

Silicon photo transistor

KDT5002A

Description

The KDT5002A is a high-sensitivity Silicon phototransistor mounted in Φ 5mm(T13/4) plastic package with visible light cutoff filter. This photo transistor is both compact and easy to mount.

Features

- Φ 5mm(T13/4) all plastic mold type
- Visible light cut-off type
- Single phototransistor output

Applications

- Optical counter
- Optical detectors
- Tape End sensor

Absolute Maximum Ratings (at 25°C unless otherwise noted)

Parameter	Symbol	Rating	Unit
Collector-emitter voltage	BV_{CEO}	35	V
Emitter-collector voltage	BV_{ECO}	6	V
Collector current	I_C	50	mA
Collector power dissipation	P_C	75	mW
Operating temperature	T_{opr}	-20~+85	°C
Storage temperature	T_{stg}	-30~+85	°C
Soldering temperature *1	T_{sol}	260	°C

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

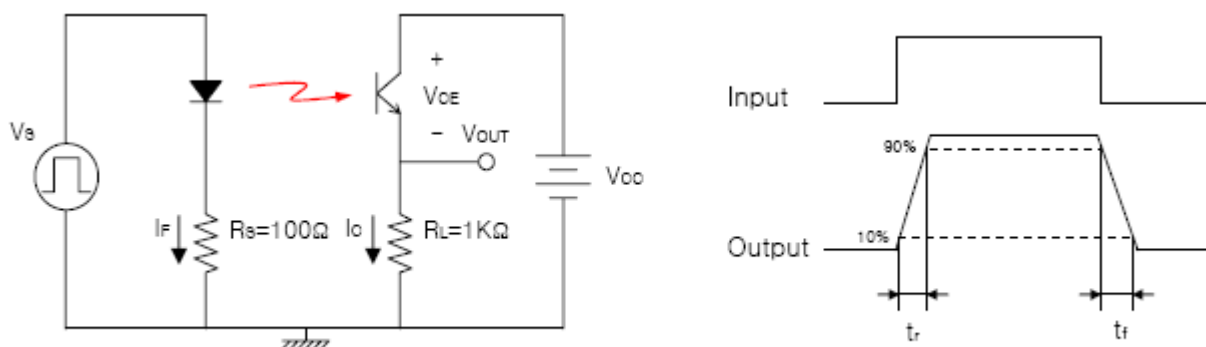
The contents of this data sheet are subject to change without advance notice for the purpose of improvement.
When using this product, would you please refer to the latest specifications.

Electrical Characteristics (at 25°C unless otherwise noted)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Collector current *2	I_L	$E_V=1000lx, V_{CE}=10V$	-	4.5	-	mA
Collector dark current	I_{CEO}	$E_V=0, V_{CE}=10V$	-	-	200	nA
Collector-emitter saturation voltage	$V_{CE(SAT)}$	$E_V=0.5mW/cm^2, I_C=1mA$	-	-	0.6	V
Spectral sensitivity	λ	-	700	-	1,050	nm
Peak sensitivity wavelength	λ_P	-	-	880	-	nm
Switching time	Rise time	$V_{CC}=5V, I_C=1mA, R_L=1K\Omega$	-	8.5	-	μs
	Fall time		-	8.5	-	μs
Half intensity angle	$\Delta\theta$	-	-	± 25	-	deg.

Notes : *2. E_e : Irradiance by CIE standard light source A (2850K tungsten lamp)

Switching time test circuit



Inspection Criteria

- In electrical and optical characteristics, all products are inspected for following 2 items.
 - Collector Current : I_{CEL}
 - Dark Current : I_{CEO}
- No particular inspections shall be carried out for items other than those above. However they shall satisfy the ratings.

Cautions in Usage

- Store and use where there is no exterior force that will cause change in shape.
- Store and use where there is no Hydrogen Sulfide gas, or any other corrosive gas.
- The bending or cutting of the lead should be done at room temperature, no force being applied on the package.
- Solder the lead pin under conditions of the absolute maximum rating chart and do not apply force on the lead pin after soldering.

