

# ST-1CL3H

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

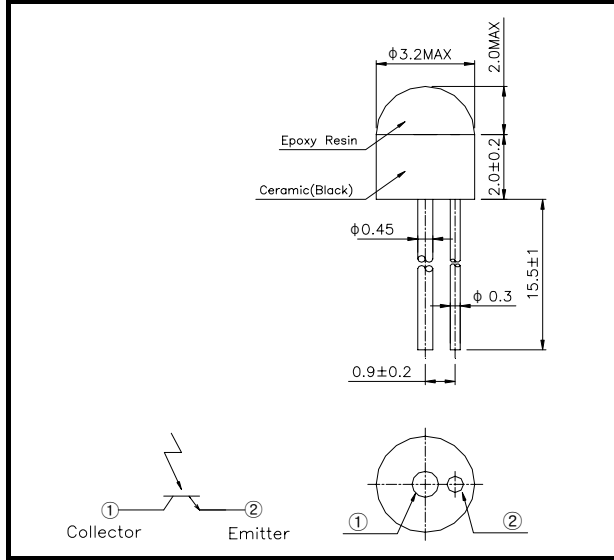
**Features**

- Compact (Φ3mm)
- Wide angular response
- Low-cost

**Applications**

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

**Dimensions** [Unit : mm]



**Absolute Maximum Ratings** [T<sub>A</sub> = 25°C]

Parameter	Symbol	Rating	Unit
C-E Voltage	V <sub>CEO</sub>	20	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>	-20~+90	°C
Storage temp	T <sub>stg.</sub>	-30~+100	°C
Soldering temp <sup>*1</sup>	T <sub>sol</sub>	260	°C

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

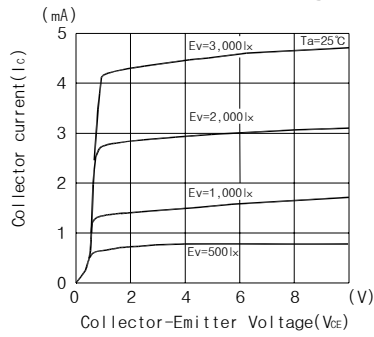
**Electro-Optical Characteristics** [T<sub>A</sub> = 25°C]

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I <sub>CEO</sub>	V <sub>CEO</sub> =10V	-	1	200	nA
Light current	I <sub>L</sub>	V <sub>CE</sub> =3V, 1,000lx <sup>2</sup>	0.08	1.5	-	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> =100Ω	-	2.5	-	μsec
	Fall time		-	3.8	-	μsec
Spectral sensitivity	λ		480~1,000			nm
Peak wavelength	λ <sub>p</sub>		-	880	-	nm
Half Angle	ΔΘ		-	±50	-	degrees

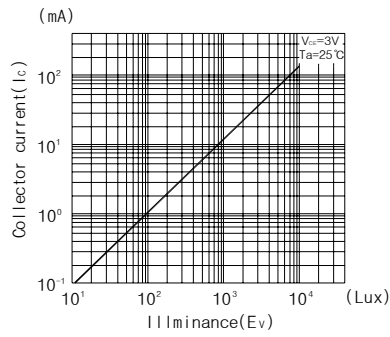
\*2. Color temp = 2856K standard tungsten lamp

# ST-1CL3H

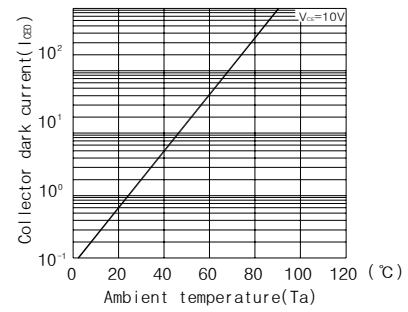
**Collector current Vs. Collector-Emitter voltage**



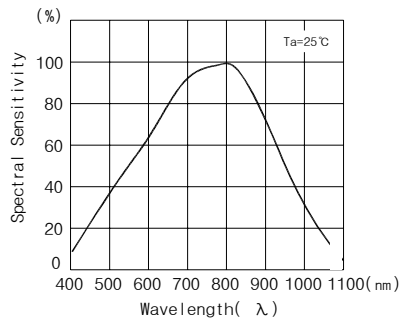
**Collector current Vs. Illuminance**



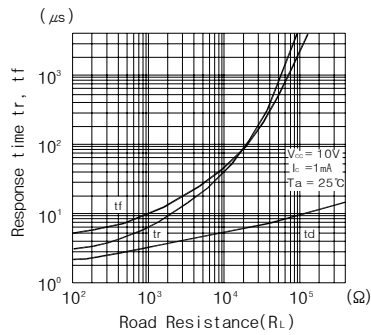
**Dark current Vs. Ambient temperature**



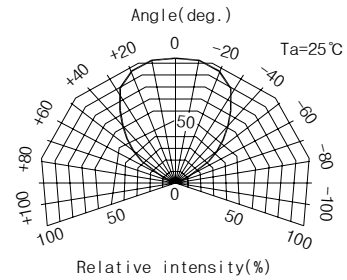
**Relative sensitivity Vs. Wavelength**



**Switching time Vs. Load resistance**



**Radiant Pattern**



**Collector power dissipation Vs. Ambient temperature**

