

ST - 309

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

FEATURES

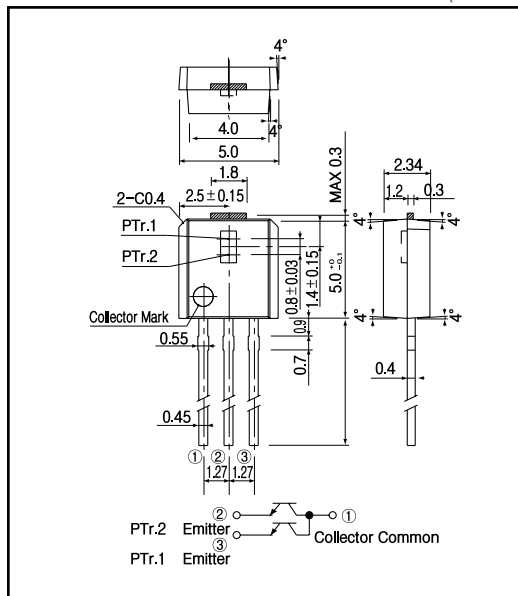
- Side - viwering plastic package
- Bult - in 2ch phototransistors

APPLICATIONS

- Optical mice
- Encoders

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
C - E voltage	V_{CE0}	30	V
E - C voltage	V_{EC0}	4	V
Collector current	I_c	30	mA
Collector power dissipation	P_c	-	mW
Operating temp.	Topr.	- 25 ~ + 85	
Storage Temp.	Tstg.	- 30 ~ + 100	
Soldering temp. ^{*1}	Tsol.	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_{CE0}	$V_{CE0} = 10V$			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 t_r	$V_{CC} = 10V, I_E = 5mA,$ $R_L = 100$		8		$\mu sec.$
	Fall time t_f			9		$\mu sec.$
Spectral sensitivity		10%	400 1100			nm
Peak wavelength	λ_p			800		nm
Half angle				± 60		deg.

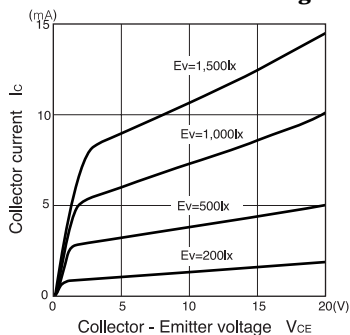
*2. LOEL of PTr1

*3. Setup luminous intensity by standard devices.

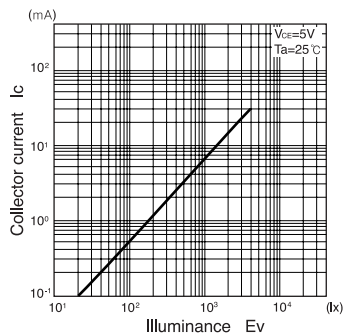
Photo transistors

ST - 309

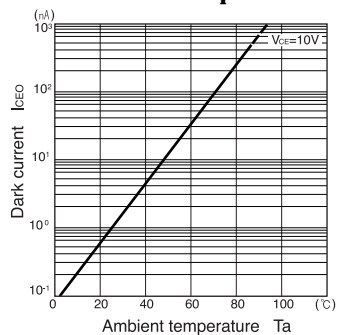
**Collector current Vs.
Collector - Emitter voltage**



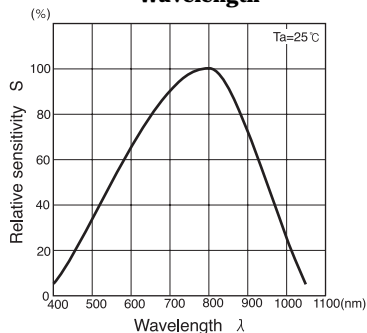
**Collector current Vs.
Illuminance**



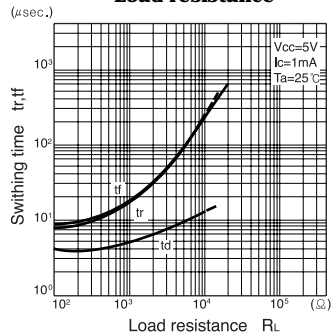
**Dark current Vs.
Ambient temperature**



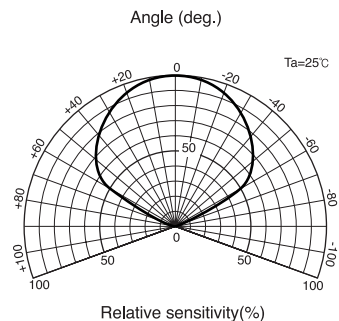
**Relative sensitivity Vs.
Wavelength**



**Switching time vs.
Load resistance**



Radiant Pattern



**Collector power dissipation Vs.
Ambient temperature**

