PNZ154 (PN154)

Silicon planar type

For optical control systems

■ Features

- High sensitivity
- Fast response: t_r = 4 μs (typ.)
- Wide spectral sensitivity characteristics, suited for detecting various kinds of LEDs
- Small size, thin side-view type package

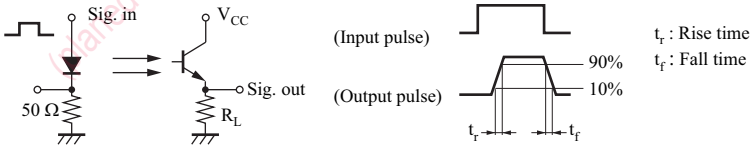
■ Absolute Maximum Ratings T_a = 25°C

Parameter	Symbol	Rating	Unit
Collector-emitter voltage (Base open)	V_{CEO}	20	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±3°C

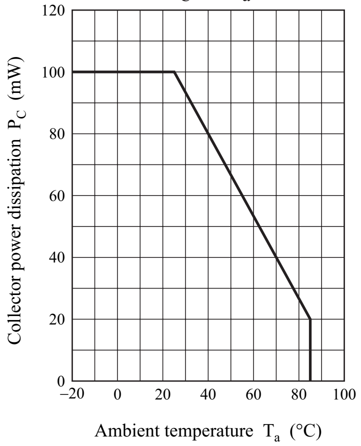
Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Photocurrent *1	I_L	V_{CE} = 10 V, L = 500 lx	1.0			μA
Collector-emitter cutoff current (Base open)	I_{CEO}	V_{CE} = 10 V		0.01	0.2	μA
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	I_L = 1 mA, L = 1 000 lx		0.2	0.5	V
Peak emission wavelength	λ_P	V_{CE} = 10 V		800		nm
Half-power angle	θ	The angle when the photocurrent is halved		27		°
Rise time *2	t_r	V_{CC} = 10 V, I_L = 5 mA, R_L = 100 Ω		4	10	μs
Fall time *2	t_f			4	10	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

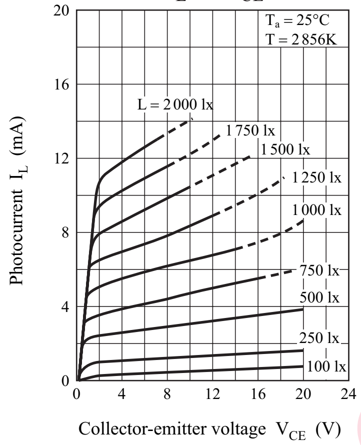


Note) The part number in the parenthesis shows conventional part number.

