

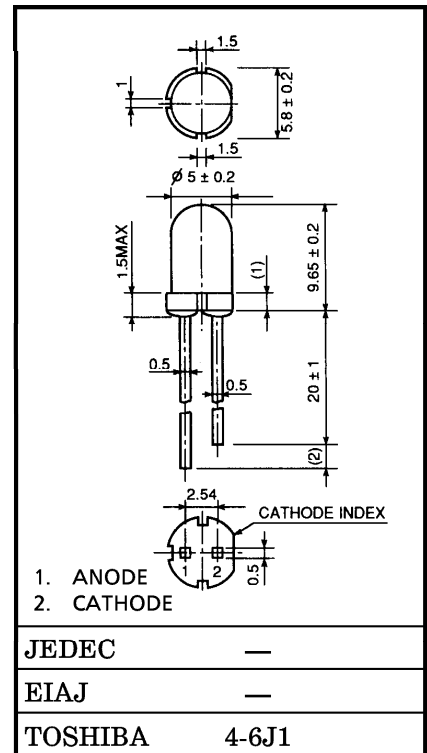
TOSHIBA LED LAMP InGaAlP RED LIGHT EMISSION

TLRE180AP

PANEL CIRCUIT INDICATOR

Unit in mm

- 5 mm DIAMETER (T1-3 / 4)
- InGaAlP RED LED
- All Plastic Mold Type.
- Colorless Clear Lens
- Low Drive Current, High Intensity Red Light Emission
Recommended Forward Current : $I_F = 15\sim 20$ mA (DC)
- All Plastic Molded Lens, Provides an Excellent ON-OFF Contrast Ratio.
- Fast Response Time, Capable of Pulse Operation.
- High Power Luminous Intensity
- Without Stand-offs
- APPLICATIONS : Suitable for Outdoor Message Signboard, Safety equipment.



Weight : 0.31 g

MAXIMUM RATINGS (Ta = 25°C)

| CHARACTERISTIC | SYMBOL | RATING | UNIT |
|-----------------------------|-----------|---------|------|
| Forward Current (DC) | I_F | 50 | mA |
| Reverse Voltage | V_R | 4 | V |
| Power Dissipation | P_D | 125 | mW |
| Operating Temperature Range | T_{opr} | -30~85 | °C |
| Storage Temperature Range | T_{stg} | -40~120 | °C |

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ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta = 25°C)

