

PNA1401L (PN101)

Silicon planar type

For optical control systems

■ Features

- High sensitivity
- Wide spectral sensitivity characteristics, suited for detecting GaAs LEDs
- Low collector-emitter cutoff current (base open): $I_{CEO} = 5 \text{ nA (typ.)}$
- Fast response: $t_r, t_f = 3 \text{ } \mu\text{s (typ.)}$
- 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} | 30 | V |
| Emitter-collector voltage (Base open) | V_{ECO} | 5 | V |
| Collector current | I_C | 50 | 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 $T_a = 25^\circ\text{C}$.

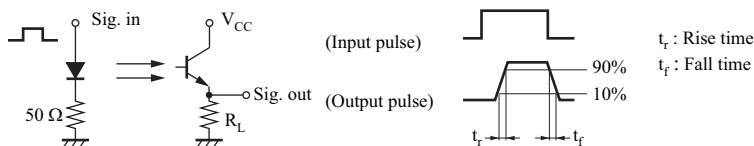
■ Electrical-Optical Characteristics $T_a = 25^\circ\text{C} \pm 3^\circ\text{C}$

| Parameter | Symbol | Conditions | Min | Typ | Max | Unit |
|--|----------------|--|-----|-----|-----|---------------|
| Photocurrent *1 | I_L | $V_{CE} = 10 \text{ V}, L = 100 \text{ lx}$ | 1.5 | 3.5 | | mA |
| Collector-emitter cutoff current (Base open) | I_{CEO} | $V_{CE} = 10 \text{ V}$ | | 5 | 300 | nA |
| Collector-emitter saturation voltage *1 | $V_{CE(sat)}$ | $I_L = 1 \text{ mA}, L = 500 \text{ lx}$ | | 0.2 | 0.4 | V |
| Peak sensitivity wavelength | λ_{PD} | $V_{CE} = 10 \text{ V}$ | | 800 | | nm |
| Half-power angle | θ | The angle when the photocurrent is halved | | 10 | | $^\circ$ |
| Rise time *2 | t_r | $V_{CC} = 10 \text{ V}, I_L = 5 \text{ mA}, R_L = 100 \text{ } \Omega$ | | 3 | | μs |
| Fall time *2 | t_f | | | 3 | | μs |

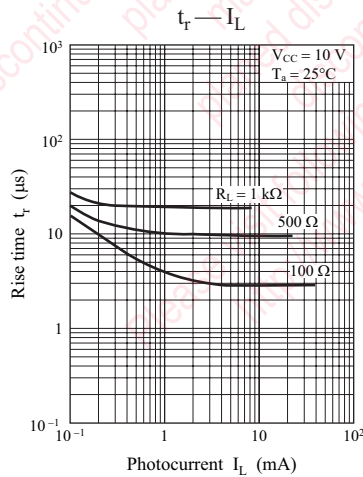
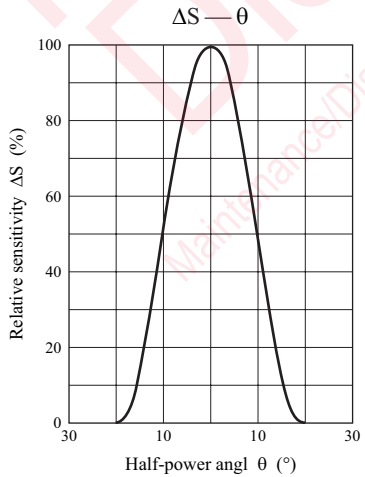
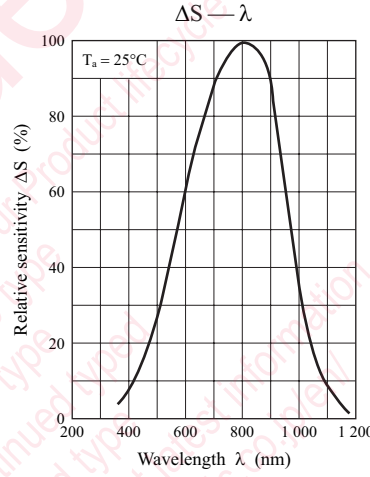
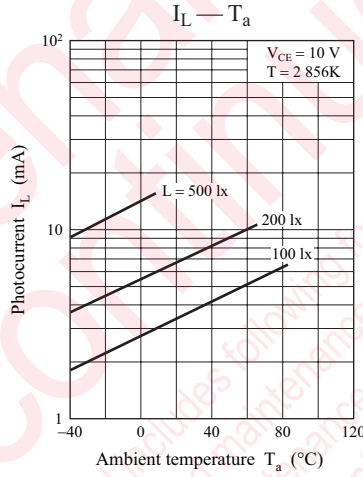
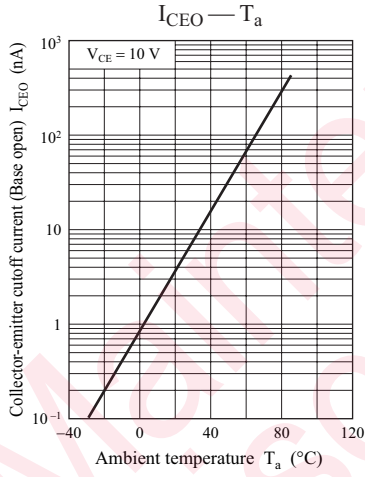
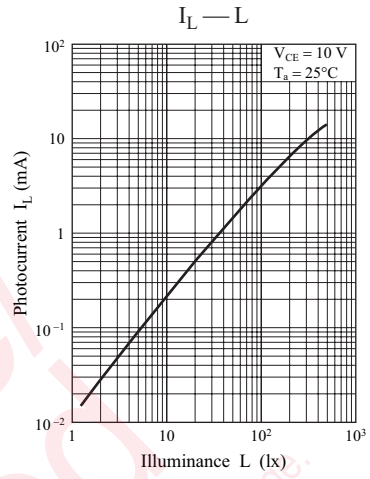
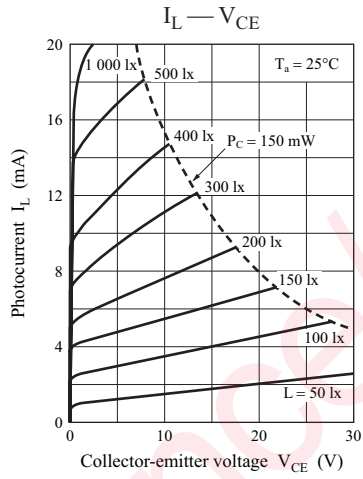
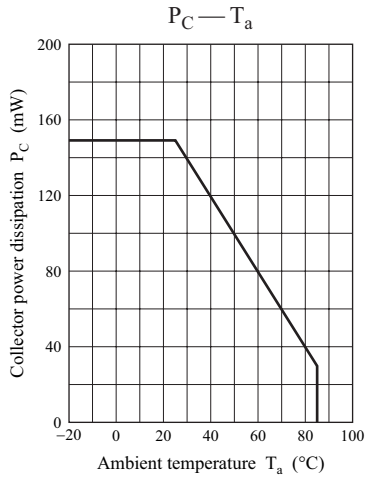
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. Spectral sensitivity characteristics: Sensitivity for wave length over 400 nm maximum sensitivity ratio is 100%.
3. This device is designed by disregarding radiation.
4. *1: Source: Tungsten lamp (color temperature 2 856K)

*2: Switching time measurement circuit

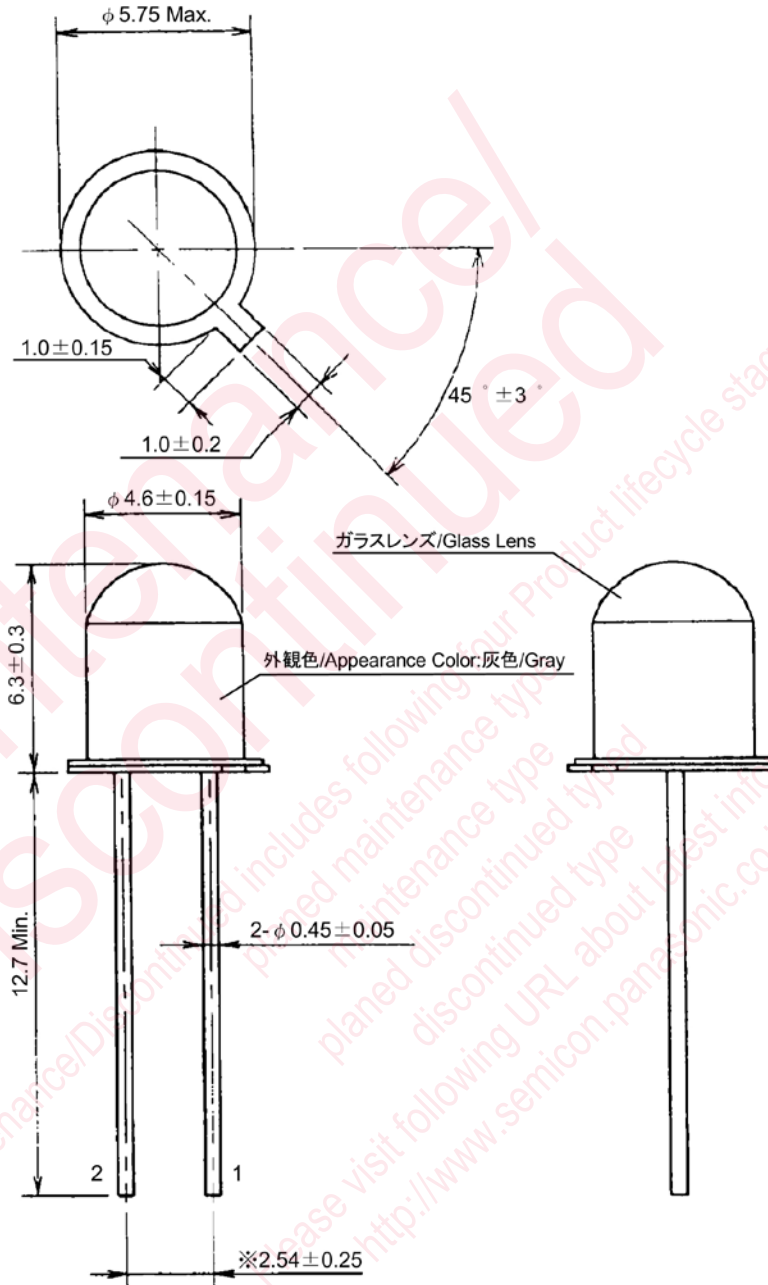


Note) The part number in the parenthesis shows conventional part number.



■ Package (Unit: mm)

MPCLTN2S0001



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

(注 2)マークは、目視又は顕微鏡において確認できる事。

(Notes2)What a mark sees an attention and can decode in a microscope.

• Pin name

1: Emitter

2: Collector

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