

PNZ106 (PN106)

Silicon planar type

For optical control systems

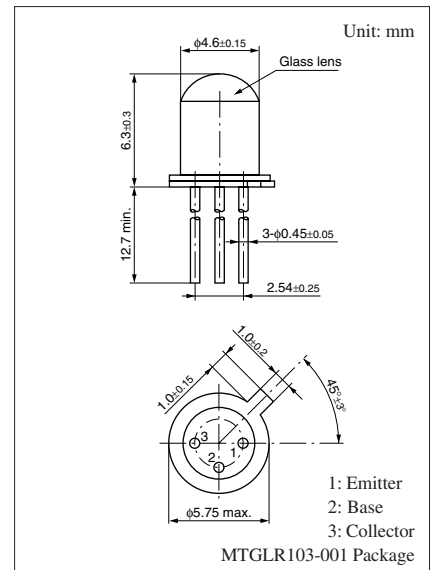
■ Features

- High sensitivity
- Fast response: $t_r = 3.5 \mu\text{s}$ (typ.)
- Narrow directivity characteristics for effective use of light input
- Signal mixing capability using base pin

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

Parameter	Symbol	Rating	Unit
Collector-emitter voltage (Base open)	V_{CEO}	30	V
Collector-base voltage (Emitter open)	V_{CBO}	40	V
Emitter-collector voltage (Base open)	V_{ECO}	5	V
Emitter-base voltage (Collector open)	V_{EBO}	5	V
Collector current	I_C	20	mA
Collector power dissipation *	P_C	100	mW
Operating ambient temperature	T_{opr}	-25 to +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$

Note) *: The rate of electric power reduction is 1.0 mW/ $^\circ\text{C}$ above $T_a = 25^\circ\text{C}$.



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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Photocurrent *1	$I_{CE(L)}$	$V_{CE} = 10 \text{ V}, L = 100 \text{ lx}$	0.3	0.6		mA
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%		10		$^\circ$
Rise time *2	t_r	$V_{CC} = 10 \text{ V}, I_{CE(L)} = 1 \text{ mA}, R_L = 100 \Omega$		3.5		μs
Fall time *2	t_f			5.0		μs
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_{CE(L)} = 1 \text{ mA}, L = 1000 \text{ lx}$		0.2	0.4	V

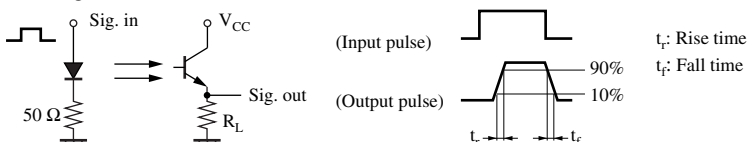
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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

