PNZ102 (PN102)

Silicon planar type

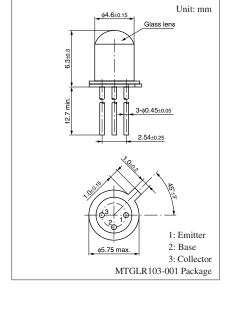
For optical control systems

■ Features

- · High sensitivity
- Wide spectral sensitivity characteristics, suited for detecting GaAs LEDs
- Low dark current: $I_{CEO} = 5 \text{ nA (typ.)}$
- Fast response: t_r , $t_f = 3 \mu s$ (typ.)
- Base pin for easy circuit design
- TO-18 standard type package

■ Absolute Maximum Ratings $T_a = 25$ °C

Parameter	Symbol	Rating	Unit	
Collector-emitter voltage (Base open)	V _{CEO}	30	V	
Collector-base voltage (Emitter open)	V_{CBO}	40	V	
Emitter-collector voltage (Base open)	V _{ECO}	5	V	
Emitter-base voltage (Collector open)	V_{EBO}	5	V	
Collector current	I_C	50	mA	
Collector power dissipation *	P _C	150	mW	
Operating ambient temperature	T _{opr}	-25 to +85	°C	
Storage temperature	T_{stg}	-30 to +100	°C	

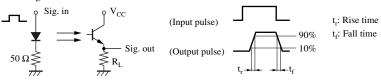


Note) *: The rate of electric power reduction is 1.5 mW/ $^{\circ}$ C above $T_a = 25 ^{\circ}$ C.

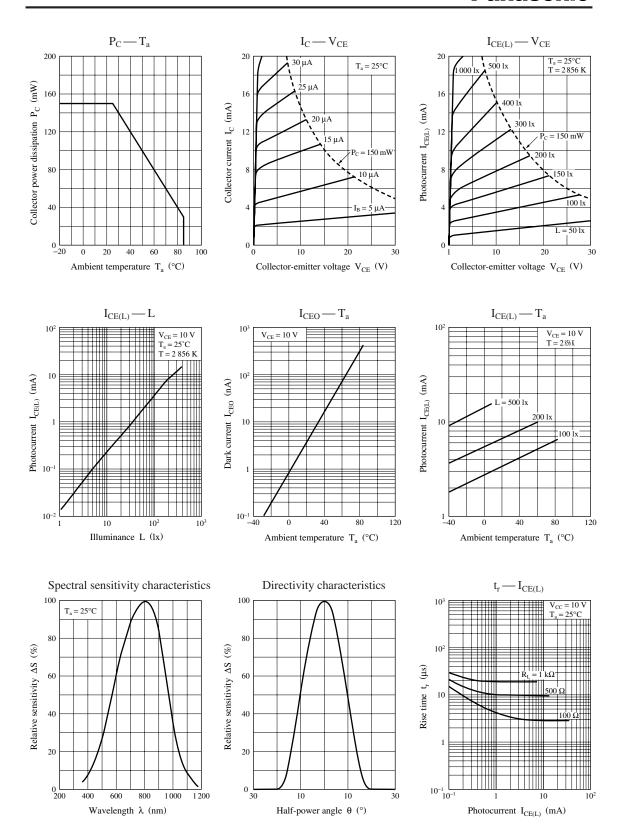
■ Electrical-Optical Characteristics $T_a = 25$ °C ± 3 °C

Parameter	Symbol	Conditions	Min	Тур	Max	Unit
Photocurrent *1	I _{CE(L)}	$V_{CE} = 10 \text{ V}, L = 100 \text{ lx}$	1.5	3.5		mA
Dark current	I_{CEO}	$V_{CE} = 10 \text{ V}$		5	300	nA
Peak emission wavelength	λ_{p}	$V_{CE} = 10 \text{ V}$		800		nm
Half-power angle	θ	The angle from which photocurrent		10		0
		becomes 50%				
Rise time *2	t _r	$V_{CC} = 10 \text{ V}, I_{CE(L)} = 5 \text{ mA}, R_L = 100 \Omega$		3		μs
Fall time *2	t _f			3		μs
Collector-emitter saturation voltage *1	V _{CE(sat)}	$I_{CE(L)} = 1 \text{ mA}, L = 500 \text{ lx}$		0.2	0.4	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: 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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