

## Peak Emission Wavelength: 650nm

The 650nm Point Source Series is designed for applications requiring high accuracy and precision. Custom package solutions and sorting are available.

### FEATURES

- > 3.5×2.2×1.24 Flat Top Ceramic SMT
- > Emitting Window Diameter  $\Phi$  150 $\mu$ m
- > High Reliability / High Output Power

### APPLICATIONS

- > Optical Sensing / Optical Instruments
- > Linear & Rotary Encoder
- > Machine Vision / CCD
- > Optical Switches



## Absolute Maximum Ratings (Ta=25°C)

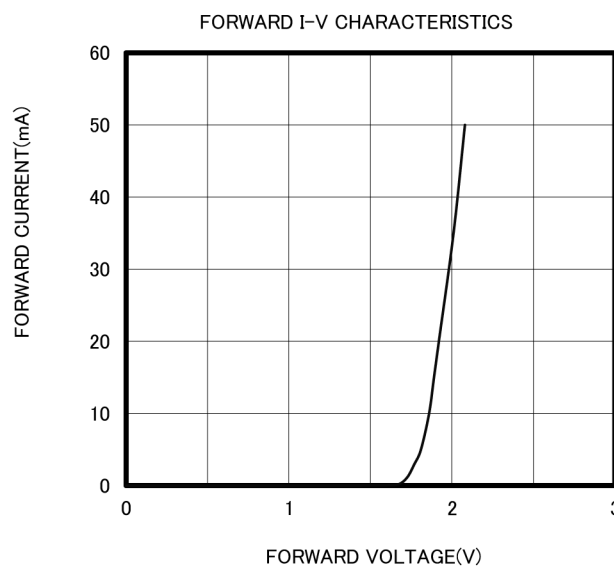
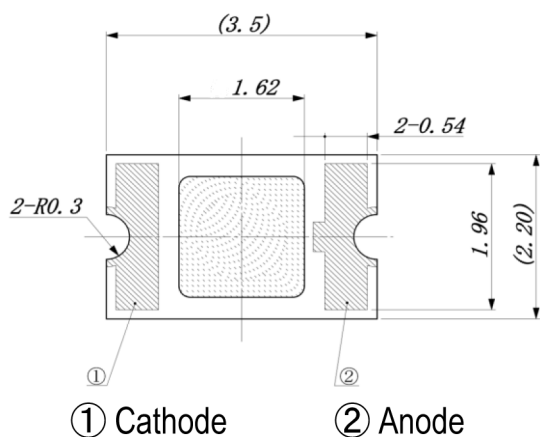
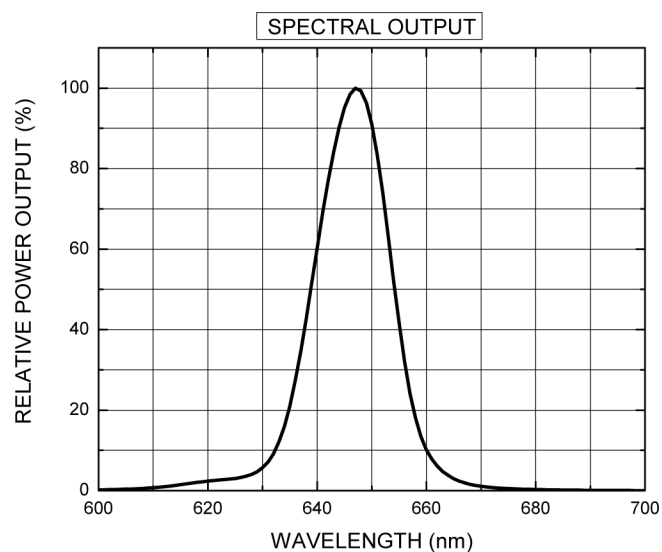
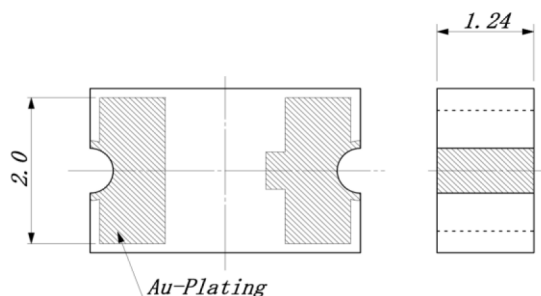


| ITEMS                       | SYMBOL | RATINGS    | UNIT |
|-----------------------------|--------|------------|------|
| Forward Current (DC)        | IF     | 50         | mA   |
| Forward Current (Pulse)*1   | IFP    | 0.3        | A    |
| Reverse Voltage             | VR     | 5          | V    |
| Power Dissipation           | PD     | 120        | mW   |
| Operating Temperature Range | Topr   | -20 ~ +80  | °C   |
| Storage Temperature Range   | Tstg   | -30 ~ +100 | °C   |

\*1: Tw=10 $\mu$ sec, T=10msec.