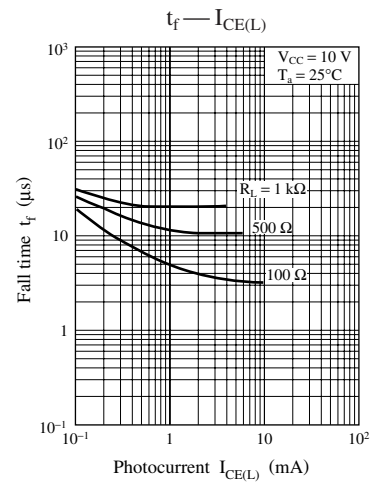
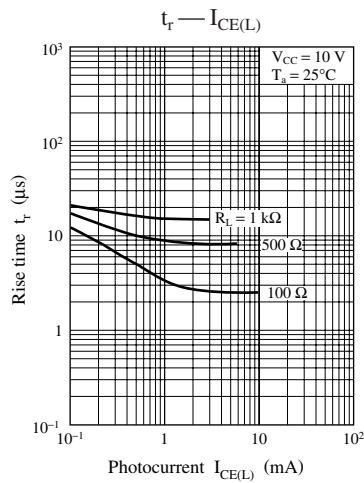
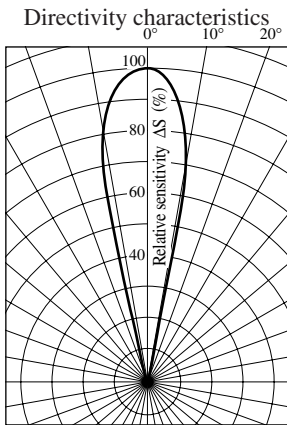
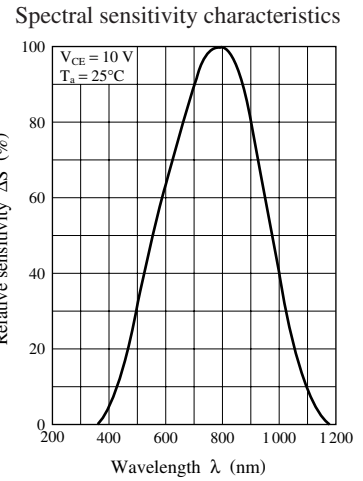
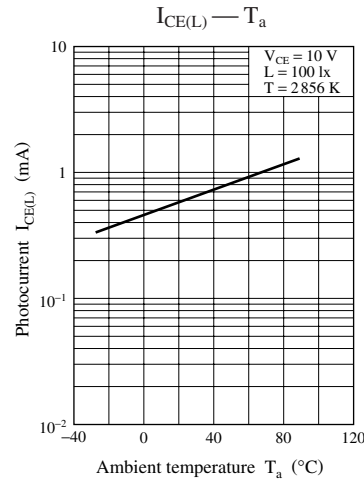
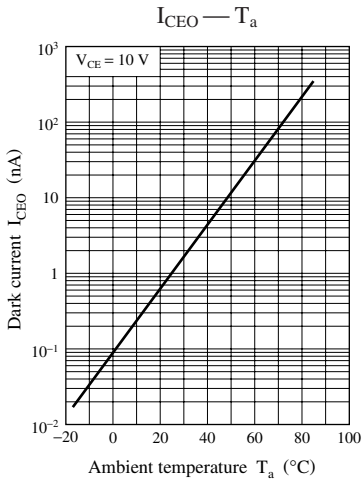
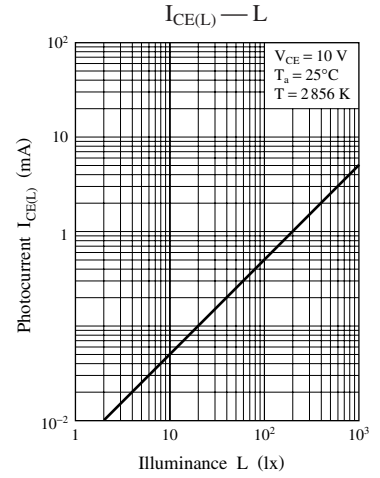
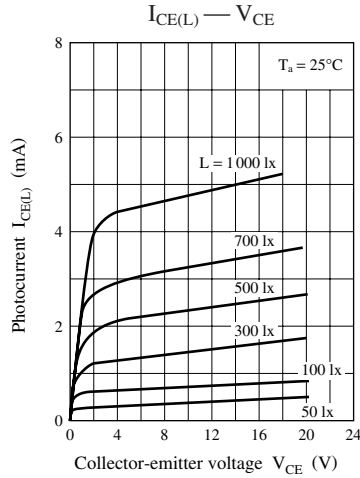
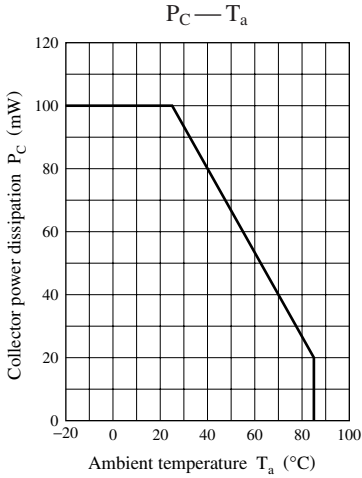
3. This device is designed by disregarded radiation.

4. *1: Source: Tungsten (color temperature 2856 K)

*2: Switching time measurement circuit



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



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