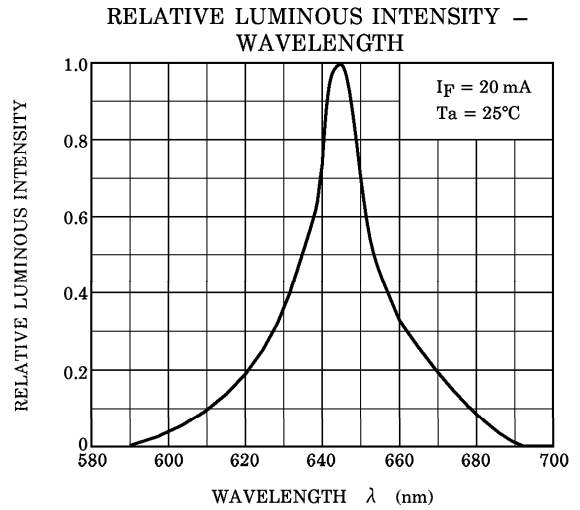
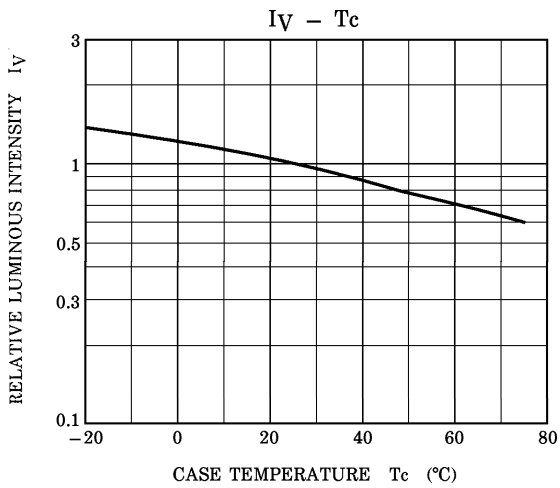
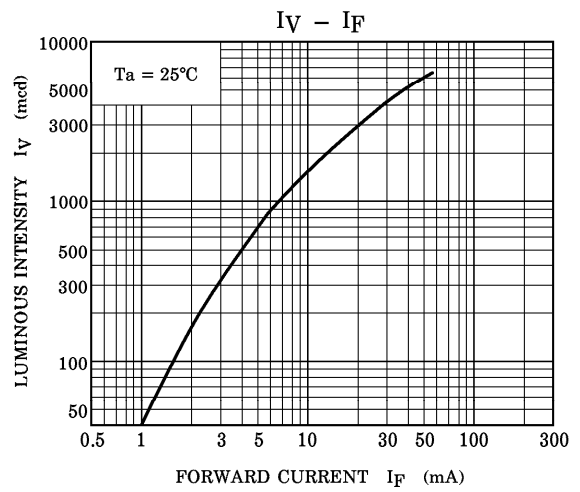
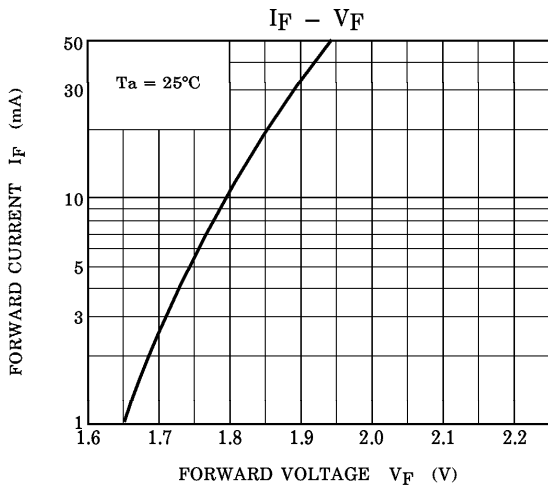
| CHARACTERISTIC | SYMBOL | TEST CONDITION | MIN | TYP. | MAX | UNIT |
|--------------------------|-----------------|------------------------------|------|------|------|---------------|
| Forward Voltage | V_F | $I_F = 20 \text{ mA}$ | — | 1.85 | 2.4 | V |
| Reverse Current | I_R | $V_R = 4 \text{ V}$ | — | — | 50 | μA |
| Luminous Intensity | TLRE180AP | $I_F = 20 \text{ mA}$ (Note) | 850 | 3000 | — | mcd |
| | TLRE180AP (TU) | | 1530 | — | 7360 | |
| Peak Emission Wavelength | λ_p | $I_F = 20 \text{ mA}$ | — | 644 | — | nm |
| Spectral Line Half Width | $\Delta\lambda$ | $I_F = 20 \text{ mA}$ | — | 18 | — | nm |
| Dominant Wavelength | λ_d | $I_F = 20 \text{ mA}$ | — | 630 | — | nm |

(Note) : Lamps are classified into the following ranks according to their luminous intensity.
 Measurement tolerance for each limit is $\pm 15\%$.
 S : 1000-2000 mcd, T : 1800-3600 mcd, U : 3200-6400 mcd.

PRECAUTION

Please be careful of the followings

- Soldering temperature : 260°C max Soldering time : 3 s max
 (Soldering portion of lead : up to 2 mm from the body of the device)
- If the lead is formed, the lead should be formed up to 5 mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.
- This visible LED lamp also emits some IR light. If a photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.



RADIATION PATTERN

