

# SST553 - 02

The SST553 - 02, a high - sensitivity NPN silicon phototransistor mounted in a clear sidelooking package, is compact, low profile and easy to mount.

## FEATURES

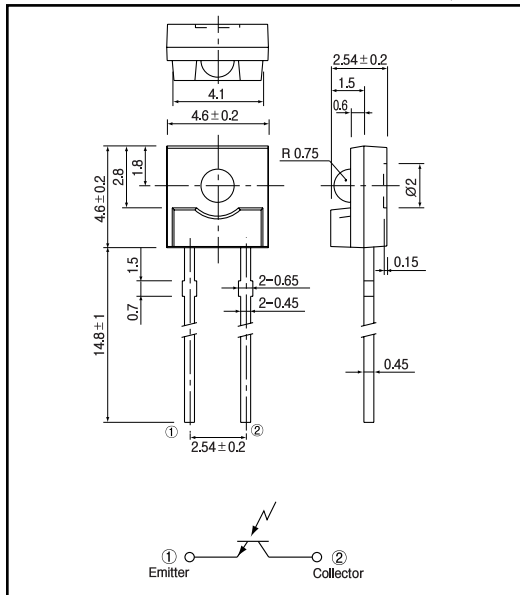
- Low profile package
- Compact
- Low - cost
- Sidelooking plastic package

## APPLICATIONS

- Photointerrupters
- Optical switches

## DIMENSIONS

(Unit : mm)



## MAXIMUM RATINGS

(Ta=25 )

| Item                        | Symbol     | Rating       | Unit |
|-----------------------------|------------|--------------|------|
| C - E voltage               | $V_{CE0}$  | 30           | V    |
| E - C voltage               | $V_{ECO}$  | 6            | V    |
| Collector current           | $I_C$      | 40           | mA   |
| Collector power dissipation | $P_C$      | 100          | mW   |
| Operating temp.             | $T_{opr.}$ | - 20 ~ + 100 |      |
| Storage Temp.               | $T_{stg.}$ | - 30 ~ + 100 |      |
| 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 )

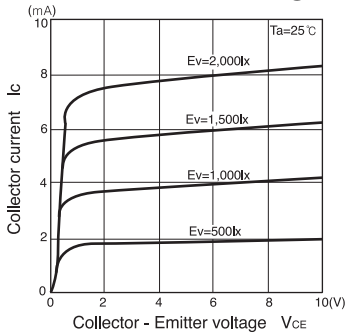
| Item                     | Symbol        | Conditions                           | Min. | Typ.        | Max. | Unit. |
|--------------------------|---------------|--------------------------------------|------|-------------|------|-------|
| Collector dark current   | $I_{CE0}$     | $V_{CE0} = 10V$                      |      | 1           | 100  | nA    |
| Light current            | $I_L$         | $V_{CE} = 5V, 1,000lx^{-2}$          | 0.5  | 4.0         | 20   | mA    |
| C - E saturation voltage | $V_{CE(sat)}$ | $I_C = 0.5mA, 2,000lx^{-2}$          |      | 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          | $\lambda_p$   |                                      |      | 880         |      | nm    |
| Half angle               |               |                                      |      | ± 30        |      | deg.  |

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

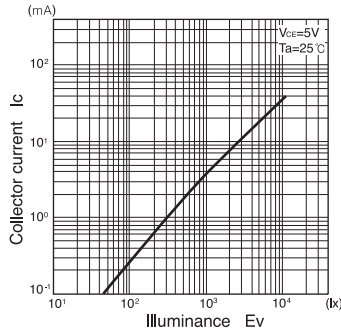
Photo transistors

SST553 - 02

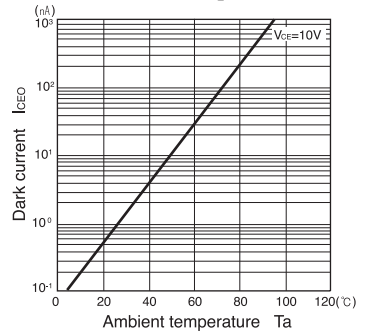
**Collector current Vs. Collector - Emitter voltage**



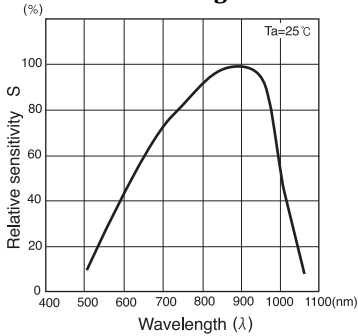
**Collector current Vs. Illuminance**



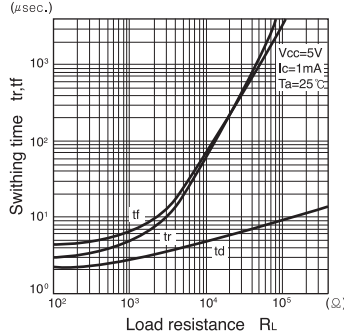
**Dark current Vs. Ambient temperature**



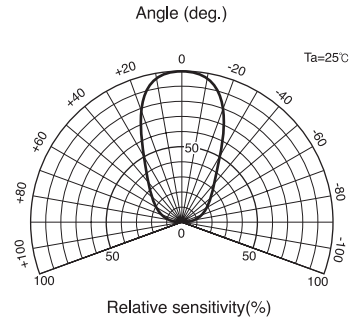
**Relative sensitivity Vs. Wavelength**



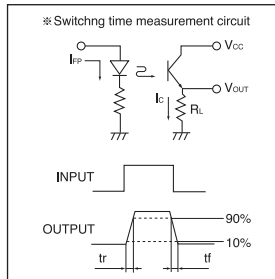
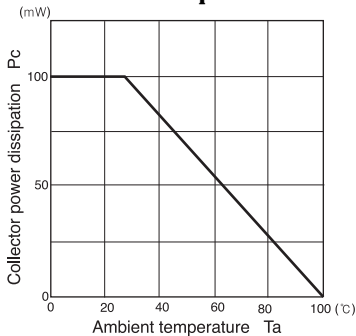
**Switching time vs. Load resistance**



**Radiant Pattern**



**Collector power dissipation Vs. Ambient temperature**



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