ST - 1CL3H

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

FEATURES

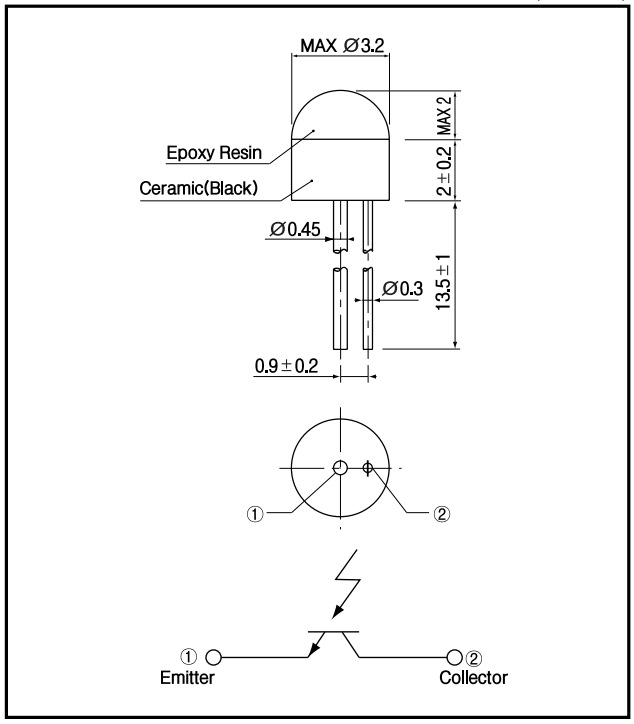
- Compact (ø3mm)
- Wide angular response
- Low - cost

APPLICATIONS

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

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25℃)

Item	Symbol	Rating	Unit
C - E voltage	V_{CEO}	20	V
E - C voltage	V_{ECO}	5	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	75	mW
Operating temp.	Topr.	- 20 ~ + 90	℃
Storage Temp.	Tstg.	- 30 ~ + 100	℃
Soldering temp. *1	Tsol.	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_{CEO}	V_{CEO}=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	tr	V_{CC}=10V, I_C=1mA, R_L=100Ω		2.5		μsec.
	Fall time	tf			3.8		μsec.
Spectral sensitivity		λ			480~1,000		nm
Peak wavelength		λp			800		nm
Half anglee		△θ			±50		deg.

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

Photo transistors

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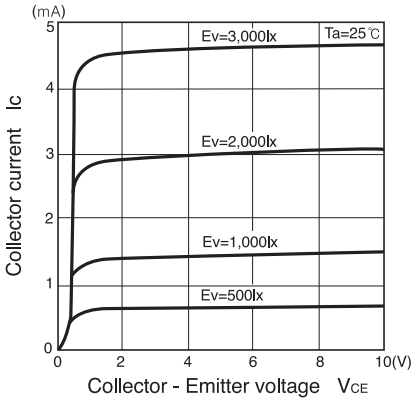
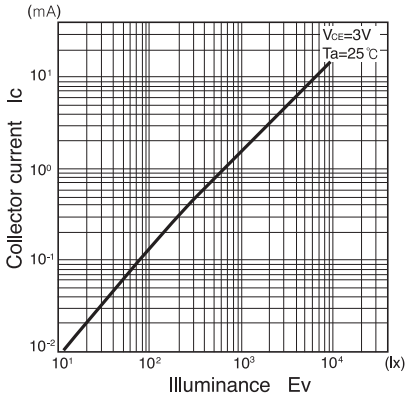
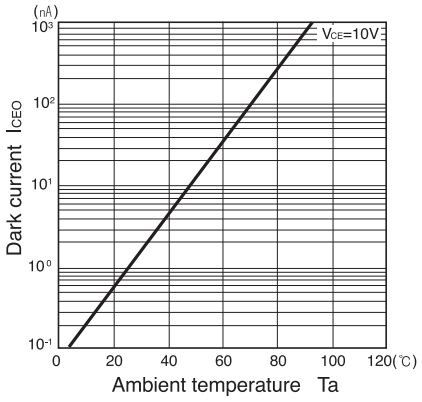
Collector current Vs. Collector - Emitter voltage



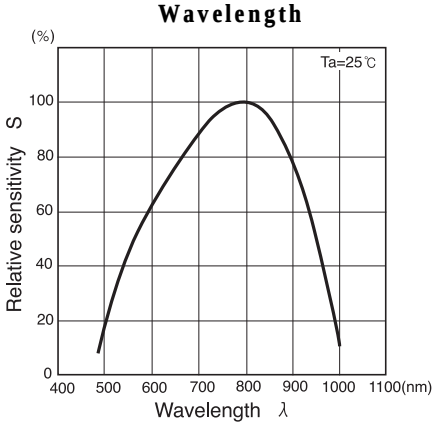
Collector current Vs. Illuminance



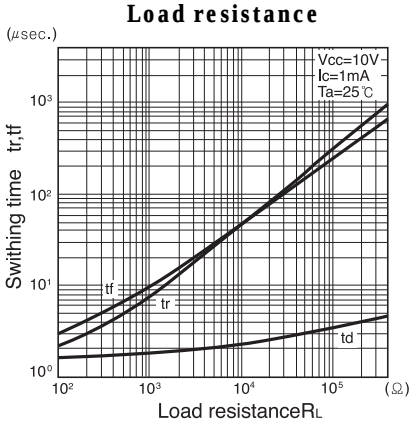
Dark current Vs. Ambient temperature



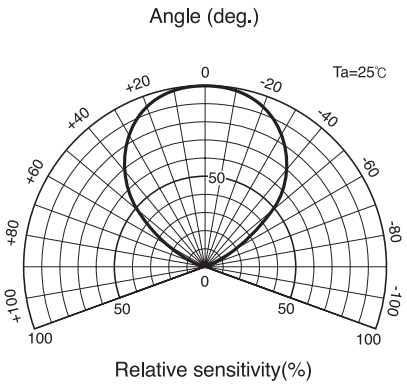
Relative sensitivity Vs. Wavelength



Swithing time Vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature