

TOSHIBA LED LAMP InGaAlP ORANGE LIGHT EMISSION

# TLOH190P

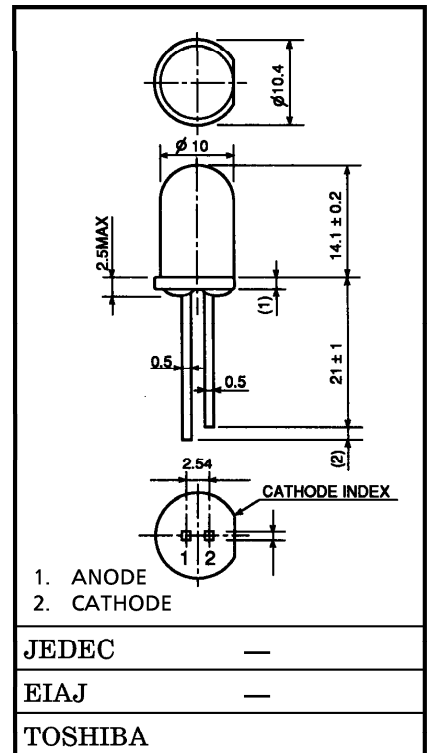
PANEL CIRCUIT INDICATOR

- 10 mm DIAMETER
- InGaAlP ORANGE LED
- All Plastic Mold Type.
- Colorless Clear Lens
- Low Drive Current, High Intensity Orange Light Emission  
Recommended Forward Current :  $I_F = 1\sim 20$  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.

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   |

Unit in mm



Weight : 1.0 g

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## ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta = 25°C)

| CHARACTERISTIC           | SYMBOL          | TEST CONDITION               | MIN   | TYP.  | MAX   | UNIT          |
|--------------------------|-----------------|------------------------------|-------|-------|-------|---------------|
| Forward Voltage          | $V_F$           | $I_F = 20 \text{ mA}$        | —     | 2.1   | 2.5   | V             |
| Reverse Current          | $I_R$           | $V_R = 4 \text{ V}$          | —     | —     | 50    | $\mu\text{A}$ |
| Luminous Intensity       | TLOH190P        | $I_F = 20 \text{ mA}$ (Note) | 8500  | 33000 | —     | mcd           |
|                          | TLOH190P (XY)   |                              | 15300 | —     | 73600 |               |
| Peak Emission Wavelength | $\lambda_p$     | $I_F = 20 \text{ mA}$        | —     | 612   | —     | nm            |
| Spectral Line Half Width | $\Delta\lambda$ | $I_F = 20 \text{ mA}$        | —     | 15    | —     | nm            |
| Dominant Wavelength      | $\lambda_d$     | $I_F = 20 \text{ mA}$        | —     | 605   | —     | nm            |

(Note) : Lamps are classified into the following ranks according to their luminous intensity.  
 Measurement tolerance for each limit is  $\pm 15\%$ .  
 S : 10000-20000 mcd, X : 18000-36000 mcd, Y : 32000-64000 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.

