

# ST - 1CL3H

The ST - 1CL3H is a high sensitivity NPN silicon phototransistor mounted in a 3 $\phi$  low - cost ceramic package, designed for use as low - cost detector array in consumer and industrial applications.

### FEATURES

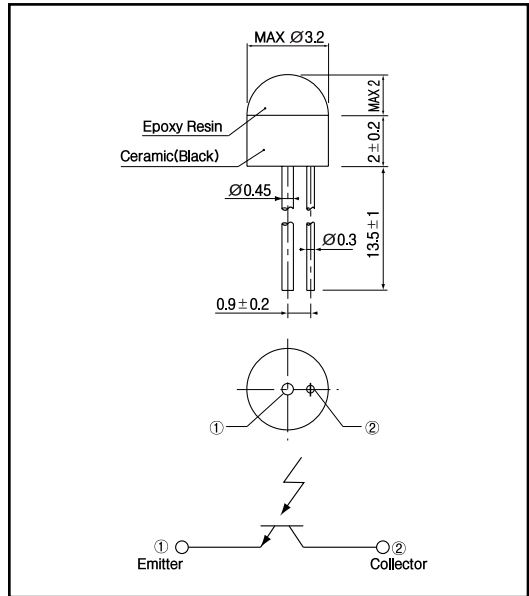
- Compact ( $\phi$ 3mm)
- Wide angular response
- Low - cost

### APPLICATIONS

- Optical counters
- Optical detectors
- Floppy disk drives
- Encoders

### DIMENSIONS

(Unit : mm)



### MAXIMUM RATINGS

(Ta=25 )

Item	Symbol	Rating	Unit
C - E voltage	V <sub>CE0</sub>	20	V
E - C voltage	V <sub>E00</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>	- 20 ~ +90	
Storage Temp.	T <sub>stg.</sub>	- 30 ~ +100	
Soldering temp. *1	T <sub>sol.</sub>	260	

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

### ELECTRO-OPTICAL CHARACTERISTICS

(Ta=25 )

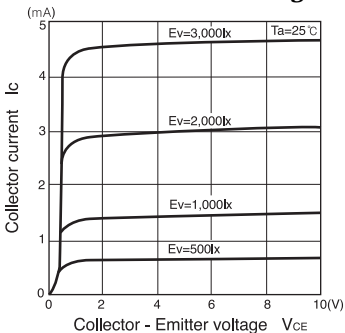
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I <sub>CE0</sub>	V <sub>CE0</sub> =10V		1	200	nA
Light current	I <sub>L</sub>	V <sub>CE</sub> =3V, 1,000lx <sup>-2</sup>	0.1	1.5	10	mA
C - E saturation voltage	V <sub>CE(sat)</sub>	I <sub>c</sub> =0.2mA, 2,000lx <sup>-2</sup>		0.15	0.4	V
Switching speeds	Rise time	V <sub>CC</sub> =10V, I <sub>c</sub> =1mA, R <sub>L</sub> =100		2.5		μsec.
	Fall time			3.8		μsec.
Spectral sensitivity				480 - 1,000		nm
Peak wavelength	p			800		nm
Half angle				± 50		deg.

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

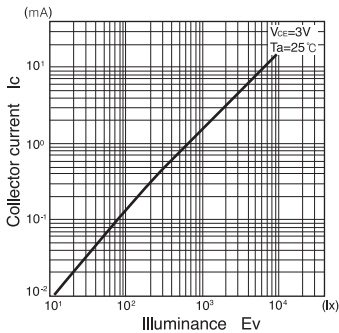
Photo transistors

**ST - 1CL3H**

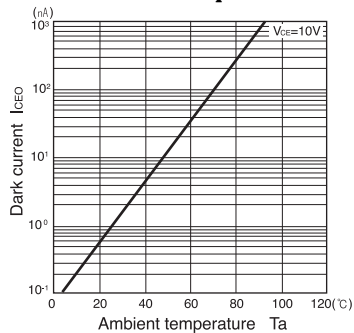
**Collector current Vs. Collector - Emitter voltage**



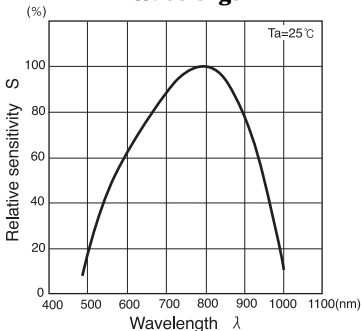
**Collector current Vs. Illuminance**



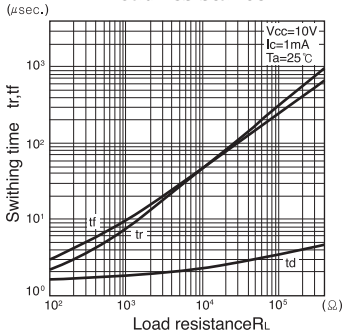
**Dark current Vs. Ambient temperature**



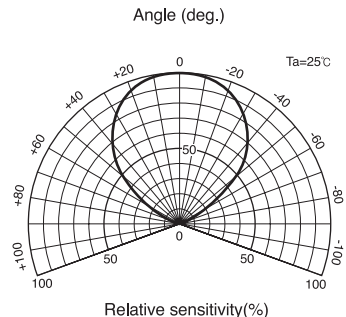
**Relative sensitivity Vs. Wavelength**



**Switching time Vs. Load resistance**



**Radiant Pattern**



**Collector power dissipation Vs. Ambient temperature**

