

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 $T_a = 25^\circ\text{C}$.

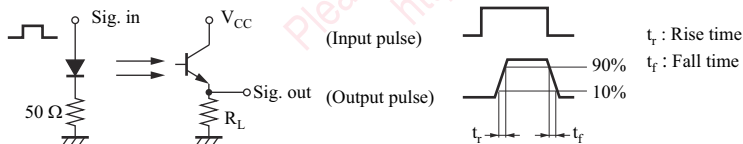
■ Electrical-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

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

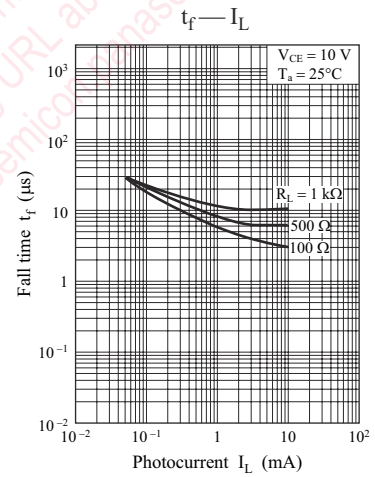
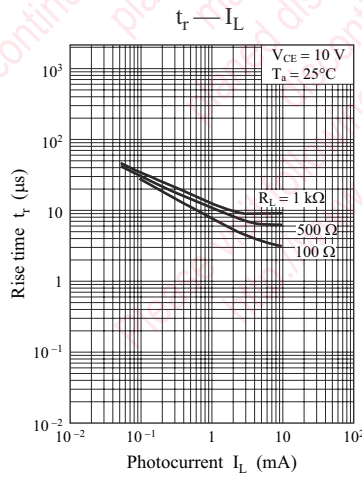
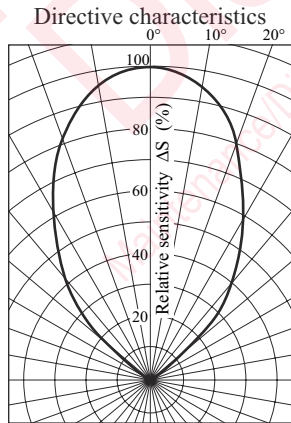
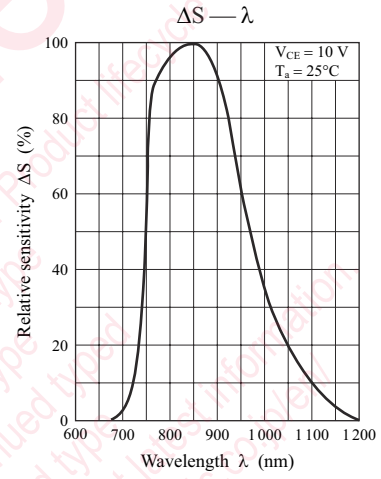
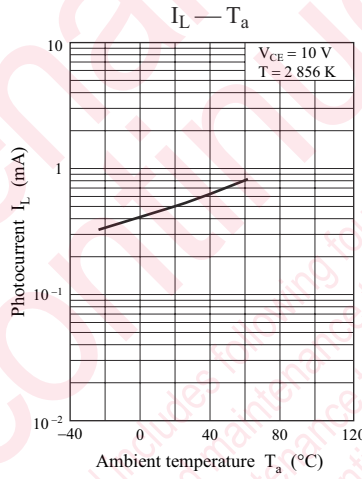
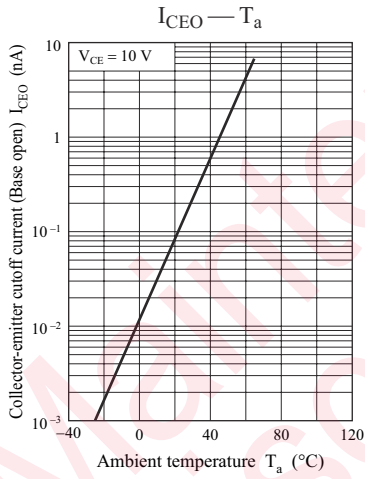
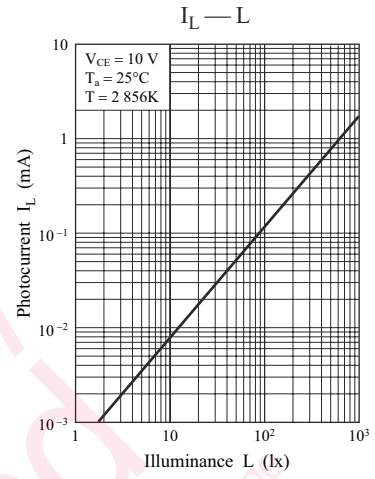
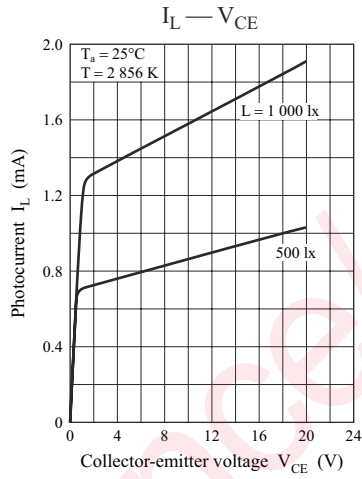
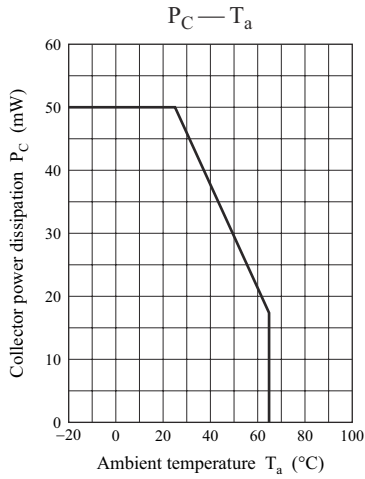
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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

