

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

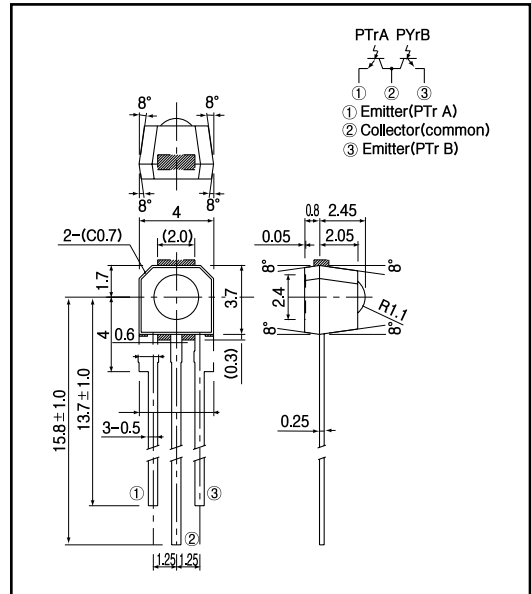
- Visible ray cut off mold type
- Built - in 2ch phototransistors

APPLICATIONS

- Optical mouses
- Encoders

DIMENSIONS

(Unit : mm)

**MAXIMUM RATINGS**

(Ta=25 °C)

Item	Symbol	Rating	Unit
C - E voltage	V_{CE0}	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)

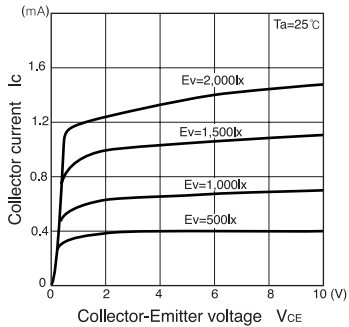
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I_{CEO}	$V_{CE0}=10V$			200	nA
Light current	I_L	$V_{CE}=5V, E^{*2}$	0.1		3.6	mA
C - E saturation voltage	$V_{CE(sat)}$					V
Switching speeds	Rise time	$V_{CC}=5V, I_L=0.5mA, R_L=100$		7		μsec.
	Fall time			7		μsec.
Spectral sensitivity				880 1050		nm
Peak wavelength	λ_p			940		nm
Half angle				± 60		deg.

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

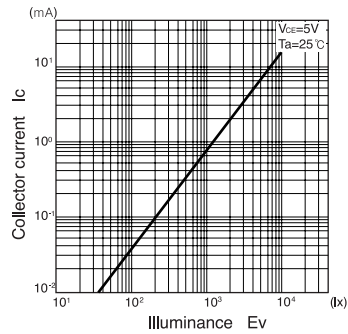
Photo transistors

ST - 313R4

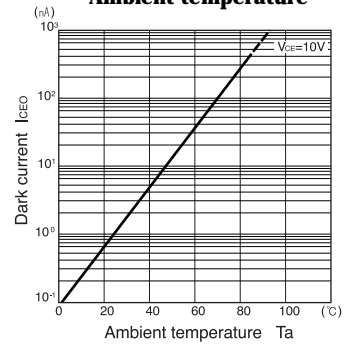
**Collector current Vs.
Collector - Emitter voltage**



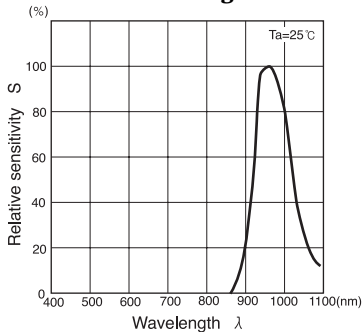
**Collector current Vs.
Illuminance**



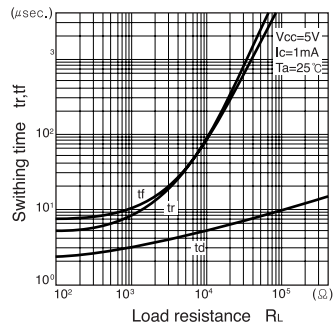
**Dark current Vs.
Ambient temperature**



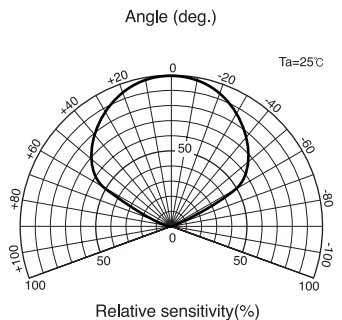
**Relative sensitivity Vs.
Wavelength**



**Switching time vs.
Load resistance**



Radiant Pattern



**Collector power dissipation Vs.
Ambient temperature**

