

## Peak Emission Wavelength: 700nm

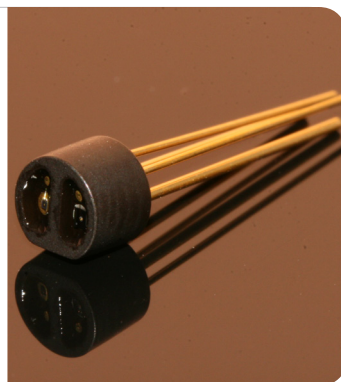
The 700nm reflective sensor consists of a 700nm visible emitter and high sensitivity photo transistor in the same package. The black molded housing reduces the effect of external ambient light. Custom emitter/detectors are available.

### FEATURES

- > High Reliability
- > Compact (Φ4.0)
- > Short Detection Distance Optimum 0.5-1.5mm

### APPLICATIONS

- > Card Reader
- > Bar-code Reader
- > Edge Sensing / Money-bill Reader



## Absolute Maximum Ratings (Ta=25°C)



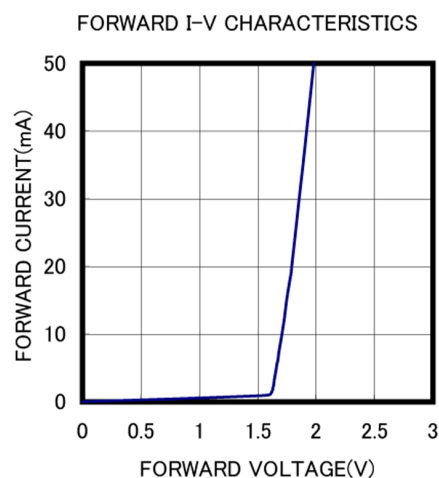
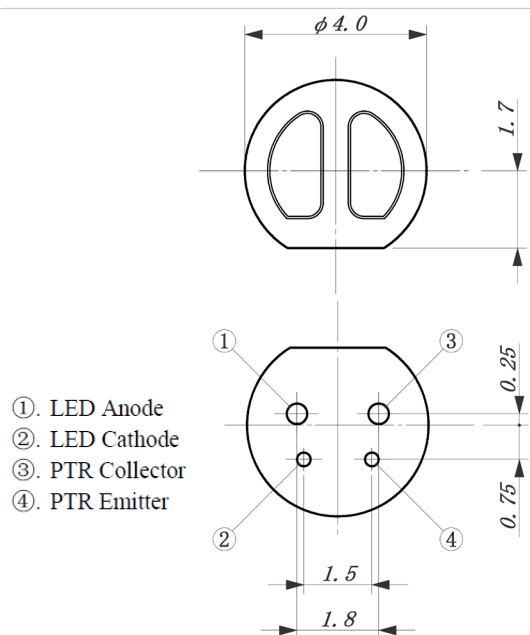
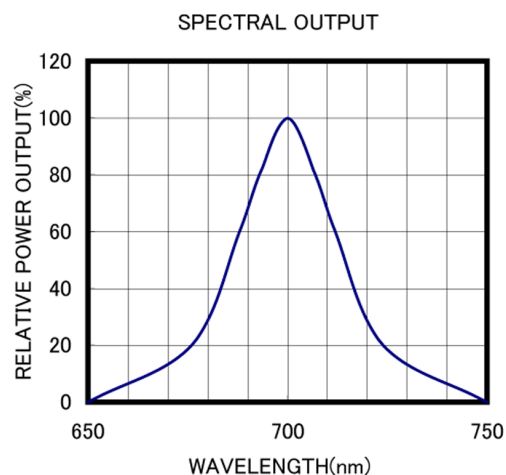
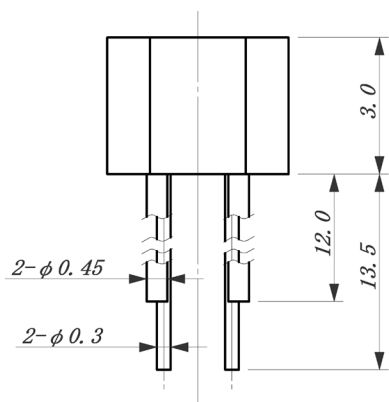
| ITEMS                            | SYMBOL | RATINGS   | UNIT |
|----------------------------------|--------|-----------|------|
| Forward Current (LED)            | IF     | 50        | mA   |
| Pulse Forward Current (LED)*1    | IFP    | 0.5       | A    |
| Reverse Voltage (LED)            | VR     | 4         | V    |
| Power Dissipation (LED)          | PD     | 100       | mW   |
| Collector-Emitter Voltage (PT)   | Vce    | 20        | V    |
| Emitter-Collector Voltage (PT)   | Vec    | 5         | V    |
| Collector Current (PT)           | Ic     | 50        | mA   |
| Collector Power Dissipation (PT) | PC     | 75        | mW   |
| Total Power Dissipation          | Ptot   | 100       | mW   |
| Operating Temperature Range      | Topr   | -20 ~ +80 | °C   |

\*1: Tw=10μsec, T=10msec.

## Electrical & Optical Characteristics (Ta = 25°C)

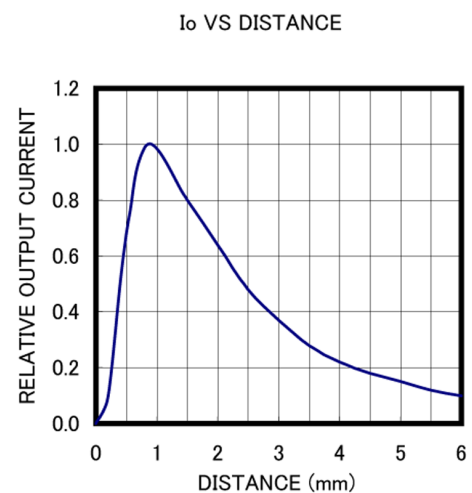
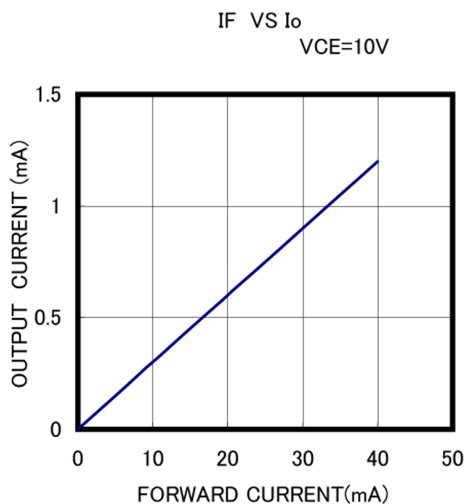
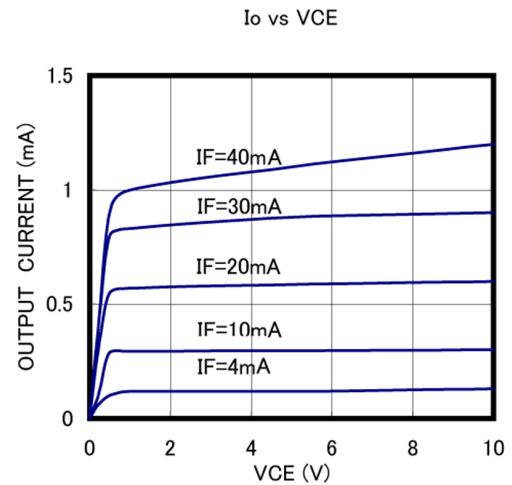
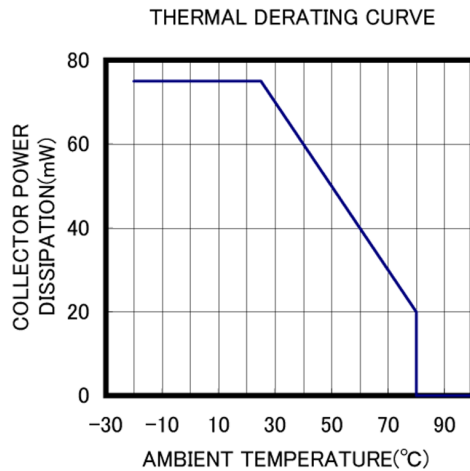
| ITEMS                        | SYMBOL | CONDITIONS               | MIN | TYP | MAX | UNIT |
|------------------------------|--------|--------------------------|-----|-----|-----|------|
| Forward Voltage              | VF     | IF=20mA                  | --  | 1.8 | 2.3 | V    |
| Reverse Current              | IR     | VR=4V                    | --  | --  | 10  | μA   |
| Peak Emission Wavelength     | λp     | IF=20mA                  | --  | 700 | --  | nm   |
| Spectral Line Half Width     | Δλ     | IF=20mA                  | --  | 25  | --  | nm   |
| Dark Current (Iceo)          | ID     | Vce=10V                  | --  | --  | 100 | nA   |
| Output Current               | Io     | IF=20mA, Vce=2V, d=1mm * | 180 | 500 | --  | μA   |
| Cross-talk Current           | Ix     | IF=20mA, Vce=2V          | --  | --  | 200 | nA   |
| Rise Time (10 to 90%)        | Tr     | Vcc=5V, Io=0.1mA, RL=1KΩ | --  | 20  | --  | μS   |
| Fall Time (10 to 90%)        | Tf     | Vcc=5V, Io=0.1mA, RL=1KΩ | --  | 30  | --  | μS   |
| Lead Soldering Temperature*2 | Tls    | --                       | --  | --  | 260 | °C   |

\*1: Measured by reflecting with Aluminum evaporated mirror (d=1.00mm). \*2: Time 5 Sec max, Position: Up to 3mm from the body.



Unit: mm, Tolerance:  $\pm 0.2$

2011-07-21



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