

# PNA1605F (PN116)

## Silicon planar type

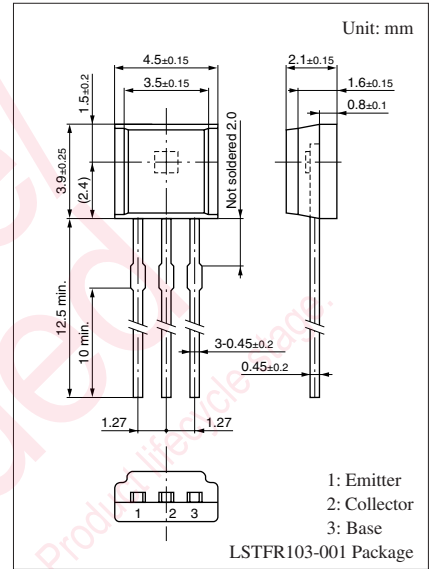
For optical control systems

### ■ Features

- High sensitivity
- Wide directivity characteristics, suited for detecting GaAs LEDs:  
 $\theta = 70^\circ$  (typ.)
- Fast response:  $t_r, t_f = 8 \mu s$  (typ.)
- Side-view type package

### ■ Absolute Maximum Ratings $T_a = 25^\circ C$

Parameter	Symbol	Rating	Unit
Collector-emitter voltage (Base open)	$V_{CEO}$	20	V
Collector-base voltage (Emitter open)	$V_{CBO}$	30	V
Emitter-collector voltage (Base open)	$V_{ECO}$	5	V
Emitter-base voltage (Collector open)	$V_{EBO}$	5	V
Collector current	$I_C$	10	mA
Collector power dissipation	$P_C$	100	mW
Operating ambient temperature	$T_{opr}$	-25 to +85	$^\circ C$
Storage temperature	$T_{stg}$	-30 to +100	$^\circ C$



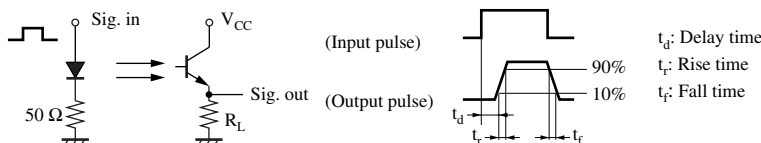
### ■ Electrical-Optical Characteristics $T_a = 25^\circ C \pm 3^\circ C$

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Photocurrent *1	$I_{CE(L)}$	$V_{CE} = 10 V, L = 100 lx$	0.2	0.8		mA
Dark current	$I_{CEO}$	$V_{CE} = 10 V$		0.05	2.00	$\mu A$
Peak emission wavelength	$\lambda_p$	$V_{CE} = 10 V$		900		nm
Half-power angle	$\theta$	The angle from which photocurrent becomes 50%		70		$^\circ$
Rise time *2	$t_r$	$V_{CC} = 10 V, I_{CE(L)} = 1 mA, R_L = 100 \Omega$		8		$\mu s$
Fall time *2	$t_f$			9		$\mu s$
Collector-emitter saturation voltage *1	$V_{CE(sat)}$	$I_{CE(L)} = 1 mA, L = 1000 lx$		0.3	0.6	V

