

PNZ107 (PN107)

Silicon planar type

For optical control systems

■ Features

- High sensitivity: $I_L = 5 \text{ mA}$ (min.)
- Narrow directivity characteristics for effective use of light input
- Fast response: $t_r = 5 \text{ }\mu\text{s}$ (typ.)
- TO-18 standard type 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}	3	V
Collector current	I_C	30	mA
Collector power dissipation *	P_C	150	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 1.5 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_L	$V_{CE} = 10 \text{ V}, L = 100 \text{ lx}$	5		15	mA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 10 \text{ V}$		0.05	2.0	μA
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_L = 1 \text{ mA}, L = 500 \text{ lx}$		0.3	0.6	V
Peak sensitivity wavelength	λ_{PD}	$V_{CE} = 10 \text{ V}$		900		nm
Half-power angle	θ	The angle when the photocurrent is halved		10		$^\circ$
Rise time *2	t_r	$V_{CC} = 10 \text{ V}, I_L = 5 \text{ mA}, R_L = 100 \text{ }\Omega$		5		μs
Fall time *2	t_f			6		μs

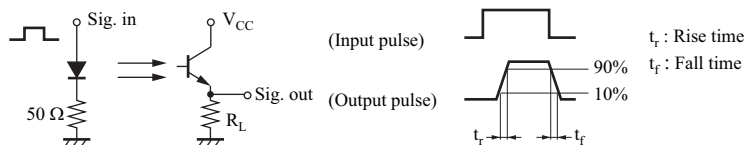
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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

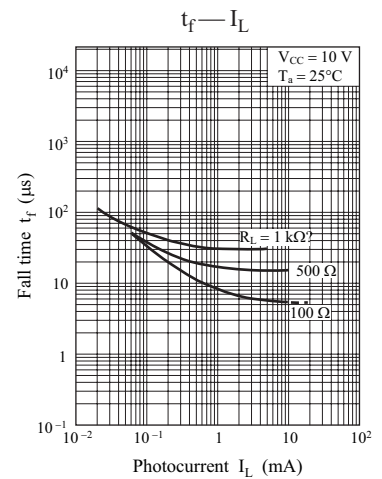
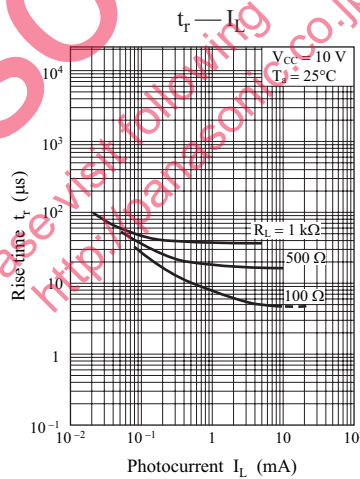
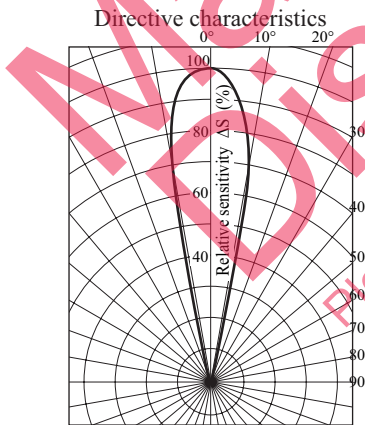
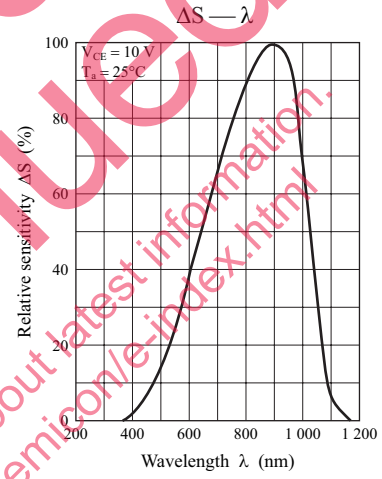
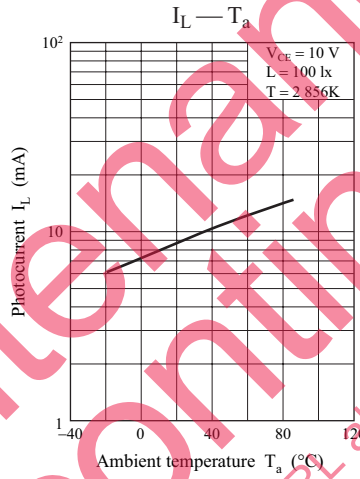
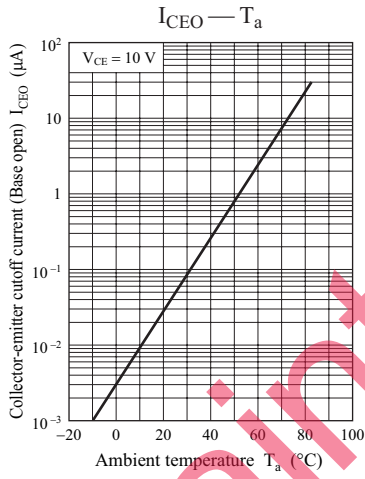
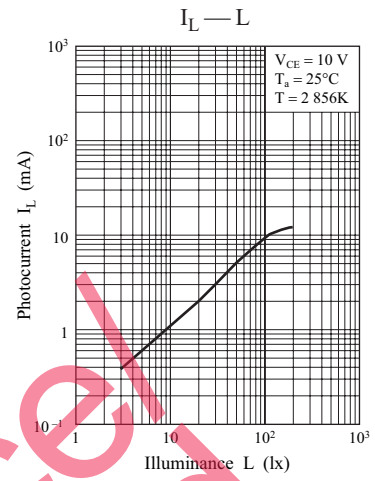
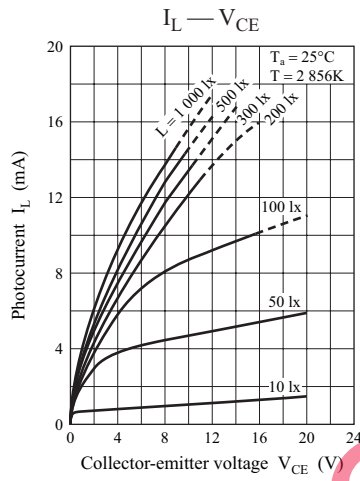
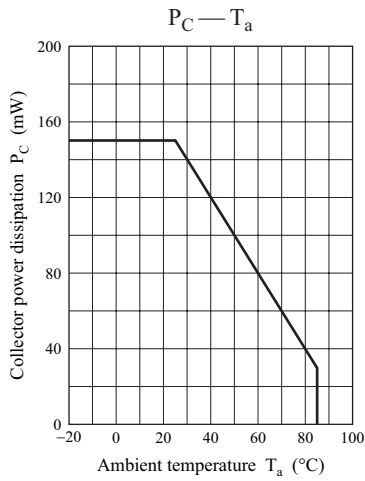
3. This device is designed by disregarding radiation.