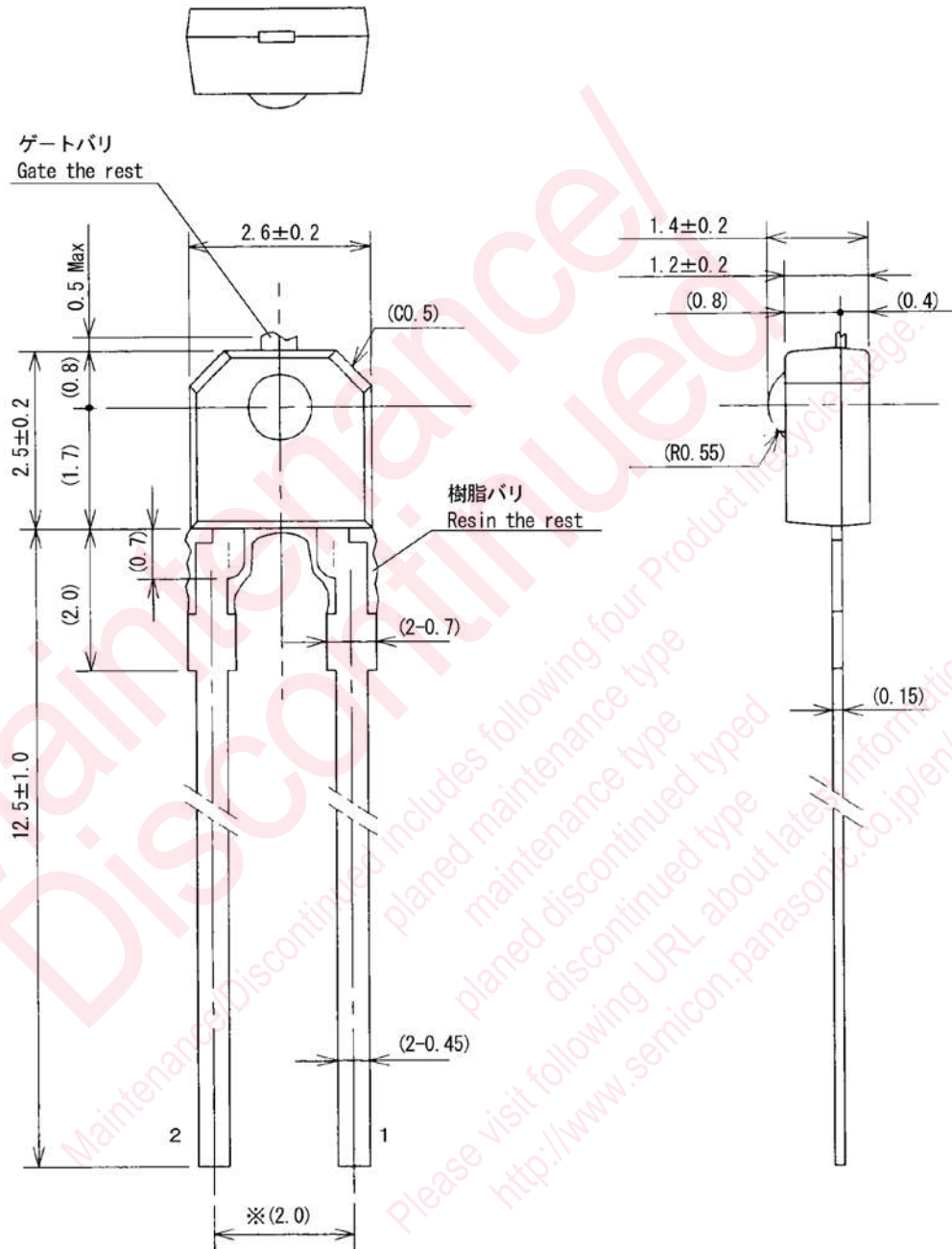


Note) The part number in the parenthesis shows conventional part number.



■ 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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