

ST - 309

The ST - 309 is a double type high - sensitivity Silicon phototransistor. This phototransistor is compact size

FEATURES

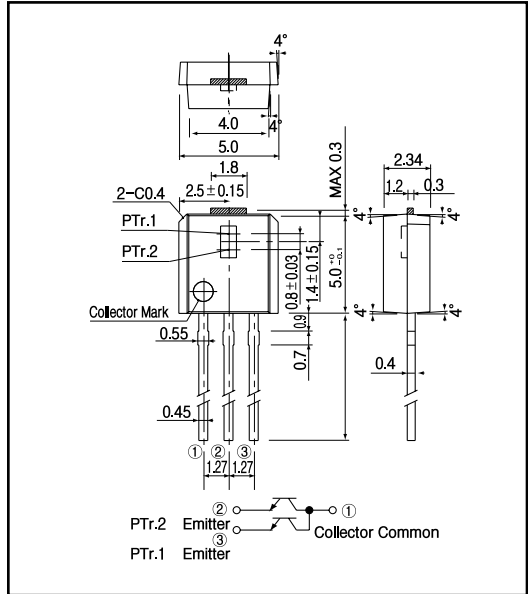
- Side - viewing plastic package
- Built - in 2ch phototransistors

APPLICATIONS

- Optical mouses
- Encoders

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
C - E voltage	V _{CEO}	30	V
E - C voltage	V _{ECO}	4	V
Collector current	I _c	30	mA
Collector power dissipation	P _c	-	mW
Operating temp.	T _{opr.}	- 25 ~ + 85	
Storage Temp.	T _{stg.}	- 30 ~ + 100	
Soldering temp. *1	T _{sol.}	260	

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

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25)

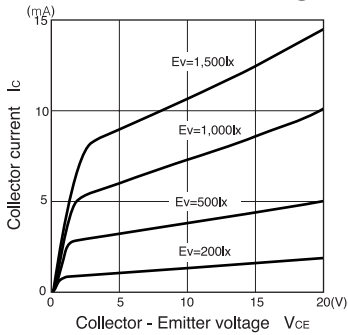
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I _{CEO}	V _{CEO} = 10V			0.5	μA
Light current	I _{CEL1}	V _{CE} = 5V, E ^{1/2}	40		115	μA
Light current ratio	I _{CEL2} /I _{CEL1}		0.8		1.2	
Switching speeds	Rise time	V _{CC} = 10V, I _c = 5mA, R _L = 100		8		μsec.
	Fall time			9		μsec.
Spectral sensitivity		10%		400 1100		nm
Peak wavelength	p			800		nm
Half angle				± 60		deg.

*2. I_{CEL} of PTR1 *3. Setup luminous intensity by standard devices.

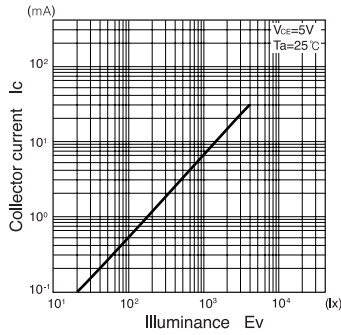
Photo transistors

ST - 309

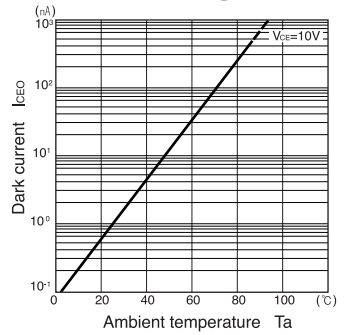
Collector current Vs. Collector - Emitter voltage



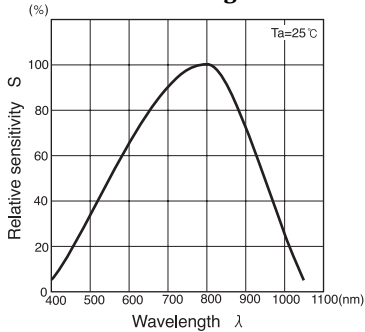
Collector current Vs. Illuminance



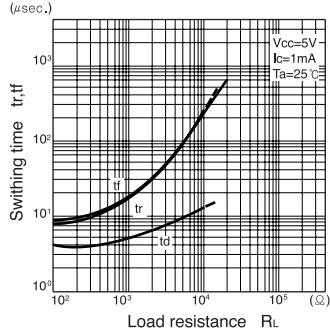
Dark current Vs. Ambient temperature



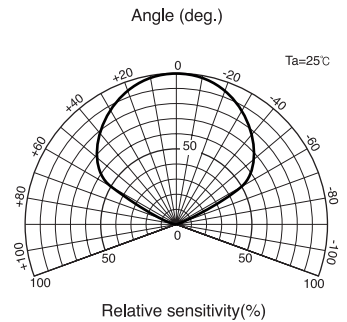
Relative sensitivity Vs. Wavelength



Switching time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature

