

Peak Emission Wavelength: 590nm

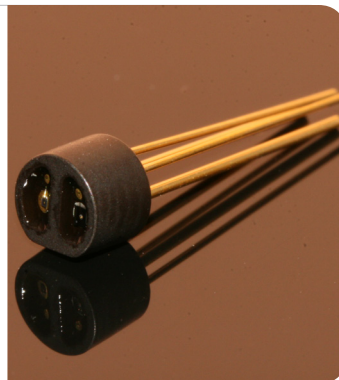
The 590nm reflective sensor consists of a 590nm visible emitter and high sensitivity photo diode in the same package. The black molded housing reduces the effect of external ambient light. Custom emitter/detectors are available.

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)



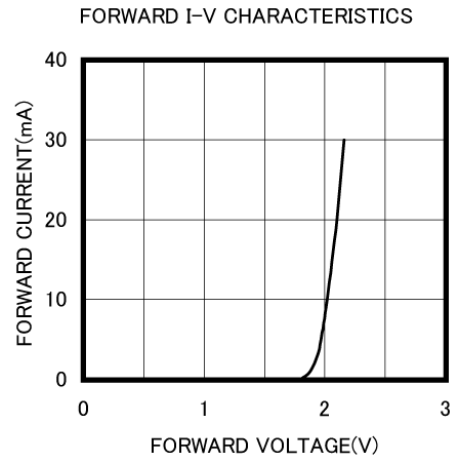
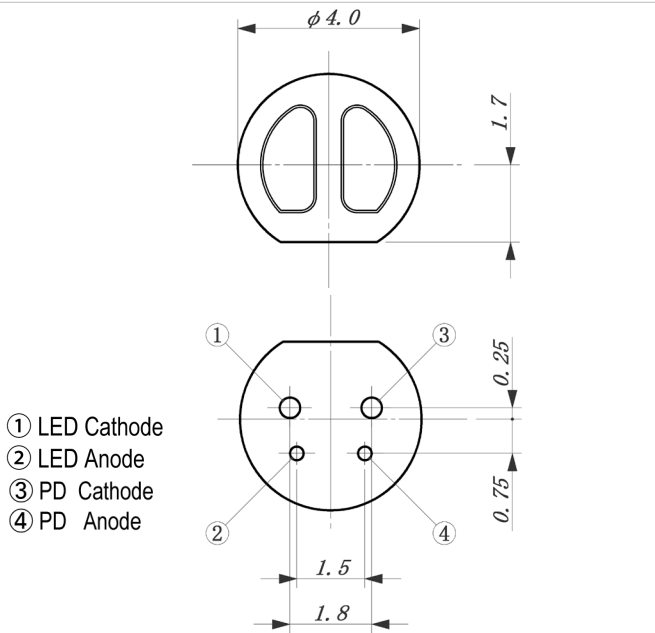
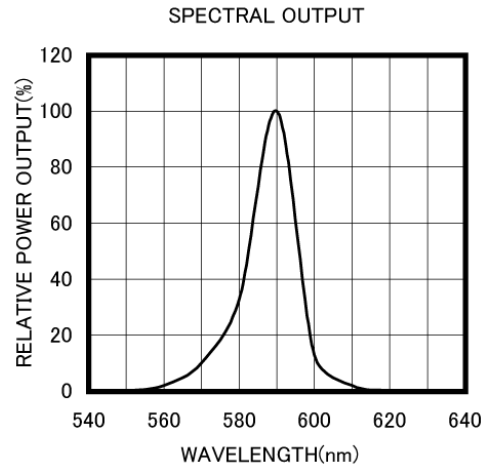
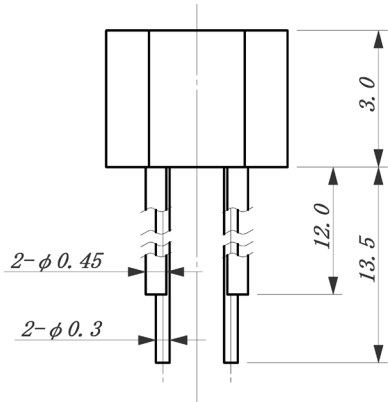
| ITEMS | SYMBOL | RATINGS | UNIT |
|-------------------------------|--------|------------|------|
| Forward Current (LED) | IF | 30 | mA |
| Pulse Forward Current (LED)*1 | IFP | 50 | mA |
| Reverse Voltage (LED) | VR | 5 | V |
| Power Dissipation (LED) | PD | 100 | mW |
| Reverse Voltage (PD) | VR | 30 | V |
| Power Dissipation (PD) | PD | 75 | mW |
| Total Power Dissipation | Ptot | 100 | mW |
| Operating Temperature Range | Topr | -20 ~ +80 | °C |
| Storage Temperature Range | Tstg | -30 ~ +100 | °C |

*1: Tw=10μsec, T=10msec.

