

ST - 1CL3H

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

FEATURES

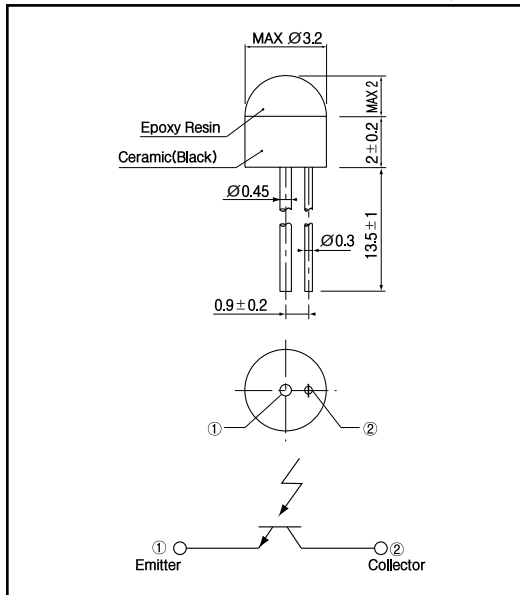
- Compact (ϕ 3mm)
- Wide angular response
- Low - cost

APPLICATIONS

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

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
C - E voltage	V _{CE0}	20	V
E - C voltage	V _{E0C}	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)

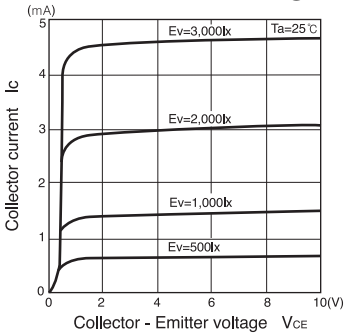
Item	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I _{CE0}	V _{CE0} =10V		1	200	nA
Light current	I _L	V _{CE} =3V, 1,000lx ⁻²	0.1	1.5	10	mA
C - E saturation voltage	V _{CE(sat)}	I _c =0.2mA, 2,000lx ⁻²		0.15	0.4	V
Switching speeds	Rise time	V _{CC} =10V, I _c =1mA, R _L =100		2.5		μsec.
	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

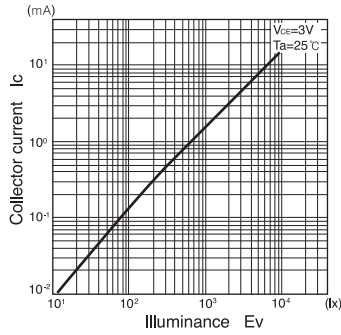
Photo transistors

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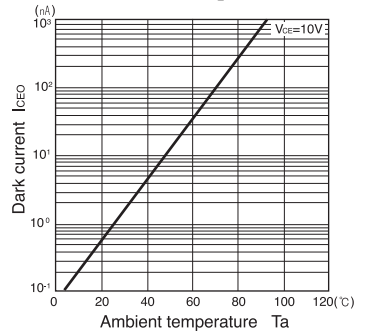
Collector current Vs. Collector - Emitter voltage



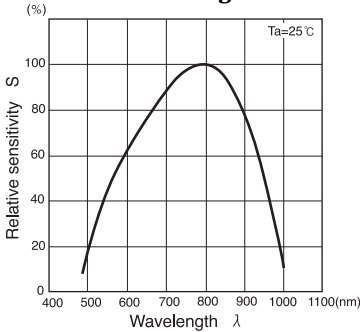
Collector current Vs. Illuminance



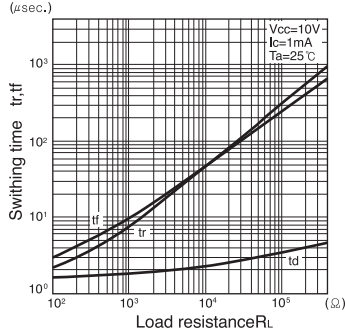
Dark current Vs. Ambient temperature



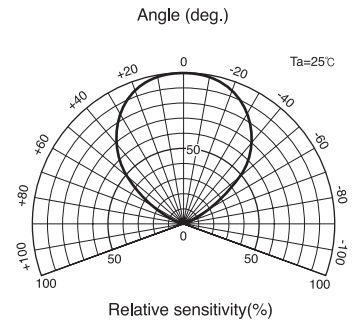
Relative sensitivity Vs. Wavelength



Switching time Vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature

