

Photo transistors

KODENSHI

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

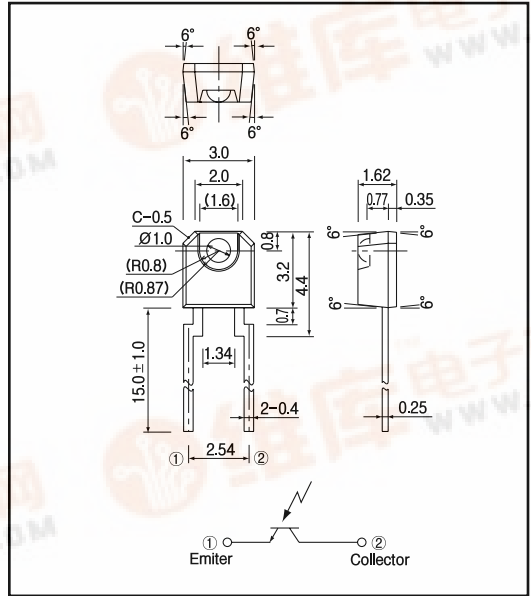
- Low profile package
- Compact
- Low - cost
- Sidelooking plastic package

APPLICATIONS

- Photointerrupters
- Optical switches

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25 )

Item	Symbol	Rating	Unit
C - E voltage	V <sub>CEO</sub>	30	V
E - C voltage	V <sub>ECO</sub>	5	V
Collector current	I <sub>c</sub>	20	mA
Collector power dissipation	P <sub>c</sub>	75	mW
Operating temp.	T <sub>opr.</sub>	- 25 ~ + 85	
Storage Temp.	T <sub>stg.</sub>	- 40 ~ + 85	
Soldering temp. <sup>1)</sup>	T <sub>sol.</sub>	260	

<sup>1)</sup> 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 <sub>CEO</sub>	V <sub>CEO</sub> =10V		1	100	nA
Light current	I <sub>L</sub>	V <sub>CE</sub> =5V, 1,000lx <sup>-2</sup>		2.0		mA
C - E saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =0.5mA, 2,000lx <sup>-2</sup>		0.2	0.4	V
Switching speeds	Rise time	V <sub>CC</sub> =10V, I <sub>c</sub> =5mA, R <sub>L</sub> =100		3.2		µsec.
	Fall time			4.8		µsec.
Spectral sensitivity				500~1,050		nm
Peak wavelength	λ <sub>p</sub>			880		nm
Half angle				± 30		deg.

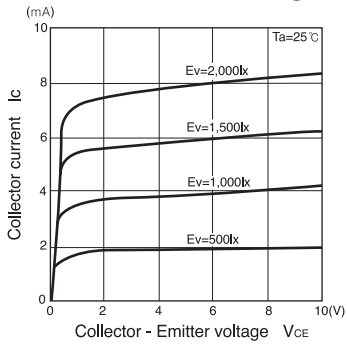
<sup>2)</sup> Color temp. =2856K standard Tungsten lamp



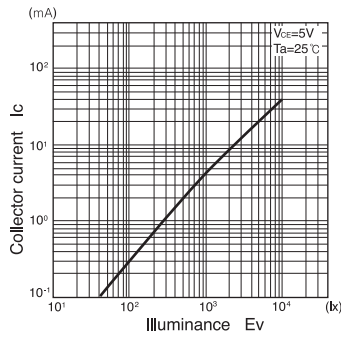
**Photo transistors**

**ST - 305**

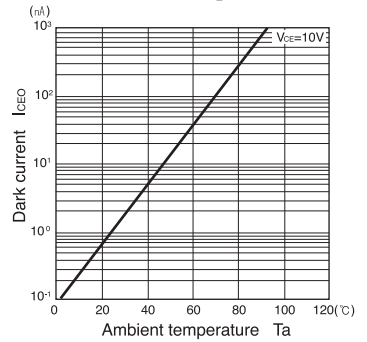
**Collector current Vs. Collector - Emitter voltage**



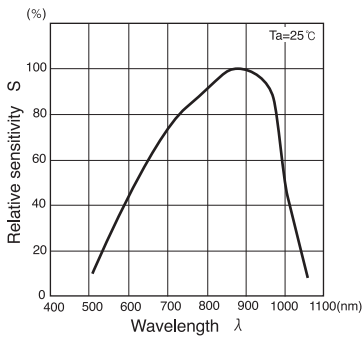
**Collector current Vs. Illuminance**



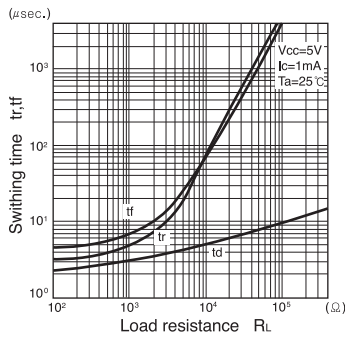
**Dark current Vs. Ambient temperature**



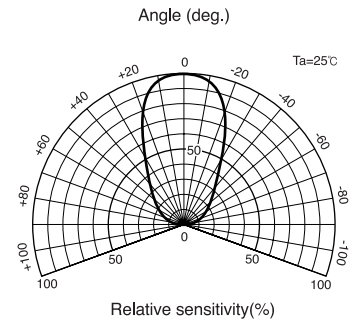
**Relative sensitivity Vs. Wavelength**



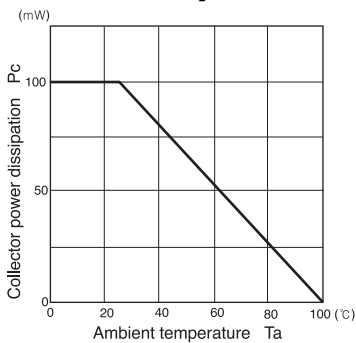
**Switching time vs. Load resistance**



**Radiant Pattern**



**Collector power dissipation Vs. Ambient temperature**



**Switching time measurement circuit**

