

PNZ163NC (PN163(NC))

Silicon planar type

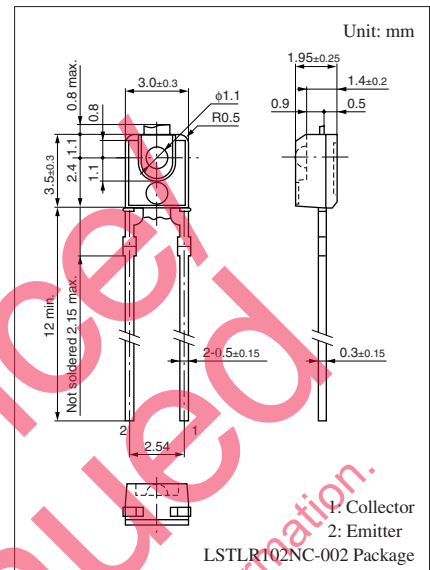
For optical control systems

■ Features

- High sensitivity
- Fast response: $t_r = 4 \mu\text{s}$ (typ.)
- Adoption of visible light cutoff resin
- 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 +85	$^\circ\text{C}$
Storage temperature	T_{stg}	-30 to +100	$^\circ\text{C}$



■ 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}	$V_{CE} = 10 \text{ V}, H = 15 \mu\text{W}/\text{cm}^2$	6		40	μA
Dark current	I_{CEO}	$V_{CE} = 10 \text{ V}$			0.2	μA
Peak emission wavelength	λ_p	$V_{CE} = 10 \text{ V}$		850		nm
Half-power angle	θ	The angle from which photocurrent becomes 50%		25		$^\circ$
Rise time*2	t_r	$V_{CC} = 10 \text{ V}, I_{CE(L)} = 5 \text{ mA}, R_L = 100 \Omega$		4		μs
Fall time*2	t_f			4		μs
Collector-emitter saturation voltage*1	$V_{CE(sat)}$	$I_{CE(L)} = 3 \mu\text{A}, H = 15 \mu\text{W}/\text{cm}^2$			0.5	V

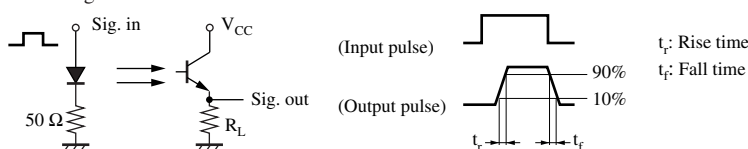
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

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

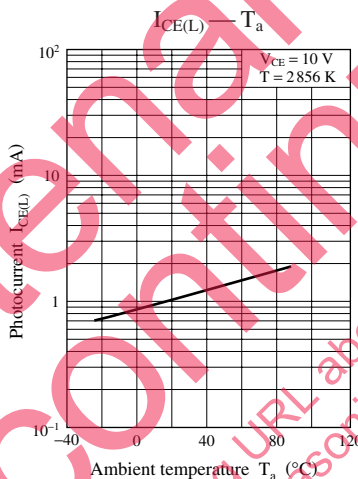
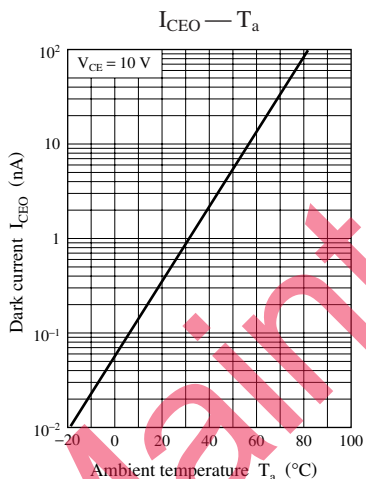
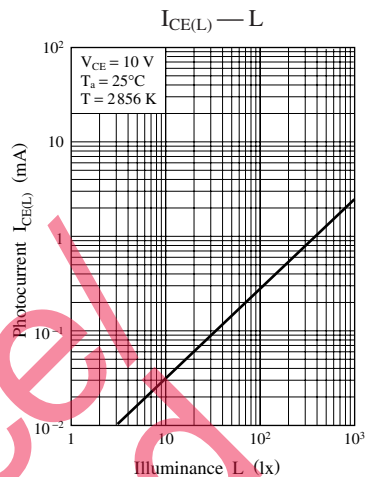
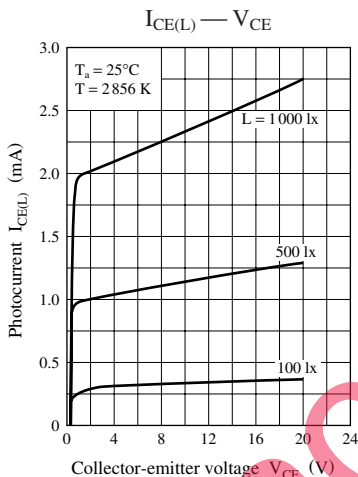
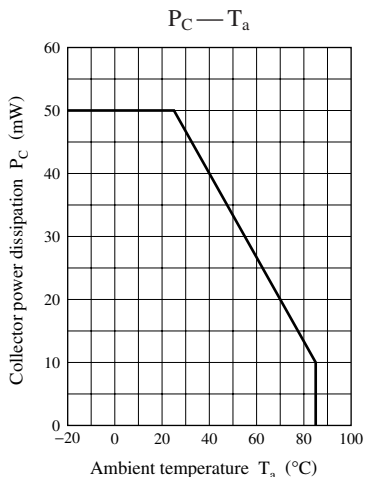
3. This device is designed be disregarded radiation.

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

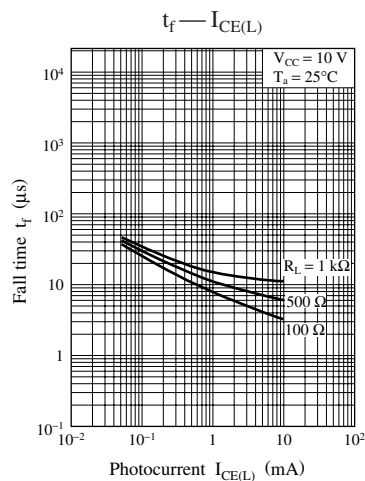
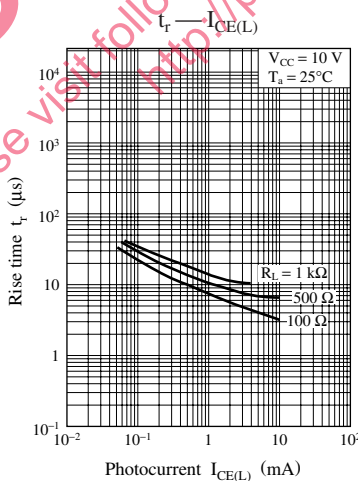
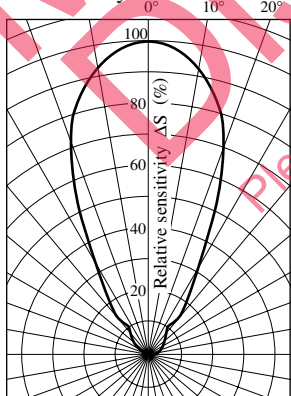
*2: Switching time measurement circuit



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



Directivity characteristics



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