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Guarantee Period and Scope

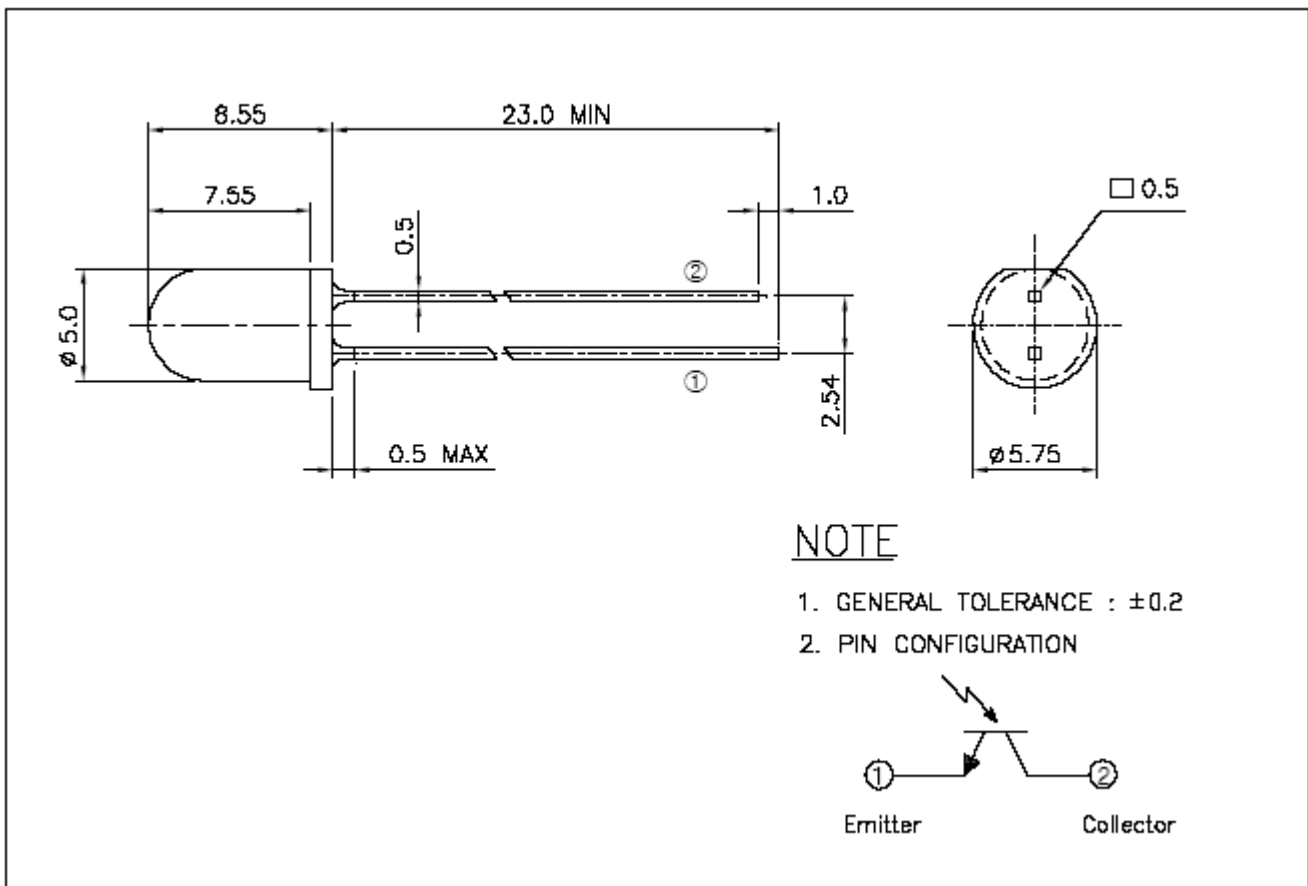
- Period
One year after delivery to the desired place.
- Scope
Replacement of products will be done if any problems lie in our company's products.
However, we are not liable for your damage due to lack of caution.

Others

Any doubts concerning this specification should be discussed fully by both parties.

Package Outline Dimensions

[Unit : mm]



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