4. *1:Source: Tungsten lamp (color temperature 2 856K)

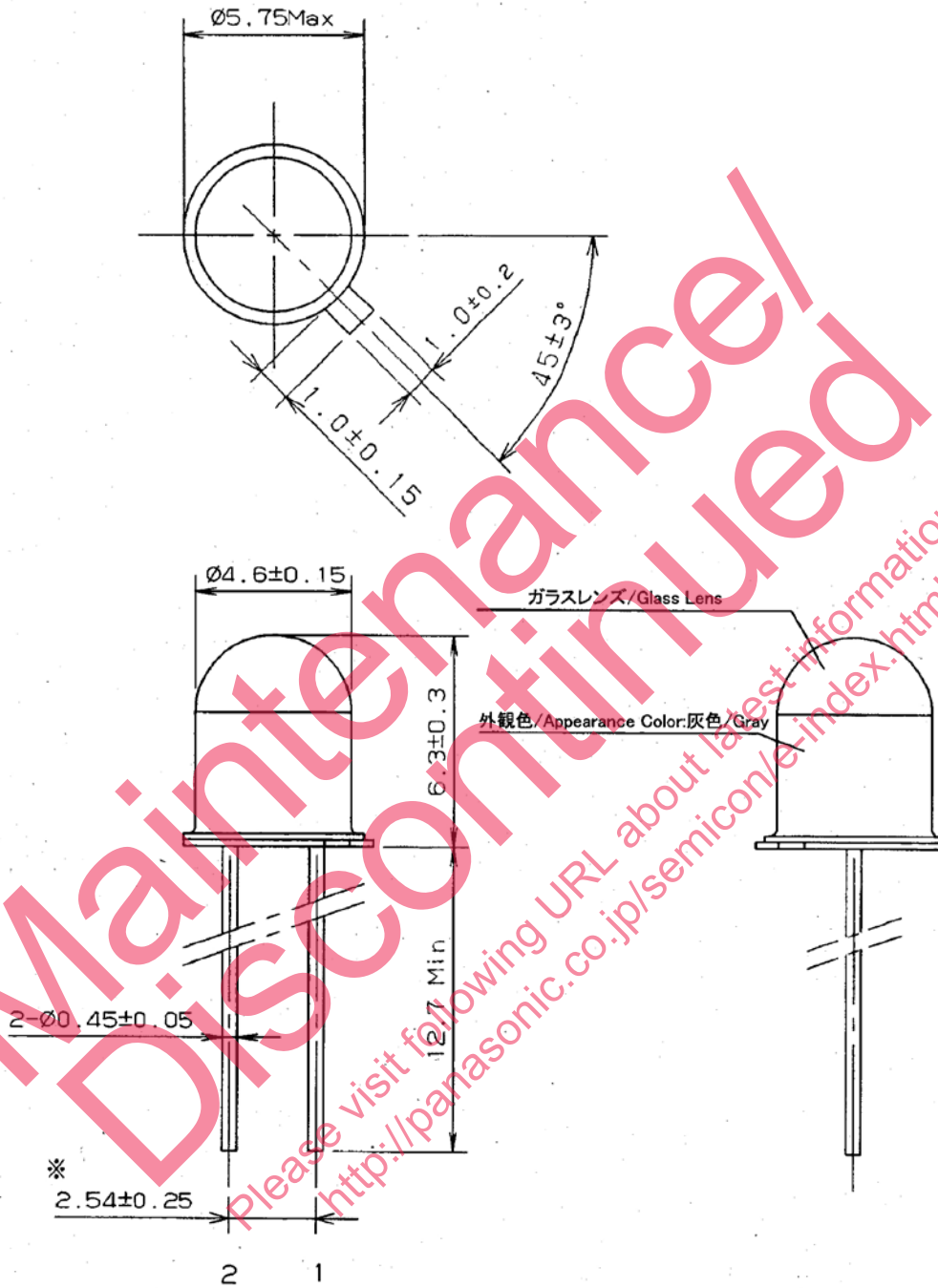
*2: Switching time measurement circuit



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



■ Package (Unit: mm)



(注 1) ※リード根元寸法とする。 / (Note 1) ※Indicates root dimensions of lead.

- Pin name
- 1: Emitter
- 2: Collector

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