

ST - 313R4

The ST - 313R4 is a high - sensitivity Silicon phototransistor with two - phase output. This phototransistor is compact, and the best for the mouse.

FEATURES

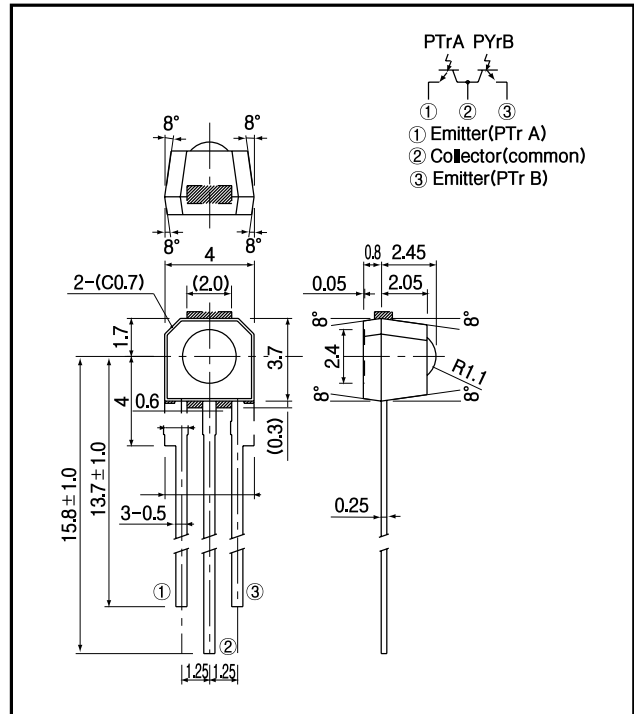
- Visible ray cut off mold type
- Built - in 2ch phototransistors

APPLICATIONS

- Optical mouses
- Encoders

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25 °C)

Item	Symbol	Rating	Unit
C - E voltage	V _{CEO}	30	V
E - C voltage	V _{ECO}	4	V
Collector current	I _c	10	mA
Collector power dissipation	P _c	100	mW
Operating temp.	T _{opr.}	- 25 ~ + 85	
Storage Temp.	T _{stg.}	- 30 ~ + 85	
Soldering temp. *1	T _{sol.}	240	

*1. For MAX.5 seconds at the position of 2 mm from the package

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 °C)

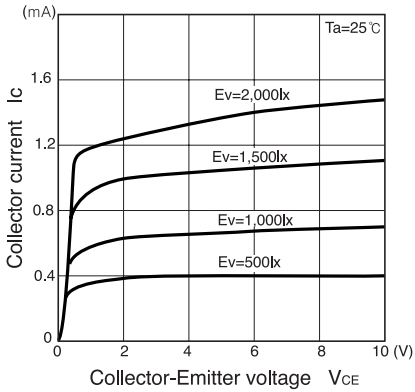
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I _{CEO}	V _{CEO} = 10V			200	nA
Light current	I _L	V _{CE} = 5V, E _v ⁻²	0.1		3.6	mA
C - E saturation voltage	V _{CE(sat)}					V
Switching speeds	Rise time	V _{CC} = 5V, I _c = 0.5mA, R _L = 100		7		μsec.
	Fall time			7		μsec.
Spectral sensitivity				880 1050		nm
Peak wavelength	λ _p			940		nm
Half angle				± 60		deg.

*2. Color temp. = 2856K standard Tungsten lamp

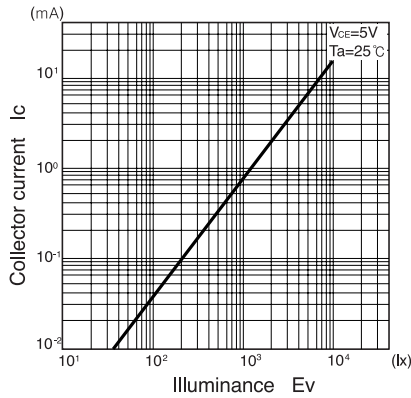
Photo transistors

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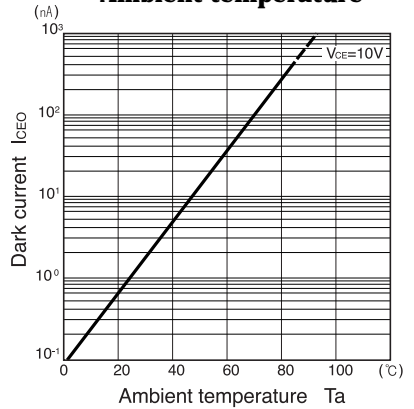
Collector current Vs. Collector - Emitter voltage



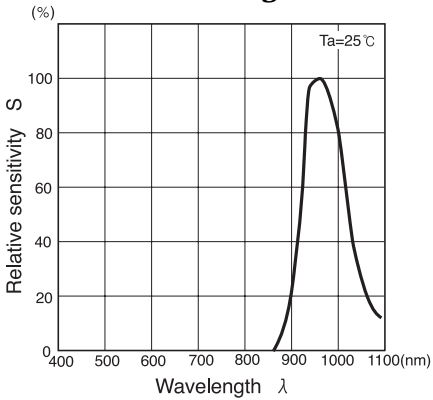
Collector current Vs. Illuminance



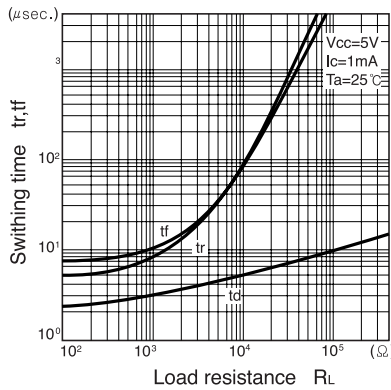
Dark current Vs. Ambient temperature



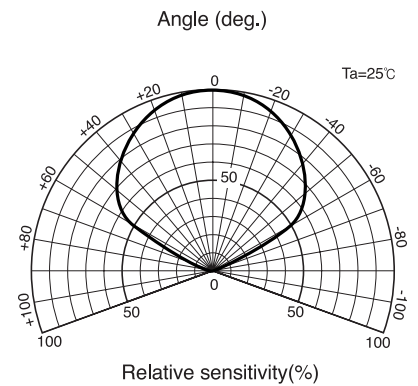
Relative sensitivity Vs. Wavelength



Switching time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature

