

# SHE144PGI-(B)

**High Efficiency LED Lamp** 

#### **Features**

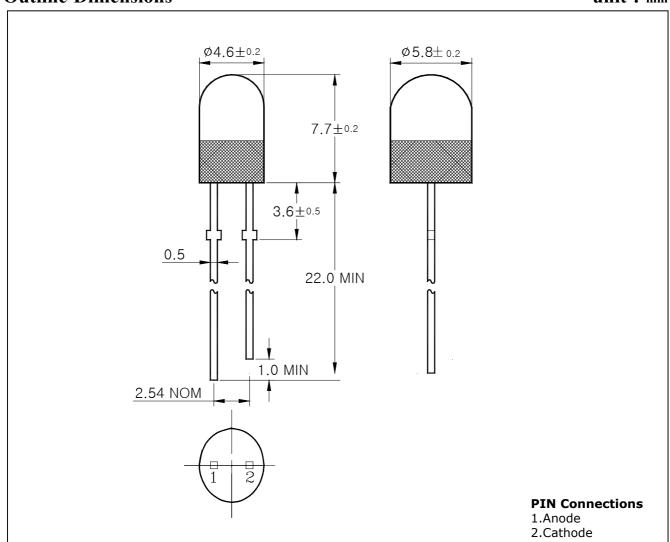
- Green colored transparency lens type
- Ellipse type(X=4.6mm, Y=5.8mm)
- Ultra luminosity
- Flangeless package
- High power LEDs
- Oval shape
- View Angle: 70° / 34°

#### **Application**

- Full color displays
- Message boards
- Variable message signs(VMS)

#### **Outline Dimensions**

unit: mm



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### Absolute maximum ratings

| Characteristic          | Symbol           | Ratings            | Unit       |
|-------------------------|------------------|--------------------|------------|
| Power Dissipation       | $P_D$            | 155                | mW         |
| Forward Current         | $I_{F}$          | 40                 | mA         |
| *1Peak Forward Current  | $I_{FP}$         | 50                 | mA         |
| Reverse Voltage         | $V_R$            | 4                  | V          |
| Operating Temperature   | $T_{opr}$        | -30~85             | $^{\circ}$ |
| Storage Temperature     | T <sub>stg</sub> | -30~100            | °C         |
| *2Soldering Temperature | T <sub>sol</sub> | 260℃ for 3 seconds |            |

<sup>\*1.</sup>Duty ratio = 1/16, Pulse width = 0.1ms

#### **Electrical Characteristics**

| Characteristic                    | Symbol           | <b>Test Condition</b> | Min. | Тур. | Max. | Unit |
|-----------------------------------|------------------|-----------------------|------|------|------|------|
| Forward Voltage                   | $V_{F}$          | I <sub>F</sub> = 20mA | 2.7  | 3.3  | 3.8  | V    |
| * <sup>4</sup> Luminous Intensity | $I_{V}$          | I <sub>F</sub> = 20mA | 1760 | 3960 | 5940 | mcd  |
| Peak Wavelength                   | $\lambda_{ m P}$ | I <sub>F</sub> = 20mA | -    | 525  | -    | nm   |
| Spectrum Bandwidth                | Δλ               | I <sub>F</sub> = 20mA | -    | 35   | -    | nm   |
| Reverse Current                   | $I_{R}$          | V <sub>R</sub> =4V    | -    | -    | 10   | uA   |
| * <sup>3</sup> Half Angle         | θ1/2 X           | I <sub>F</sub> = 20mA | -    | ±17  | -    | deg  |
|                                   | V1/2 Y           |                       | -    | ±35  | _    |      |

<sup>\*3.</sup>  $\theta$ 1/2 is the off-axis angle where the luminous intensity is 1/2 the peak intensity

<sup>\*4.</sup> Luminous Intensity classification

| S         | T         | U         |
|-----------|-----------|-----------|
| 1760~2640 | 2640-3960 | 3960-5940 |

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<sup>\*</sup> Recommend document

<sup>-.</sup> LED is very sensitive to ESD.

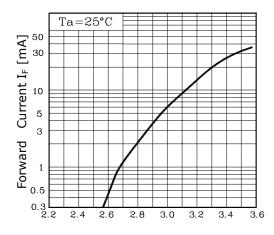
<sup>\*2.</sup>Keep the distance more than 2.0mm from PCB to the bottom of LED package

<sup>\*4.</sup> Luminous Intensity Maximum tolerance for each Grade Classification limit is  $\pm 18\%$ 

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### **Characteristic Diagrams**

Fig. 1  $I_F$  -  $V_F$ 



Forward Voltage V<sub>F</sub> [V]

Fig.  $3 I_F - Ta$ 

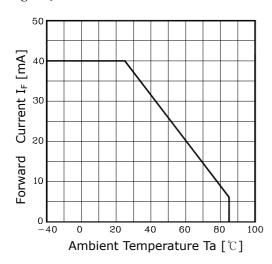


Fig. 5-1 Radiation Diagram(X)

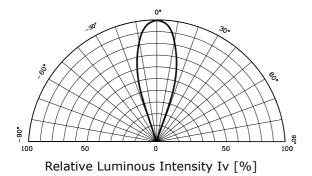
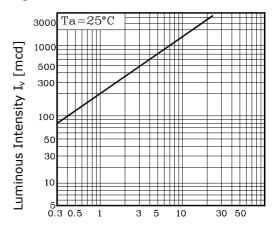


Fig. 2  $I_V$  -  $I_F$ 



Forward Current I<sub>F</sub> [mA]

Fig.4 Spectrum Distribution

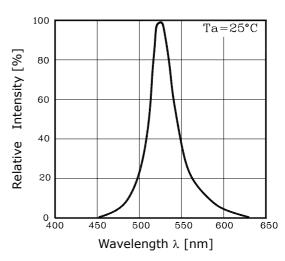
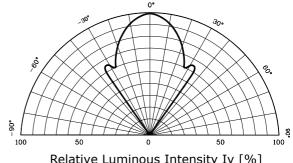


Fig. 5-2 Radiation Diagram(Y)



Relative Luminous Intensity Iv [%]

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