

Photo transistors

KODENSHI

ST - 1KL3A · ST - 1KL3B

The ST - 1KL3A and 1KL3B are high - sensitivity NPN silicon phototransistors mounted in durable, hermetically sealed TO - 18 metal can which provide years of reliable performance, even under demanding conditions such as use outdoors.

FEATURES

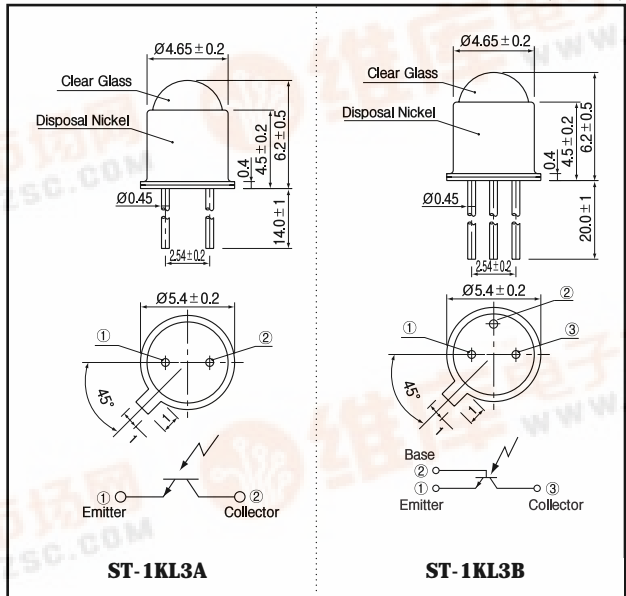
- Narrow angular response
- Durable
- High reliability in demanding environments
- Two leads (Collector, Emitter) ST - 1KL3A
- Three leads (Collector, Emitter, Base) ST - 1KL3B

APPLICATIONS

- Optical switches
- Optical detectors
- Infrared sensors
- Encoders
- Smoke detectors

DIMENSIONS

(Unit : mm)



MAXIMUM RATINGS

(Ta=25)

Item	Symbol	Rating	Unit
C - E voltage	V _{CEO}	40	V
E - C voltage	V _{ECO}	6	V
Collector current	I _c	50	mA
Collector power dissipation	P _c	150	mW
Operating temp.	T _{opr.}	- 30 ~ +100	
Storage Temp.	T _{stg.}	- 50 ~ +150	
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 _{CEO}	V _{CEO} = 10V		1	200	nA
Light current	I _L	V _{CE} = 10V, 200lx ⁻²	1.5	5.0	15	mA
C - E saturation voltage	V _{CE(sat)}	I _c = 5mA, 2,000lx ⁻²		0.2	0.4	V
Switching speeds	Rise time	V _{CC} = 10V, I _c = 5mA, R _L = 100		3.2		µsec.
	Fall time			4.8		µsec.
Spectral sensitivity				500 ~ 1,050		nm
Peak wavelength	λ _p			880		nm
Half angle				± 6		deg.

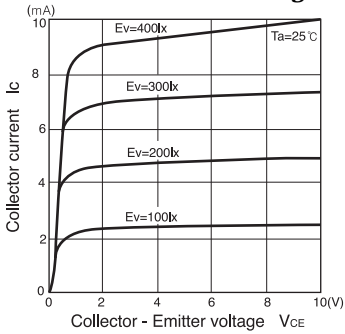
*2. Color temp. = 2856K standard Tungsten lamp



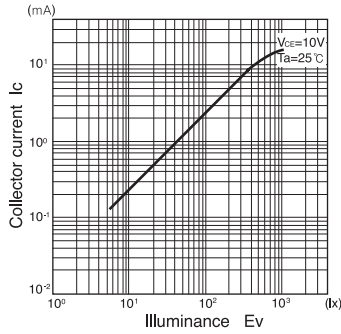
Photo transistors

ST - 1KL3A · ST - 1KL3B

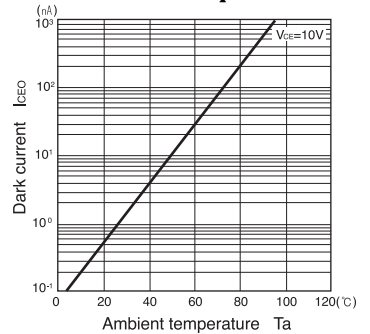
Collector current Vs. Collector - Emitter voltage



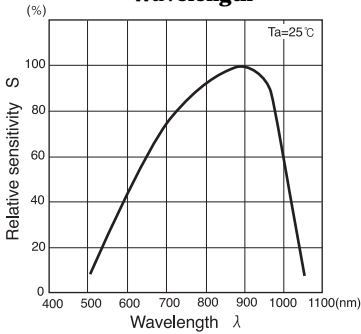
Collector current Vs. Illuminance



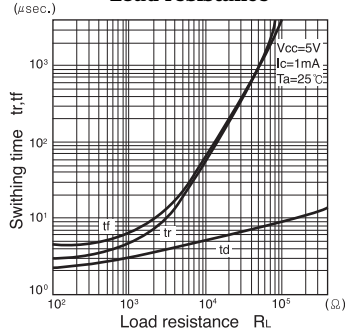
Dark current Vs. Ambient temperature



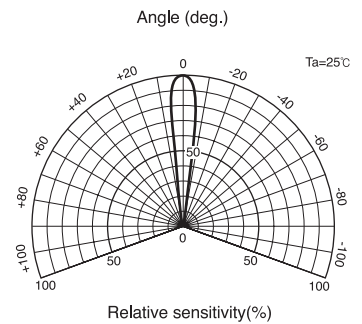
Relative sensitivity Vs. Wavelength



Switching time vs. Load resistance



Radiant Pattern



Collector power dissipation Vs. Ambient temperature

