

PNA1601M (PN166)

Silicon planar type

For optical control systems

■ Features

- High sensitivity
- Wide spectral sensitivity characteristics, suited for detecting various kinds of LEDs
- Ultraminiature, thin side-view type package

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

Parameter	Symbol	Rating	Unit
Collector-emitter voltage (Base open)	V_{CEO}	20	V
Collector current	I_{C}	20	mA
Collector power dissipation *	P_{C}	50	mW
Operating ambient temperature	T_{opr}	-25 to +65	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +85	$^\circ\text{C}$

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
Sensitivity to infrared radiation *1	S_{IR}	$V_{\text{CE}} = 10 \text{ V}$, $H = 15 \mu\text{W}/\text{cm}^2$	3	5	25	μA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{\text{CE}} = 10 \text{ V}$			0.2	μA
Collector-emitter saturation voltage *1	$V_{\text{CE(sat)}}$	$I_{\text{C}} = 10 \mu\text{A}$, $H = 15 \mu\text{W}/\text{cm}^2$			0.5	V
Peak sensitivity wavelength	λ_{PD}	$V_{\text{CE}} = 10 \text{ V}$		850		nm
Half-power angle	θ	The angle when the sensitivity to infrared radiation is halved		35		$^\circ$
Rise time *2	t_{r}	$V_{\text{CC}} = 10 \text{ V}$, $I_{\text{C}} = 5 \text{ mA}$, $R_{\text{L}} = 100 \Omega$		4		μs
Fall time *2	t_{f}			4		μs

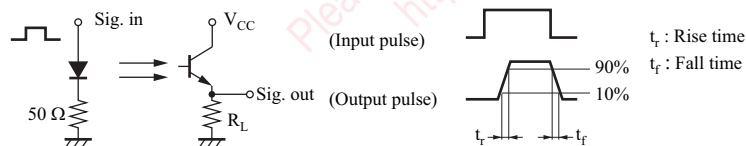
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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

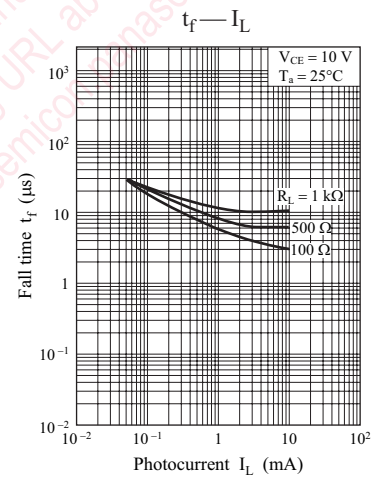
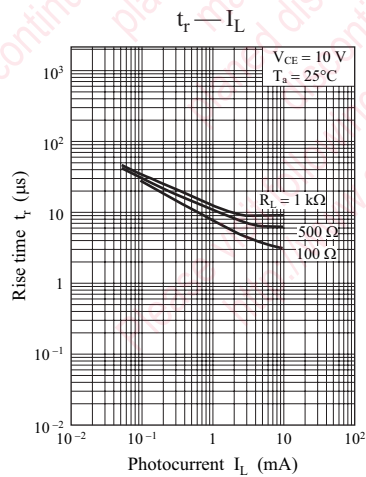
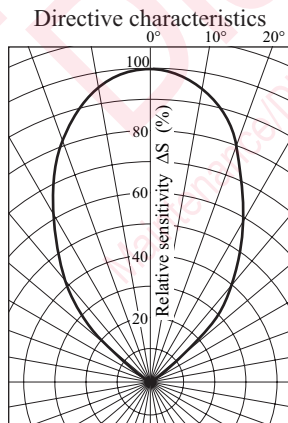
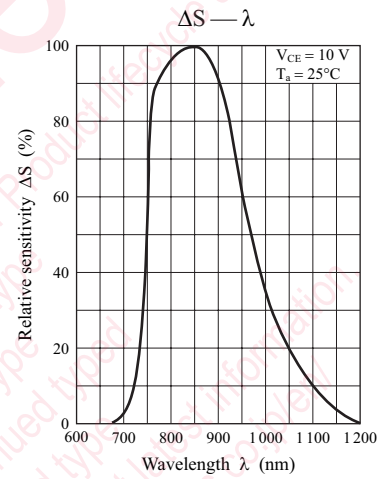
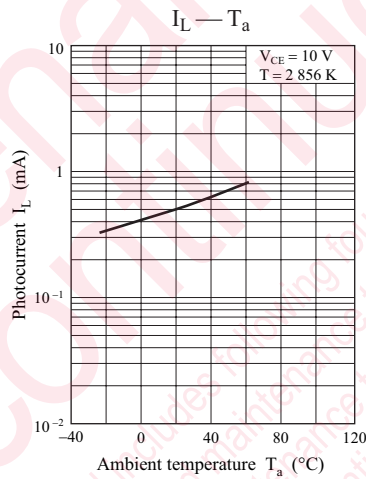
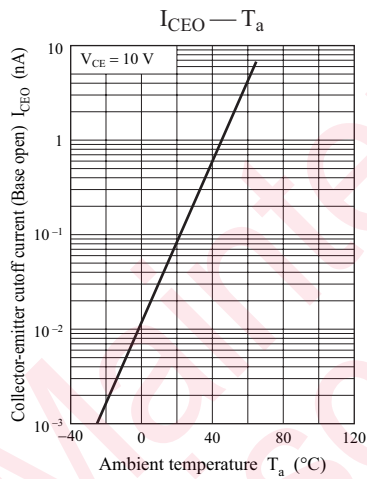
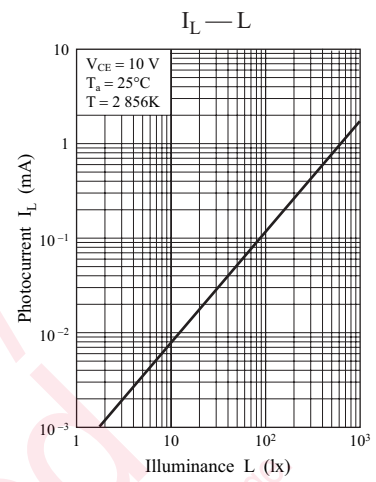
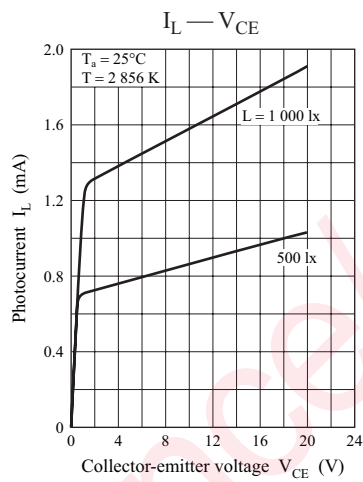
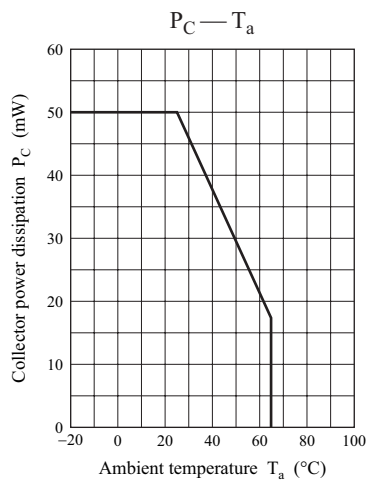
3. This device is designed by disregarding radiation.

4. *1:Source: Infrared radiation ($\lambda = 940 \text{ nm}$)

*2: Switching time measurement circuit

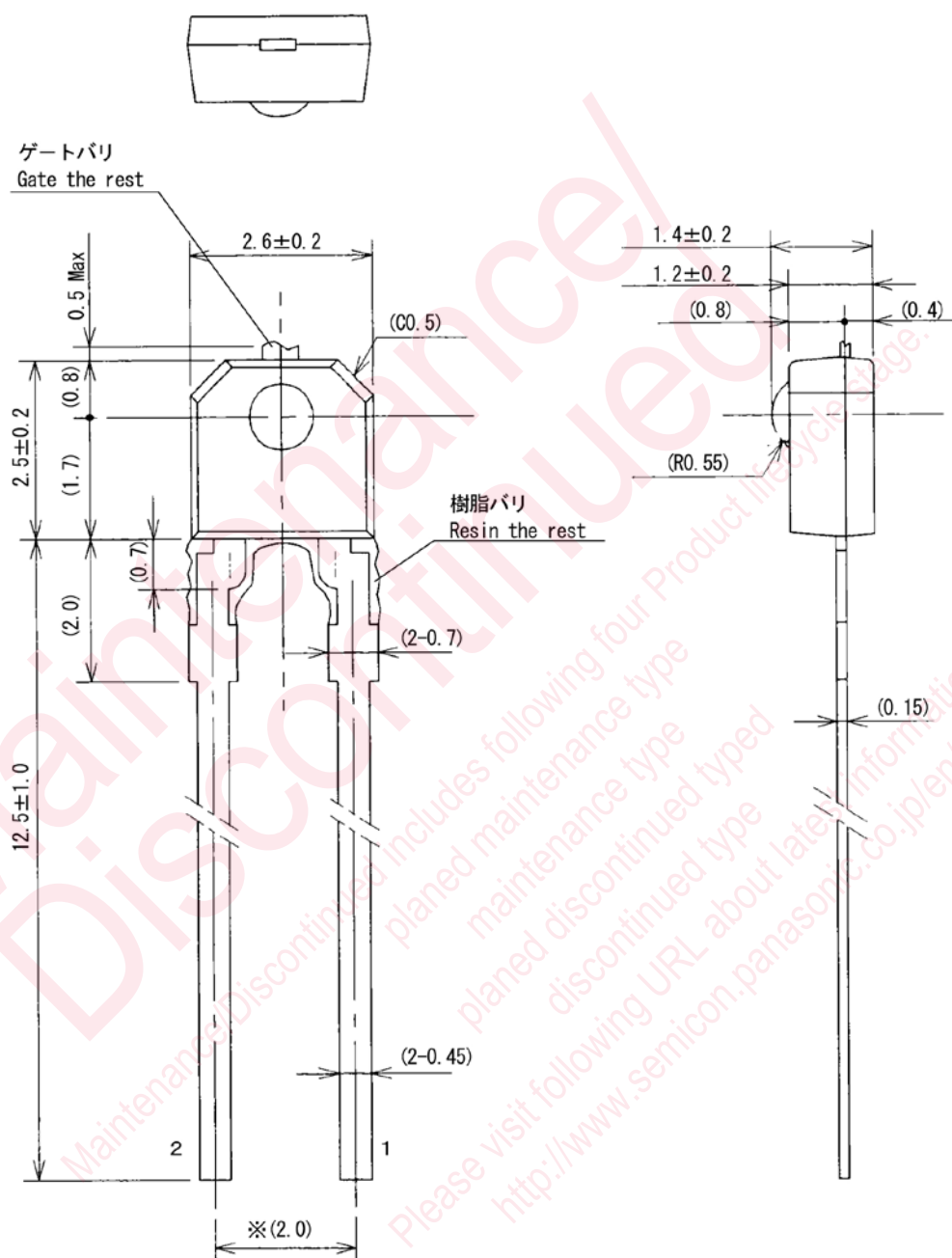


Note) The part number in the parenthesis shows conventional part number.



■ Package (Unit: mm)

LPTLSN2S0004



(注 1)※リード根元寸法とする。／(Note1)※Indicates root dimensions of lead.

- Pin name

- 1: Collector
2: Emitter

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