PNA1801L (PN168)

Silicon planar type

For optical control systems

■ Features

- High sensitivity
- Wide spectral sensitivity characteristics, suited for detecting GaAs LEDs
- Small size, high output power, low cost
- ϕ3 shell type plastic package

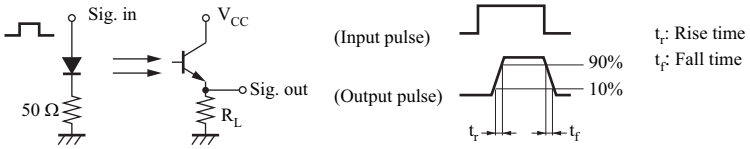
■ Absolute Maximum Ratings $T_a = 25°C$

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	20	mA
Collector power dissipation	P_C	100	mW
Operating ambient temperature	T_{opr}	–25 to +85	°C
Storage temperature	T_{stg}	–30 to +100	°C

■ Electrical-Optical Characteristics $T_a = 25°C \pm 3°C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Photocurrent *1	I_L	$V_{CE} = 10$ V, L = 500 lx	0.8	3.0	9.6	mA
Collector-emitter cutoff current (Base open)	I_{CEO}	$V_{CE} = 10$ V		5	500	nA
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_L = 1$ mA, L = 1 000 lx		0.2	0.5	V
Peak emission wavelength	λ_P	$V_{CE} = 10$ V		800		nm
Half-power angle	θ	The angle when the photocurrent is halved		30		°
Rise time *2	t_r	$V_{CC} = 10$ V, $I_L = 1$ mA, $R_L = 100\ \Omega$		4		μs
Fall time *2	t_f			4		μs

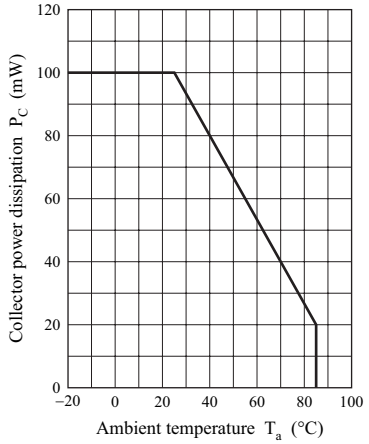
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.
2. Spectral sensitivity characteristics: Sensitivity for wave length over 400 nm maximum sensitivity ratio is 100%.
3. This device is designed by disregarding radiation.
4. ∗1: Source: Tungsten lamp (color temperature 2 856K)
∗2: Switching time measurement circuit



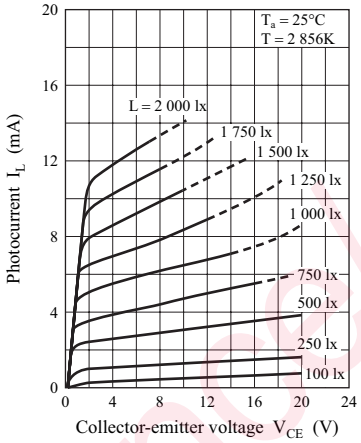
Maintenance/Discontinued
Please see the following for Product lifecycle stage.
http://www.semicon.panasonic.co.jp/en/
planned discontinued type
maintenance type
discontinued type
following URL about latest information.

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

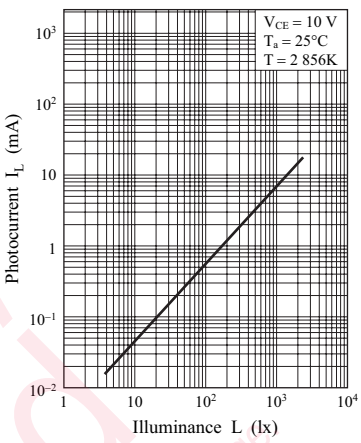
P_C — T_a



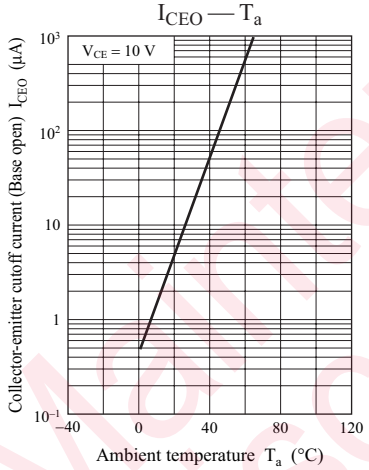
I_L — V_{CE}



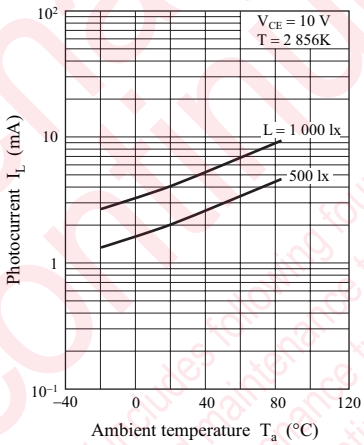
I_L — L



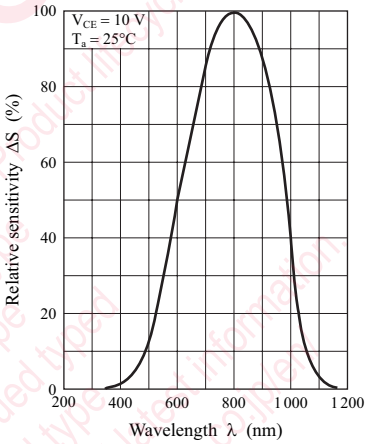
I_{CEO} — T_a



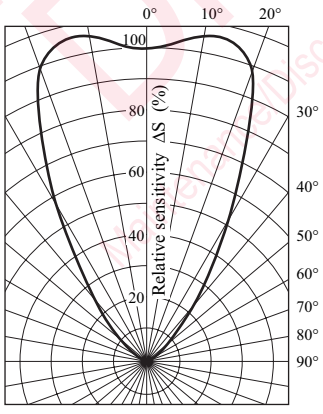
I_L — T_a



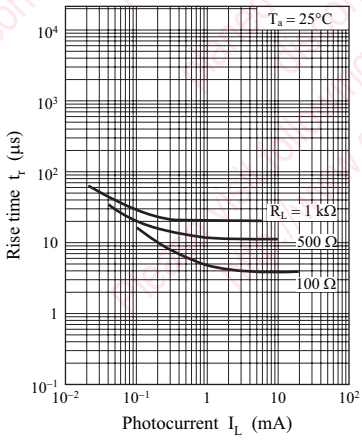
ΔS — λ



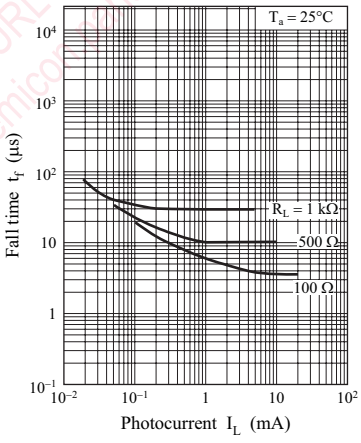
Directive characteristics



t_r — I_L



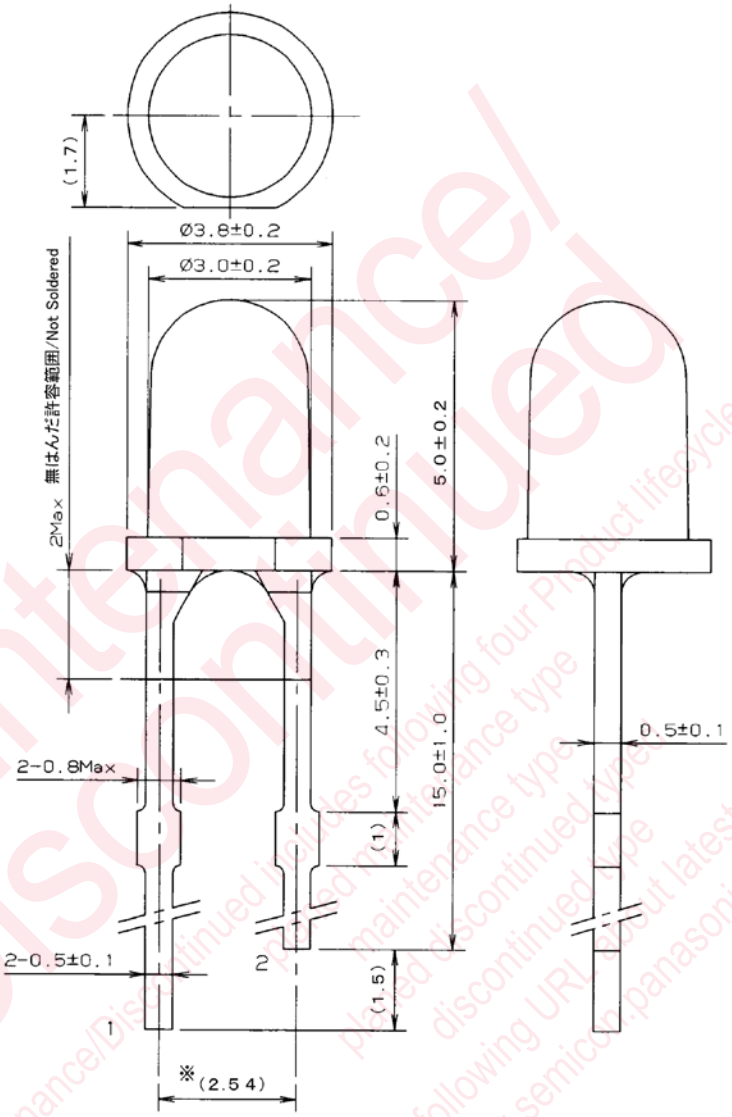
t_f — I_L



Maintenance/Discontinued
We regret to announce that the above mentioned discontinued products including our Product No. stage planed maintenance type will be discontinued type. Please refer to the following URL about the discontinued type. http://www.semicon.panasonic.co.jp/en/

■ Package (Unit: mm)

LPXLTN2S0002



(注 1)※ﾘｰﾄﾞ根元寸法とする。／(Note1)※Indicates root dimensions of lead.
(注 2)該品は樹脂部が小さい為、リード線との隙間が他品種と比較して余裕が取れません。
従いまして、リード線の左右位置ズレによりリード部が露出することがあります。
信頼性的に問題ありませんが、リード露出に対する設計の考慮をお願い致します。
(Note2)Accordingly mis-alignment of the left and right position of read wire may expose thelead part.
Although this will not present any problem in its reliability consideration toward lead Exposure should be given in the designing. The dimension between the lead shows the resin root dimension.

- Pin name
  1: Emitter
  2: Collector

Maintenance/ Discontinued
Maintenance/Discontinued includes following four Product lifecycle stage.
planned maintenance type
planned discontinued type
discontinued type
Check it following URL about latest information.
http://www.semicon.panasonic.co.jp/en/

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