

# KDTD001

The KDTD001, a high-sensitivity NPN silicon phototransistor mounted in a 2nd Mold package is compact, low profile and easy to mount.

### Features

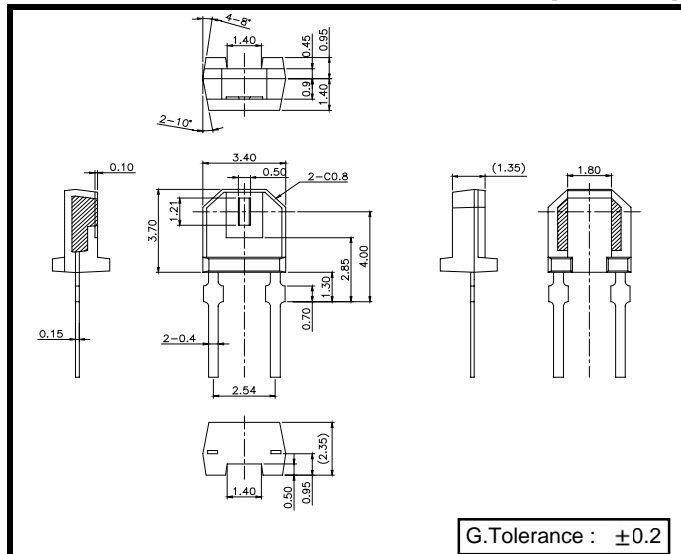
- Low profile package
- Side-looking with plastic package
- RoHS Compliance
- Small 2nd Mold Package

### Applications

- OA machines
- Photointerrupter

### Dimensions

[Unit : mm]



### Absolute Maximum Ratings

[T<sub>A</sub> = 25°C]

Parameter	Symbol	Rating	Unit
C-E Voltage	V <sub>CEO</sub>	30	V
E-C Voltage	V <sub>ECO</sub>	6	V
Collector current	I <sub>C</sub>	20	mA
Collector power dissipation	P <sub>C</sub>	75	mW
Operating temp	T <sub>opr.</sub>	-25~+85	°C
Storage temp	T <sub>stg.</sub>	-30~+100	°C
Soldering temp	T <sub>sol</sub>	260	°C

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

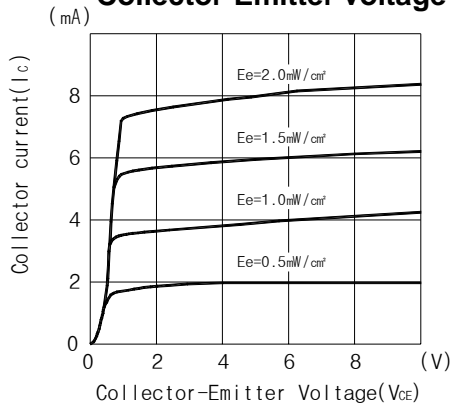
### Electro-Optical Characteristics

[T<sub>A</sub> = 25°C]

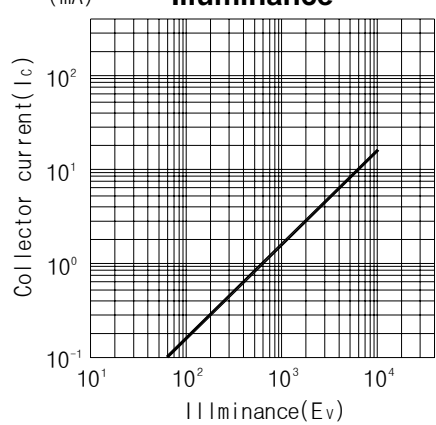
Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current	I <sub>CEO</sub>	V <sub>CEO</sub> =10V	-	-	100	nA
Light current	I <sub>L</sub>	V <sub>CE</sub> =5V, 1,000lx	-	1.2	-	mA
C-E saturation voltage	V <sub>CE(sat)</sub>	I <sub>C</sub> =0.5mA, 2,000lx	-	0.2	-	V
Switching speeds	Rise time	V <sub>CC</sub> =10V, I <sub>C</sub> =5mA R <sub>L</sub> =100Ω	-	3.2	-	μsec
	Fall time		-	3.2	-	μsec
Spectral sensitivity	λ		500~1,050			nm
Peak wavelength	λ <sub>p</sub>		-	880	-	nm
Half Angle	Δθ		-	±15	-	degrees

**KDTD001**

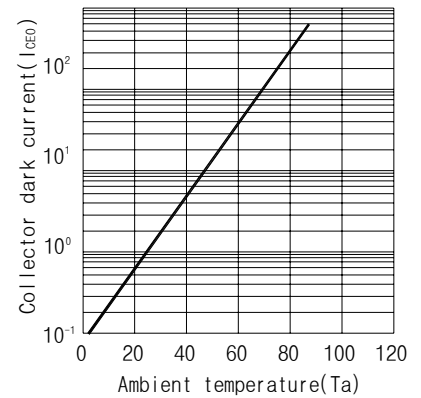
**Collector current Vs. Collector-Emitter voltage**



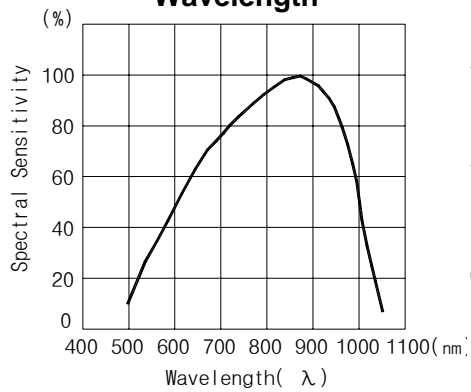
**Collector current Vs. Illuminance**



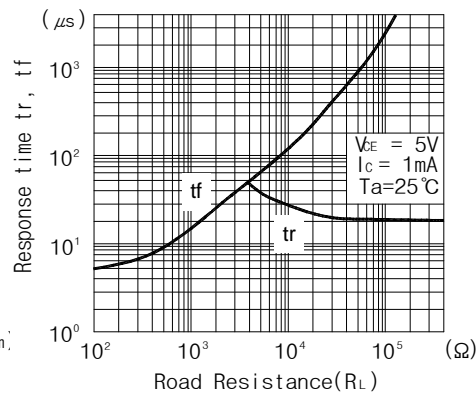
**Dark current Vs. Ambient temperature**



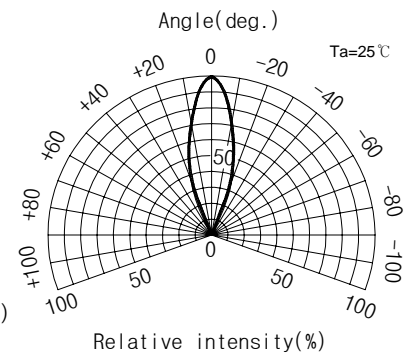
**Relative sensitivity Vs. Wavelength**



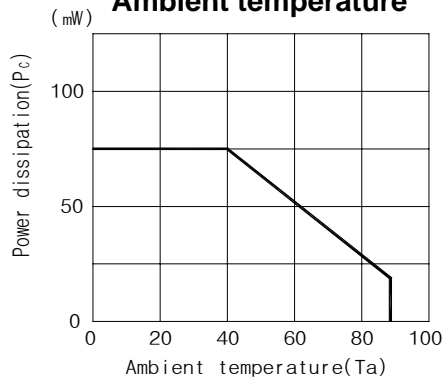
**Switching time Vs. Load resistance**



**Sensitivity Diagram Angular**



**Collector power dissipation Vs. Ambient temperature**



**Switching time measurement circuit**