Electrical & Optical Characteristics (Ta = 25°C)

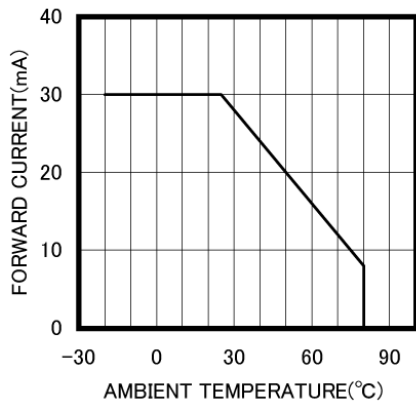
| ITEMS | SYMBOL | CONDITIONS | MIN | TYP | MAX | UNIT |
|----------------------------------|-----------------|--------------------------|-----|-----|------|------|
| Forward Voltage | VF | IF=20mA | -- | 2.0 | 2.5 | V |
| Reverse Current | IR | VR=4V | -- | -- | 10 | μA |
| Peak Emission Wavelength | λp | IF=20mA | -- | 590 | -- | nm |
| Spectral Line Half Width | Δλ | IF=20mA | -- | 13 | -- | nm |
| Dark Current (I _{ceo}) | ID | VR=10V | -- | -- | 100 | nA |
| Output Current | I _o | IF=20mA, VR=10V, d=1mm * | -- | 0.3 | -- | μA |
| Cross-talk Current | I _x | IF=20mA, VR=10V | -- | -- | 10.0 | nA |
| Rise Time (10 to 90%) | Tr | VR=10V, IF=20mA, RL=1KΩ | -- | 1.0 | -- | μS |
| Fall Time (10 to 90%) | Tf | VR=10V, IF=20mA, RL=1KΩ | -- | 1.0 | -- | μS |
| Lead Soldering Temperature*2 | T _{ls} | -- | -- | -- | 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.

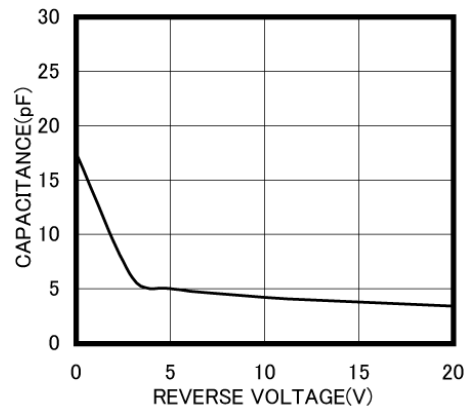


Unit: mm, Tolerance: ± 0.2

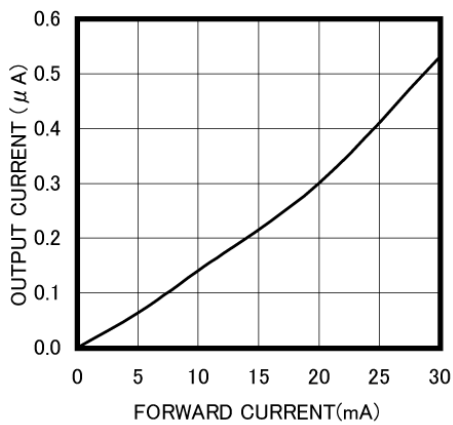
THERMAL DERATING CURVE



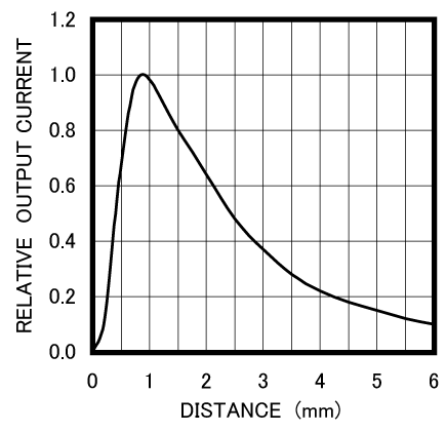
CAPACITANCE vs REVERSE VOLTAGE



IF VS I_o @VR=10V



I_o VS DISTANCE



The information contained herein is subject to change without notice.

2011-08-11