ST - 309

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

FEATURES

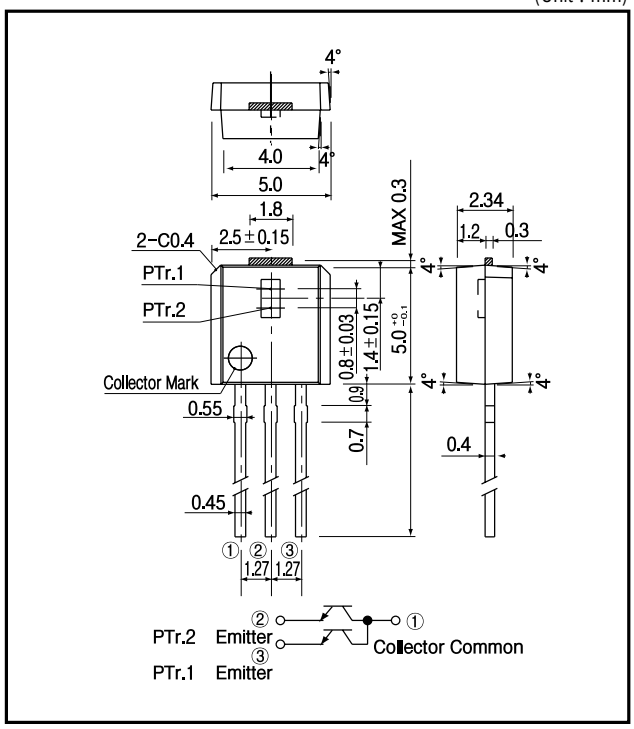
- Side - viwering plastic package
- Bult - in 2ch phototransistors

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	30	mA
Collector power dissipation	P_C	-	mW
Operating temp.	Topr.	- 25 ~ + 85	°C
Storage Temp.	Tstg.	- 30 ~ + 100	°C
Soldering temp. *1	Tsol.	260	°C

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

ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25°C)

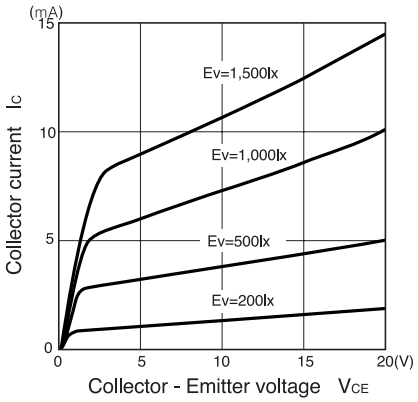
Item		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collecor dark current		I_{CEO}	V_{CEO}=10V			0.5	μA
Light current		I_{CEL1}	V_{CE}=5V, Ev *2	40		115	μA
Light current ratio		I_{CEL2}/I_{CEL1}		0.8		1.2	—
Switching speeds	Rise time	tr	V_{CC}=10V, I_C=5mA, R_L=100Ω		8		μsec.
	Fall time	tf			9		μsec.
Spectral sensitivity		λ	10%		400 1100		nm
Peak wavelength		λp			800		nm
Half angle		Δ θ			±60		deg.

*2. I_{EL} of PTr1 *3. Setup luminous intensity by standard devices.

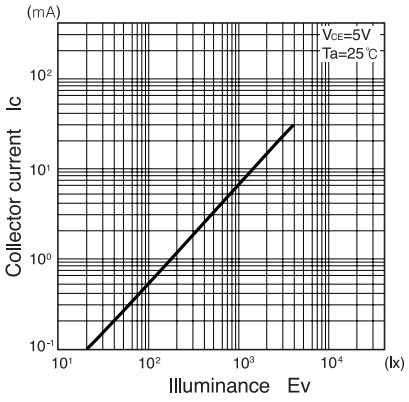
Photo transistors

ST - 309

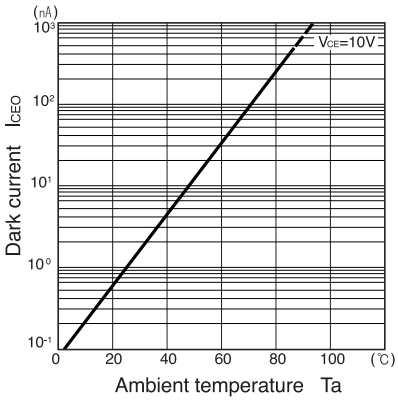
Collector current Vs. Collector - Emitter voltage



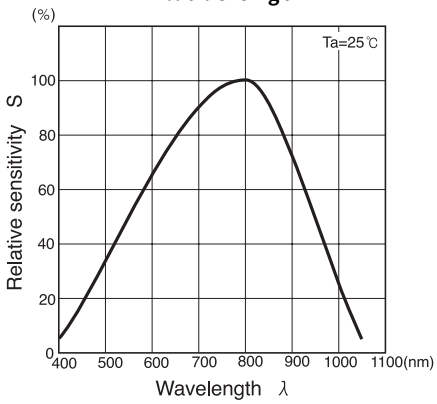
Collector current Vs. Illuminance



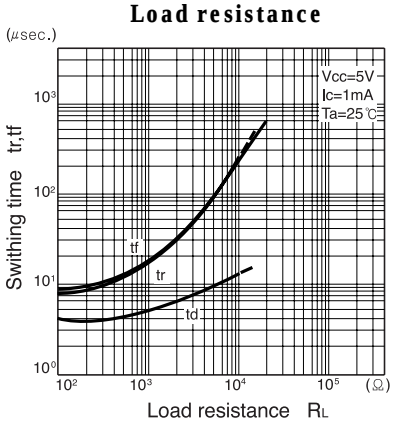
Dark current Vs. Ambient temperature



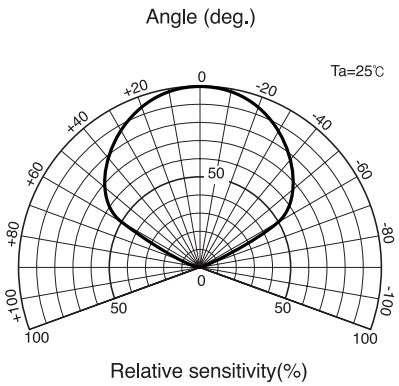
Relative sensitivity Vs. Wavelength



Swithing time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature