

KDTD001

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

Features

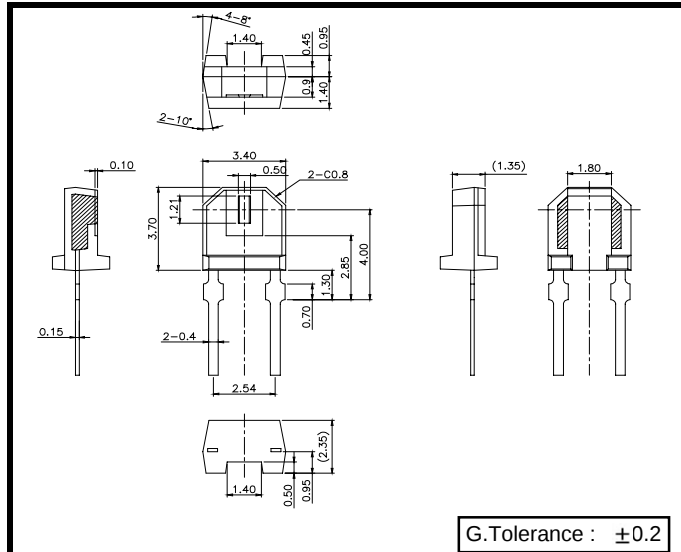
- Low profile package
- Side-looking with plastic package
- RoHS Compliance
- Small 2nd Mold Package

Applications

- OA machines
- Photointerrupter

Dimensions

[Unit : mm]



Absolute Maximum Ratings

$[T_A = 25^\circ\text{C}]$

Parameter	Symbol	Rating	Unit
C-E Voltage	V_{CEO}	30	V
E-C Voltage	V_{ECO}	6	V
Collector current	I_C	20	mA
Collector power dissipation	P_C	75	mW
Operating temp	Topr.	-25~+85	°C
Storage temp	Tstg.	-30~+100	°C
Soldering temp	Tsol	260	°C

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

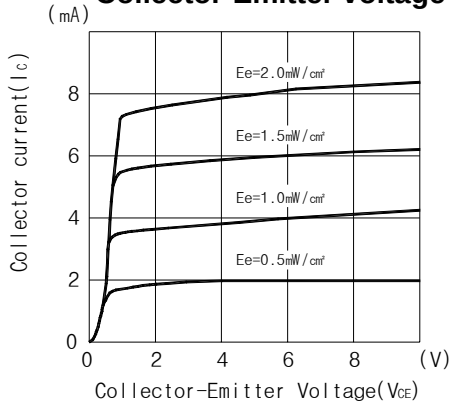
Electro-Optical Characteristics

$[T_A = 25^\circ\text{C}]$

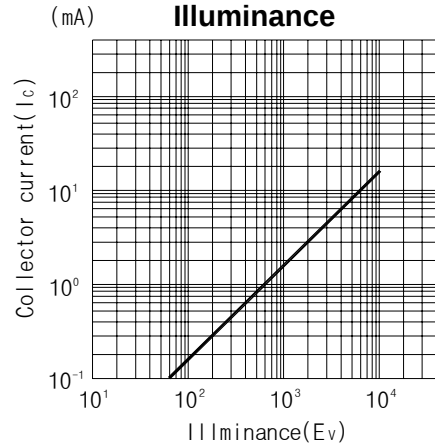
Parameter		Symbol	Conditions	Min.	Typ.	Max.	Unit.
Collector dark current		I_{CEO}	$V_{CEO}=10V$	-	-	100	nA
Light current		I_L	$V_{CE}=5V, 1,000lx$	-	1.2	-	mA
C-E saturation voltage		$V_{CE(sat)}$	$I_C=0.5mA, 2,000lx$	-	0.2	-	V
Switching speeds	Rise time	t_r	$V_{CC}=10V, I_C=5mA$ $R_L=100\Omega$	-	3.2	-	μsec
	Fall time	t_f		-	3.2	-	μsec
Spectral sensitivity		λ		500~1,050			nm
Peak wavelength		λ_p		-	880	-	nm
Half Angle		$\Delta\theta$		-	± 15	-	degrees

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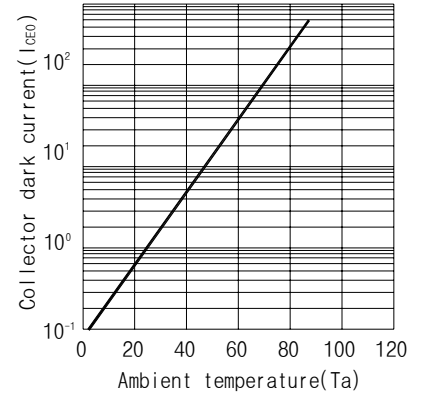
Collector current Vs.
Collector-Emitter voltage



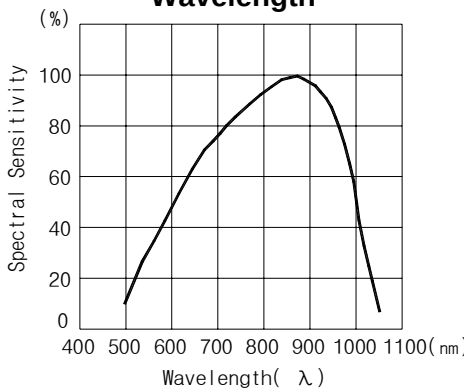
Collector current Vs.
Illuminance



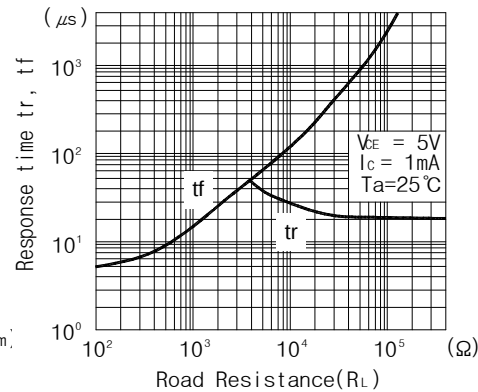
Dark current Vs.
Ambient temperature



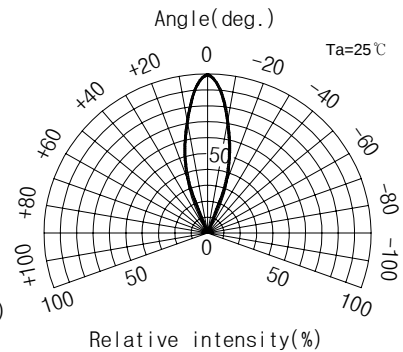
Relative sensitivity Vs.
Wavelength



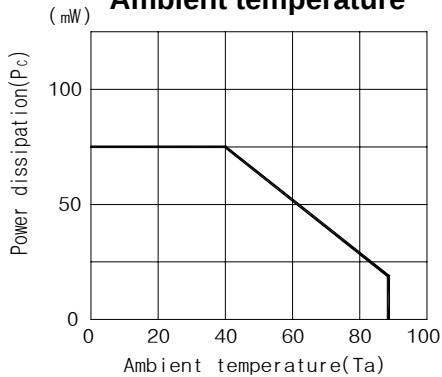
Switching time Vs.
Load resistance



Sensitivity Diagram
Angular



Collector power dissipation Vs.
Ambient temperature



Switching time measurement circuit