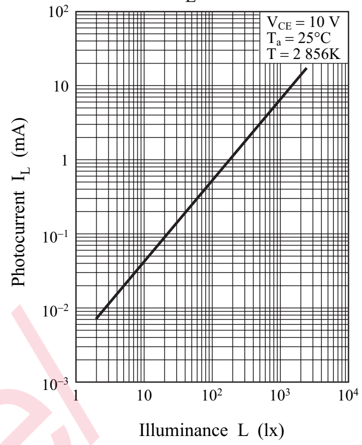
P_C — T_a



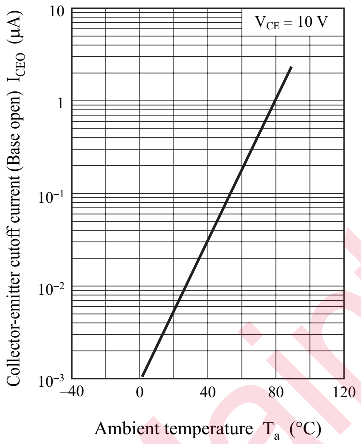
I_L — V_{CE}



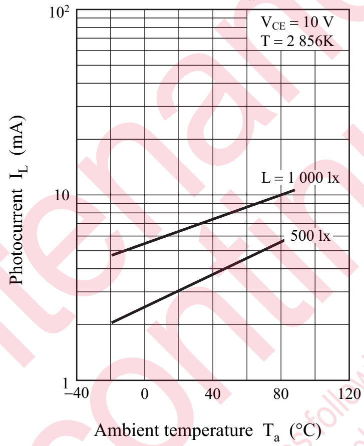
I_L — L



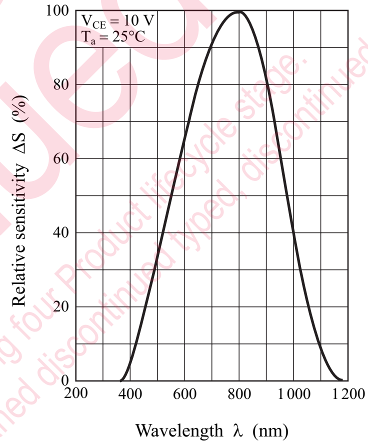
I_{CEO} — T_a



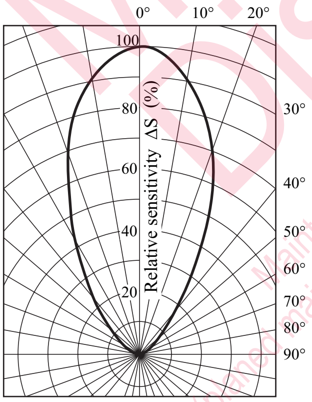
I_L — T_a



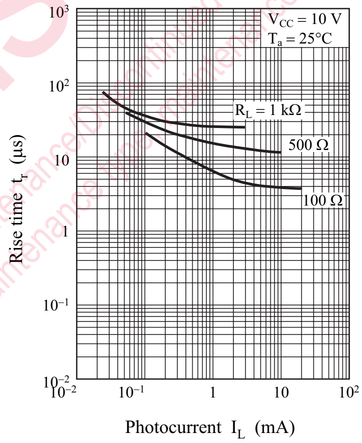
ΔS — λ



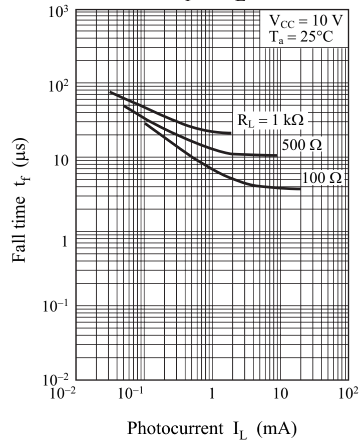
Directive characteristics



t_r — I_L

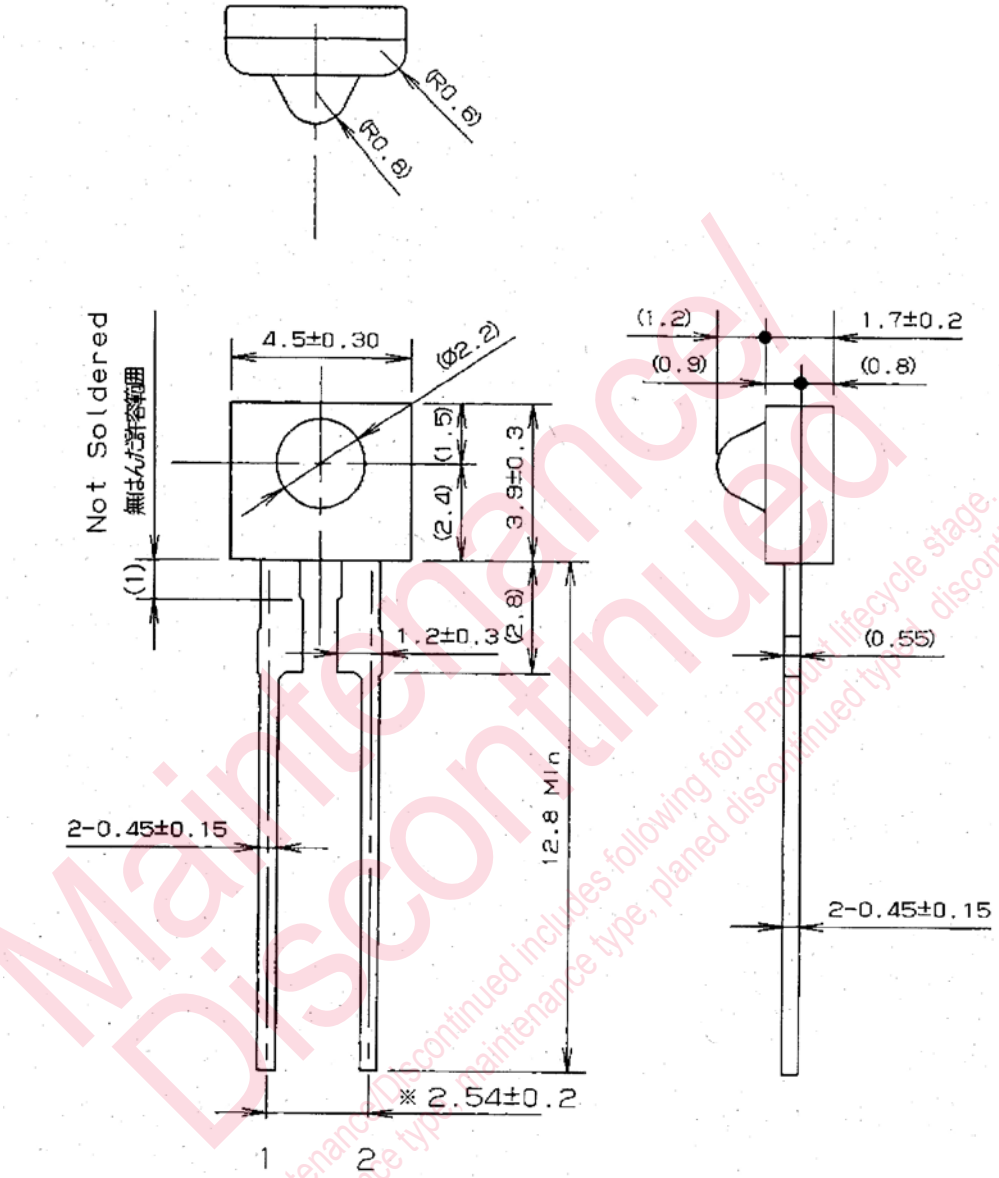


t_f — I_L



■ Package (Unit: mm)

LPTLSN2S0003



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

- Pin name
  1: Emitter
  2: Collector

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