

ST - 305

The ST - 305 a high - sensitivity NPN silicon phototransistor mounted in a clear sidelooking package, is compact, low profile and easy to mount.

FEATURES

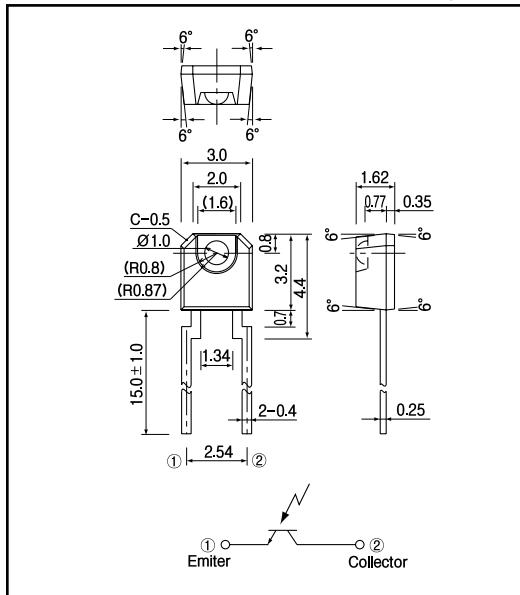
- Low profile package
- Compact
- Low - cost
- Sidelooking plastic package

APPLICATIONS

- Photointerrupters
- Optical switches

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
C - E voltage	V_{CE0}	30	V
E - C voltage	V_{ECO}	5	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	75	mW
Operating temp.	$T_{opr.}$	- 25 ~ + 85	
Storage Temp.	$T_{stg.}$	- 40 ~ + 85	
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)

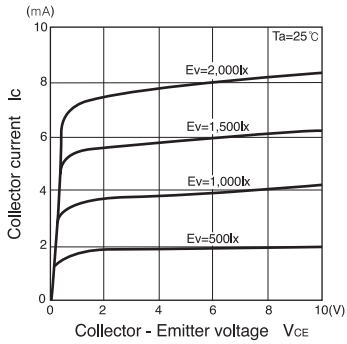
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I_{CE0}	$V_{CE0}=10V$		1	100	nA
Light current	I_L	$V_{CE}=5V, 1,000lx^{-2}$		2.0		mA
C - E saturation voltage	$V_{CE(sat)}$	$I_C=0.5mA, 2,000lx^{-2}$		0.2	0.4	V
Switching speeds	Rise time	$V_{CC}=10V, I_C=5mA, R_L=100$		3.2		µsec.
	Fall time			4.8		µsec.
Spectral sensitivity				500 - 1,050		nm
Peak wavelength	λ_p			880		nm
Half angle				± 30		deg.

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

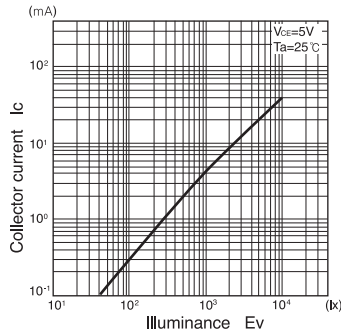
Photo transistors

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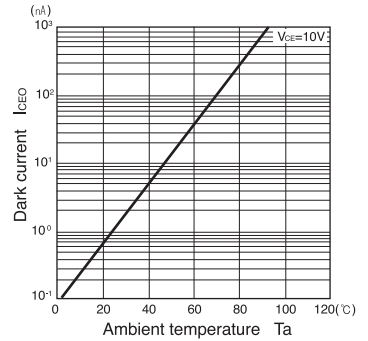
Collector current Vs. Collector - Emitter voltage



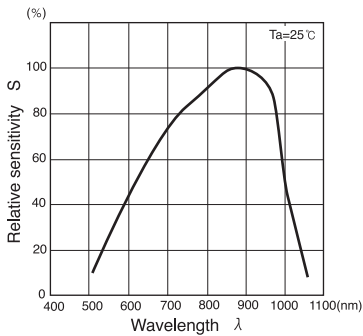
Collector current Vs. Illuminance



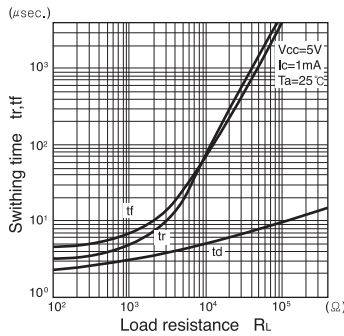
Dark current Vs. Ambient temperature



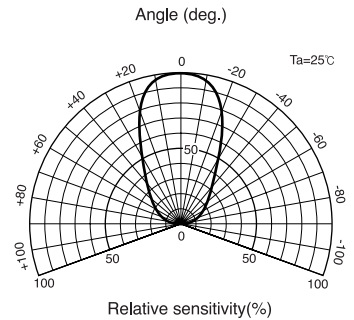
Relative sensitivity Vs. Wavelength



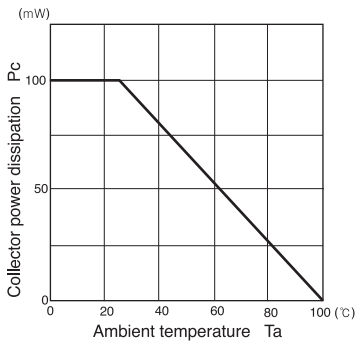
Switching time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature



Switching time measurement circuit