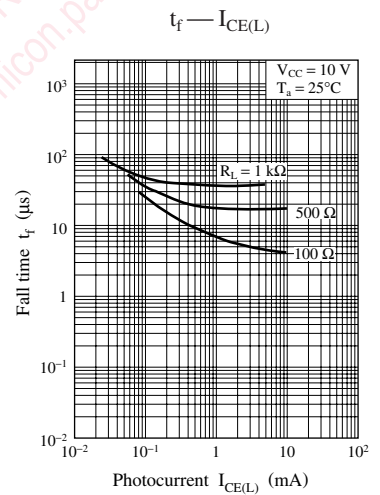
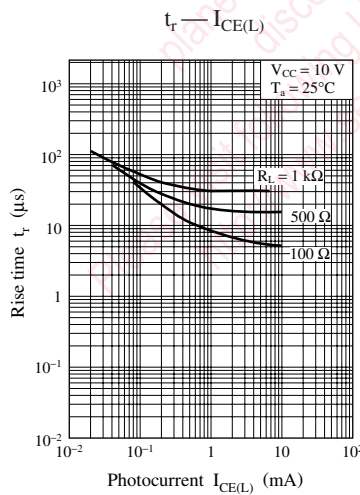
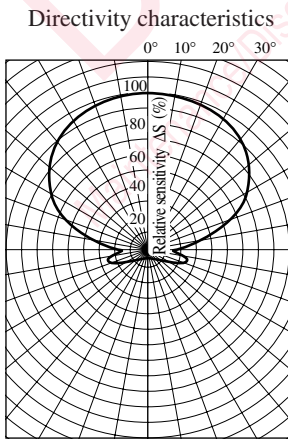
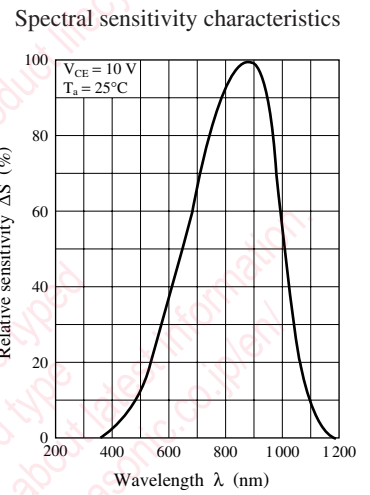
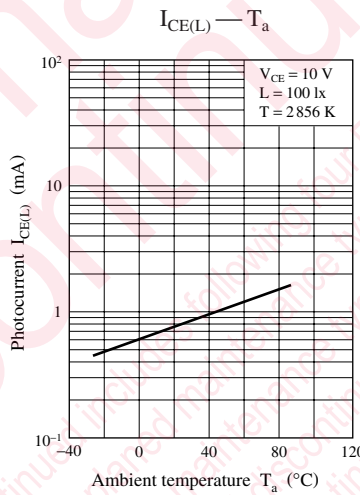
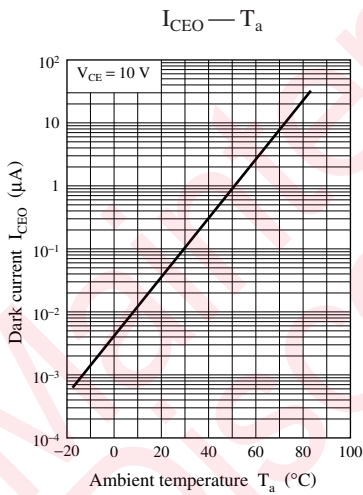
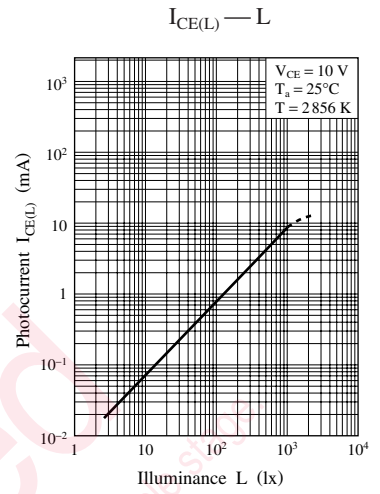
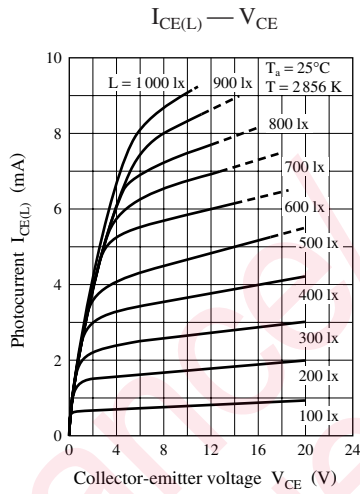
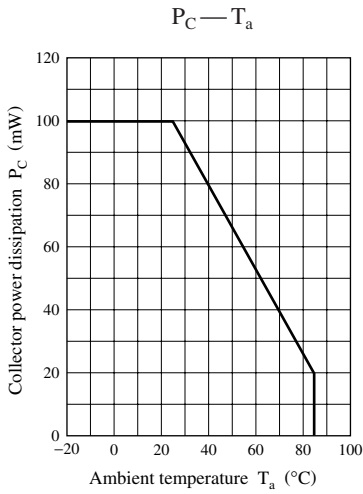
Note) 1. Measuring methods are based on JAPANESE INDUSTRIAL STANDARD JIS C 7030 measuring methods for transistors.

2. \*1: Source: Tungsten (color temperature 2856 K)

\*2: Switching time measurement circuit



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



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