

PNZ121S (PN121S)

Silicon planar type

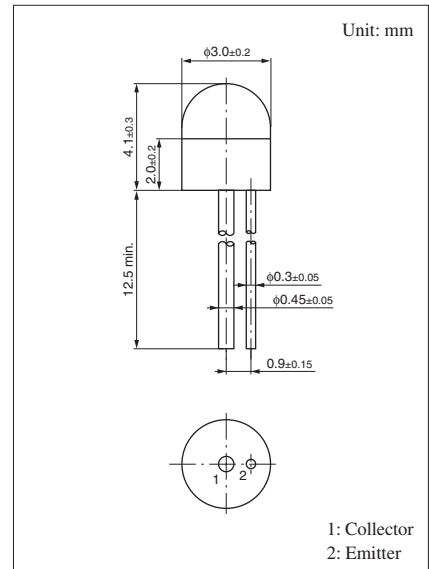
For optical control systems

■ Features

- Stable operations in high illuminance region
- Low dark current
- Fast response: $t_r = 1 \mu\text{s}$ (typ.)
- Small size ($\phi 3$) ceramic package

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

Parameter	Symbol	Rating	Unit
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Emitter-collector voltage (Base open)	V_{ECO}	5	V
Collector current	I_C	10	mA
Collector power dissipation	P_C	50	mW
Operating ambient temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 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
Photocurrent *1, *2	$I_{CE(L)}$	$V_{CE} = 10 \text{ V}$, $L = 1000 \text{ lx}$	120		280	μA
Dark current	I_{CEO}	$V_{CE} = 10 \text{ V}$		1	100	nA
Peak emission wavelength	λ_p	$V_{CE} = 10 \text{ V}$		800		nm
Half-power angle	θ	The angle from which photocurrent becomes 50%		30		$^\circ$
Rise time *3	t_r	$V_{CC} = 10 \text{ V}$, $I_{CE(L)} = 1 \text{ mA}$, $R_L = 100 \Omega$		1		μs
Fall time *3	t_f			1.3		μs

Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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

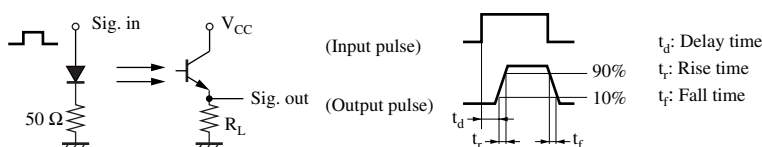
3. This device is designed be disregarded radiation.

5. *1: Source: Tungsten (color temperature 2856 K)