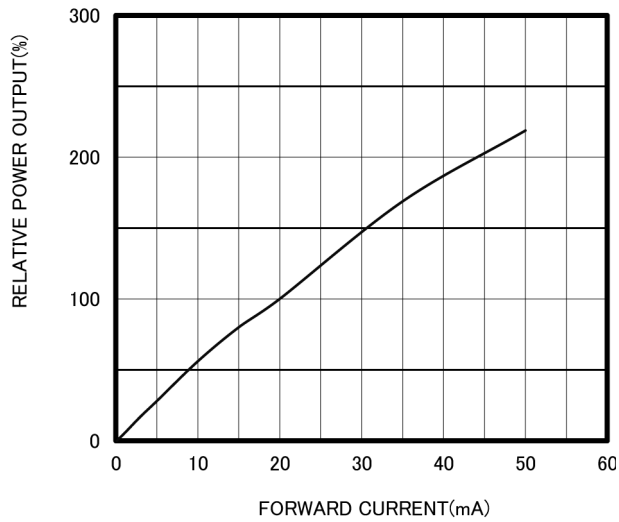
## Electrical & Optical Characteristics (Ta = 25°C)

| ITEMS                     | SYMBOL          | CONDITIONS | MIN | TYP      | MAX | UNIT    |
|---------------------------|-----------------|------------|-----|----------|-----|---------|
| Power Output              | PO              | IF=20mA    | --  | 1.6      | --  | mW      |
| Forward Voltage           | VF              | IF=20mA    | --  | 1.9      | 2.4 | V       |
| Reverse Current           | IR              | VR=5V      | --  | --       | 100 | $\mu$ A |
| Peak Emission Wavelength  | $\lambda_p$     | IF=20mA    | --  | 650      | --  | nm      |
| Spectral Line Half Width  | $\Delta\lambda$ | IF=20mA    | --  | 15       | --  | nm      |
| Half Intensity Beam Angle | $\Theta$        | IF=20mA    | --  | $\pm 45$ | --  | deg     |

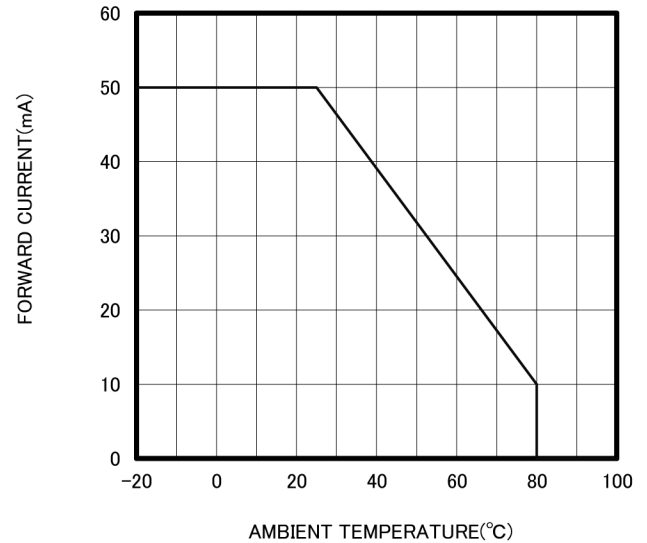


Unit: mm

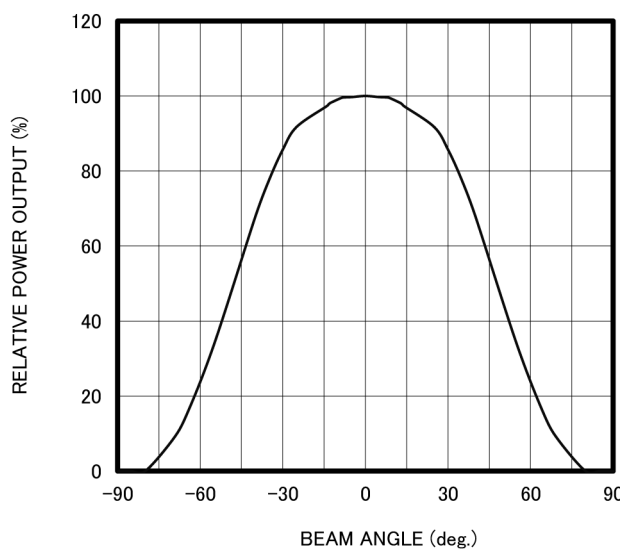
RELATIVE POWER vs FORWARD CURRENT



THERMAL DERATING CURVE



RADIATION PATTERN



## Soldering Conditions:

### (1) Reflow Soldering

- Please implement the following temperature profile.
- Please do not handle the product until it has returned to ambient temperature.

### (2) Hand Soldering

- Soldering tip temperature must be under 320°C.
- Soldering must be done within 3 seconds each.
- When soldering, do not add pressure to the resin portion.
- Please do not handle the product until it has returned to ambient temperature.

Reflow Soldering Temperature-Profile [Pb free Soldering] (Recommend condition)

