

KDT3002A

The KDT3002A is high sensitivity NPN silicon photo transistor mounted in $\Phi 3\text{mm}$ (T-1) all plastic mold type. This photo transistor is both compact and easy to mount.

Features

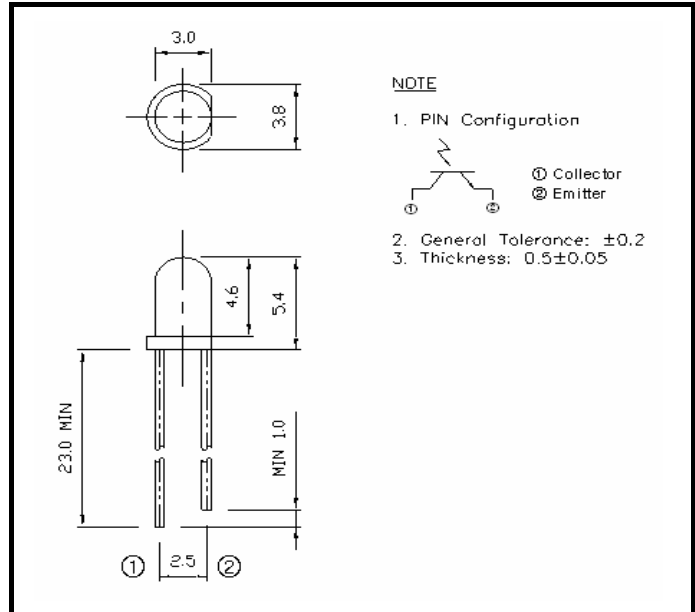
- Highly sensitive photo transistor
- Visible ray cut off mold type

Applications

- VCR, Camcoders
- Floppy disk drivers
- Optical detectors/switch

Dimensions

[Unit : mm]



Absolute Maximum Ratings

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

| Parameter | Symbol | Rating | Unit |
|-------------------------------------|------------|---------|------------------|
| Collector-Emitter Voltage | V_{CEO} | 35 | V |
| Emitter-Collector Voltage | V_{ECO} | 6 | V |
| Collector Current | I_C | 20 | mA |
| Collector Power Dissipation | P_C | 75 | mW |
| Operating Temperature | $T_{opr.}$ | -20~+85 | $^\circ\text{C}$ |
| Storage Temperature | $T_{stg.}$ | -30~+85 | $^\circ\text{C}$ |
| Soldering Temperature* ¹ | T_{sol} | 240 | $^\circ\text{C}$ |

Notes : 1. For MAX. 5 seconds at the position of 3 mm from the package.

ELECTRO- OPTICAL CHARACTERISTICS

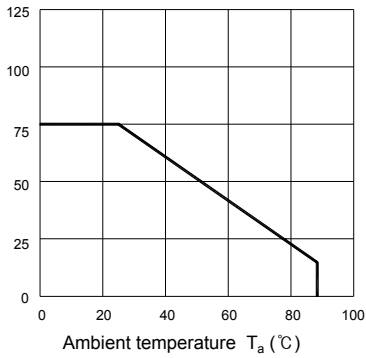
| Description | Symbol | Condition | Min. | Typ. | Max. | Unit |
|--------------------------|----------------|--|-----------------------|----------|------|---------------|
| Dark Current | I_{CEO} | $V_{CE}=10\text{V}, E_E=0$ | - | - | 200 | nA |
| Light Current | I_{CEL} | $V_{CE}=10\text{V}, E_V=500\text{lX} \text{ ※1}$ | 2.5 | 5.0 | - | mA |
| Spectral Sensitivity | λ | - | 700~1050 | | | nm |
| Peak wavelength | λ_p | $V_R=0\text{V}$ | - | 880 | - | nm |
| Viewing Angle | $\Delta\theta$ | - | - | ± 30 | - | deg. |
| Response Time(Rise Time) | t_r | $V_{CC}=10\text{V}, I_C=1\text{mA}$ | - | 2.5 | - | μs |
| Response Time(Fall Time) | t_f | | $\lambda_L=100\Omega$ | - | 4.7 | - |

※1 Color temp. =2856K Standard Tungsten lamp

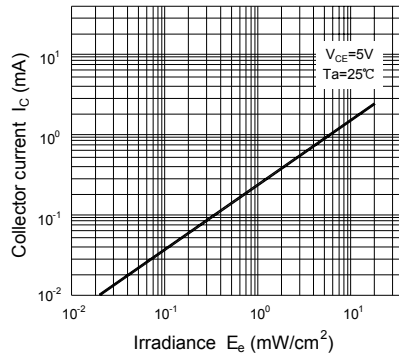
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DYNAMIC CHARACTERISTICS

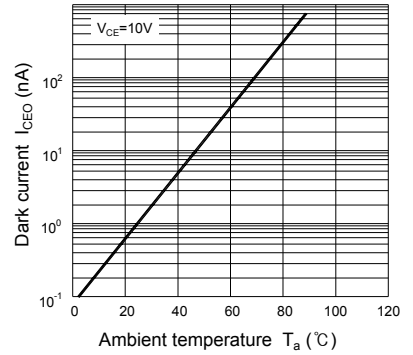
Power dissipation Vs. Ambient temperature



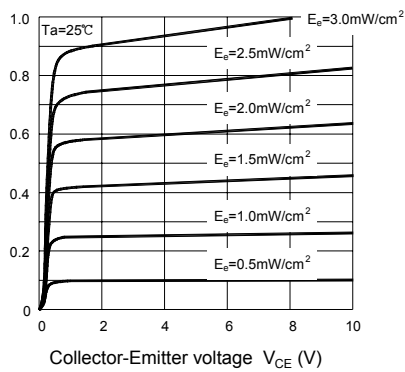
Collector current Vs. Irradiance



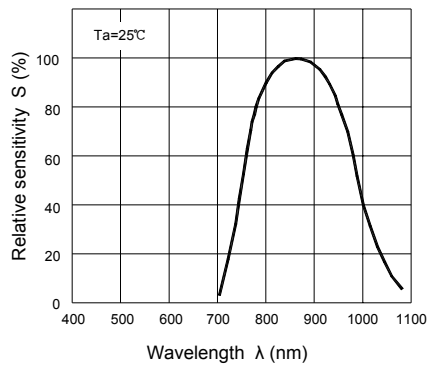
Dark current Vs. Ambient temperature



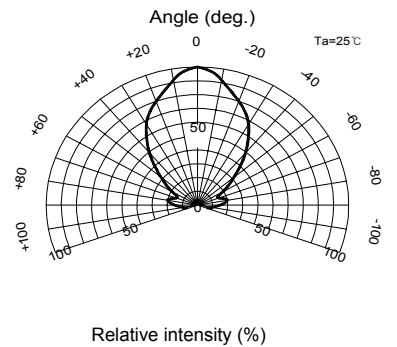
Collector current Vs. Collector-Emitter voltage



Relative sensitivity Vs. Wavelength



Radiant pattern



Response time Vs. Load resistance

