}, R_L = 100 \text{ k}\Omega$		5		μs
Fall time *2	t_{f}			5		μs
Terminal capacitance	C _t	$V_R = 0 \text{ V, } f = 1 \text{ MHz}$		70		pF
Half-power angle	θ	The angle from which photocurrent becomes 50%		65		0

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

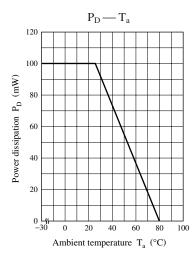
- 2. *1: Source: Tungsten (color temperature 2856 K)
 - *2: Switching time measurement circuit

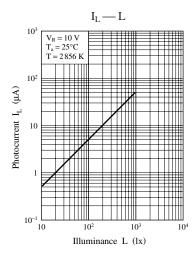


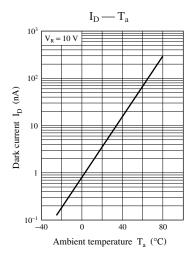
- t_d: Delay time
- t_r: Rise time (Time required for the collector photocurrent to increase from 10% to 90% of its final value)
- t_f: Fall time (Time required for the collector photocurrent to decrease from 90% to 10% of its initial value)

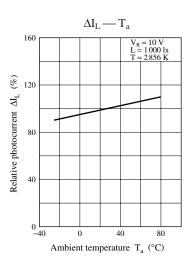
Note) The part number in the parenthesis shows conventional part number.

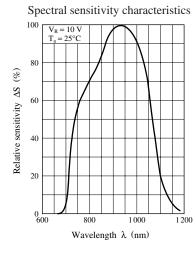
Panasonic

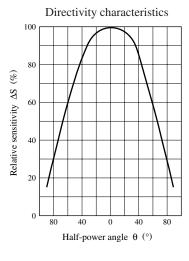


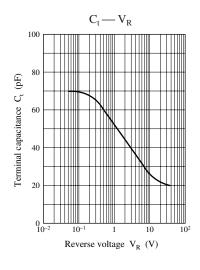


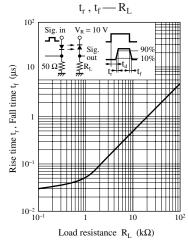


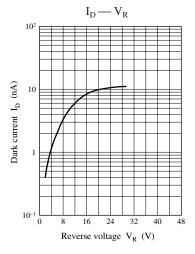












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