

ST - 1CL3H

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

FEATURES

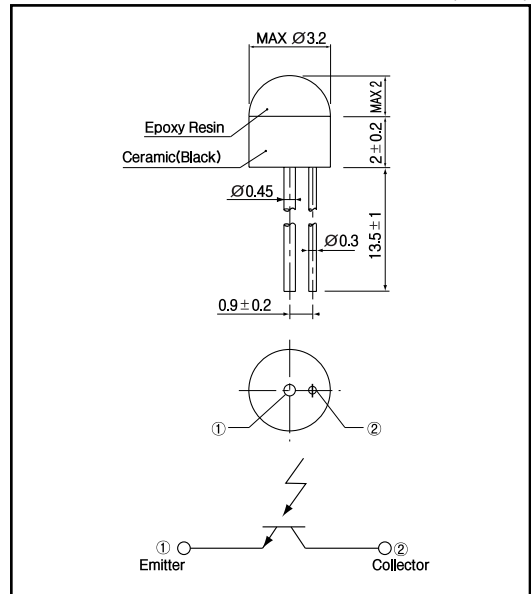
- Compact ($\emptyset 3\text{mm}$)
- Wide angular response
- Low - cost

APPLICATIONS

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

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25 °)

Item	Symbol	Rating	Unit
C - E voltage	V_{CE0}	20	V
E - C voltage	V_{ECO}	5	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	75	mW
Operating temp.	$T_{opr.}$	- 20 ~ +90	
Storage Temp.	$T_{stg.}$	- 30 ~ +100	
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 °)

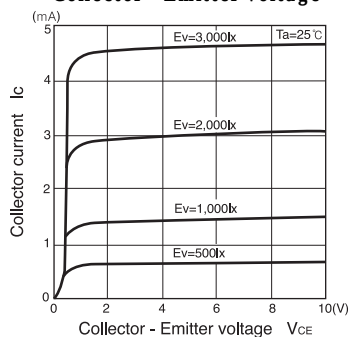
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I_{CE0}	$V_{CE0} = 10V$		1	200	nA
Light current	I_L	$V_{CE} = 3V, 1,000lx^{*2}$	0.1	1.5	10	mA
C - E saturation voltage	$V_{CE(sat)}$	$I_C = 0.2mA, 2,000lx^{*2}$		0.15	0.4	V
Switching speeds	Rise time	$V_{CC} = 10V, I_C = 1mA, R_L = 100\Omega$		2.5		$\mu sec.$
	Fall time			3.8		$\mu sec.$
Spectral sensitivity	λ			480 ~ 1,000		nm
Peak wavelength	λ_p			800		nm
Half angle	θ			± 50		deg.

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

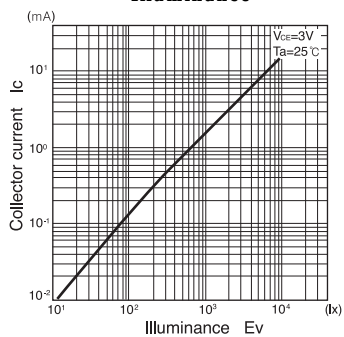
Photo transistors

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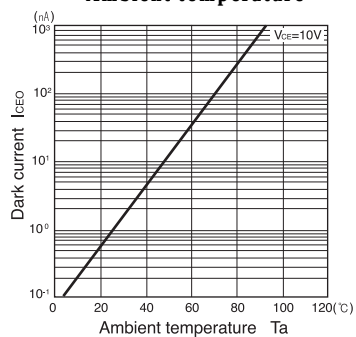
**Collector current Vs.
Collector - Emitter voltage**



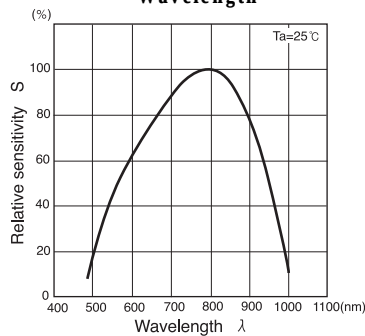
**Collector current Vs.
Illuminance**



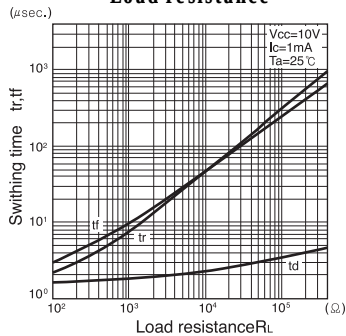
**Dark current Vs.
Ambient temperature**



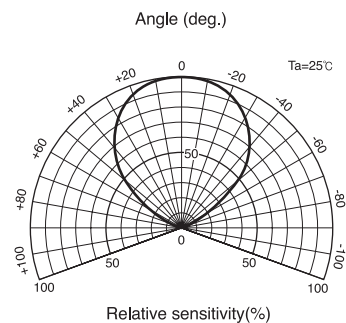
**Relative sensitivity Vs.
Wavelength**



**Switching time Vs.
Load resistance**



Radiant Pattern



**Collector power dissipation Vs.
Ambient temperature**