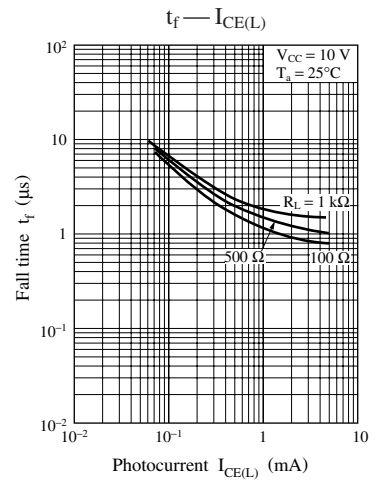
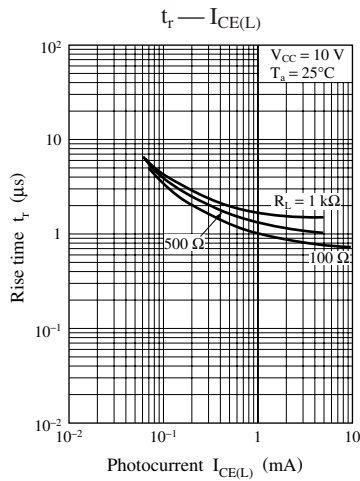
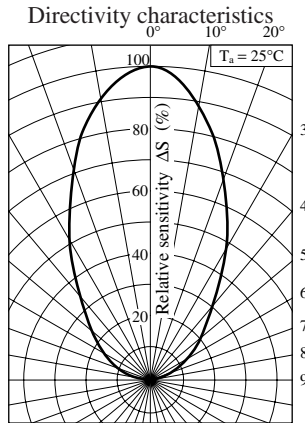
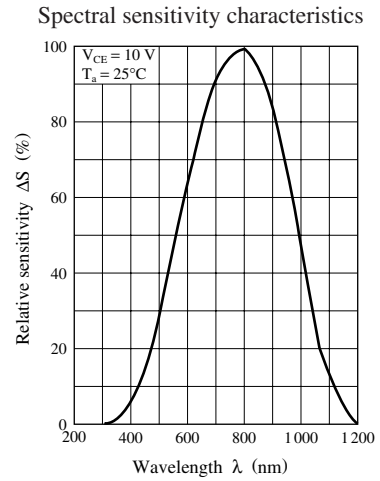
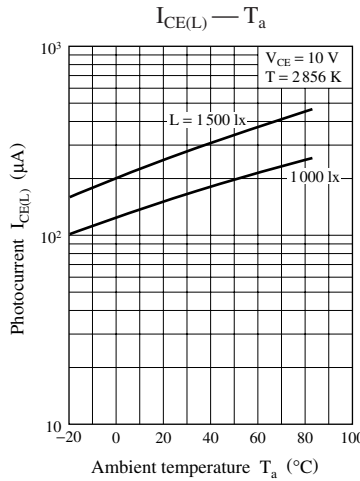
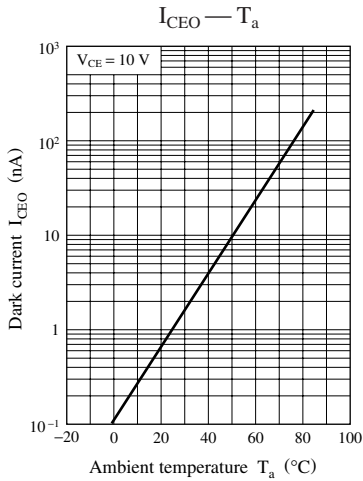
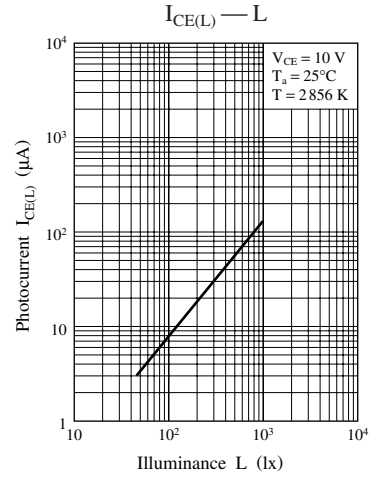
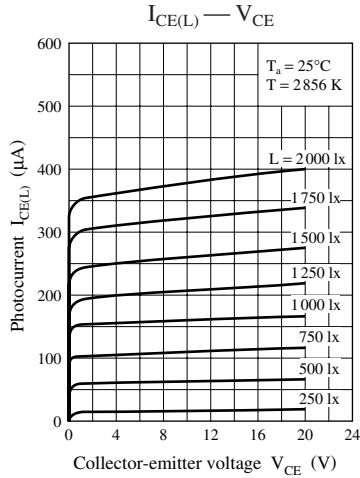
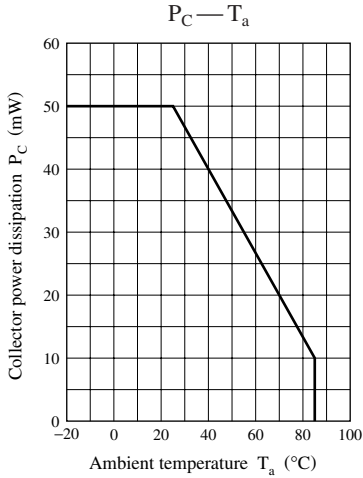
*2: Rank classification

Rank	Q	R	S	T
$I_{CE(L)}$ (μA)	120 to 180	160 to 200	180 to 235	210 to 280
Color	Black	Red	Green	—

*3: Switching time measurement circuit



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



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