

TOSHIBA LED Lamp InGaAlP Orange Light Emission

# TLOU248(F)

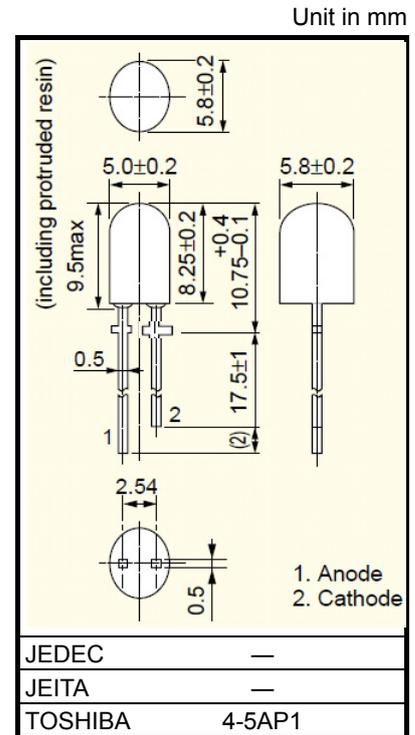
## Panel Circuit Indicator

- Lead(Pb)-free products (lead: Sn-Ag-Cu)
- InGaAlP orange LED
- Elliptical lens: Colored transparent lens
- Wide radiation
- Low drive current, high intensity orange light emission
- Plastic molded colored transparent lens provides for high contrast of on-off ratio.
- Fast response time, capable of pulse operation.
- Applications: Suitable for outdoor message signboard, full color panel, backlight.

## Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Forward current	I <sub>F</sub>	30	mA
Reverse voltage	V <sub>R</sub>	4	V
Power dissipation	P <sub>D</sub>	72	mW
Operating temperature range	T <sub>opr</sub>	-30~85	°C
Storage temperature range	T <sub>stg</sub>	-40~120	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings. Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).



Weight: 0.3 g(Typ.)

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

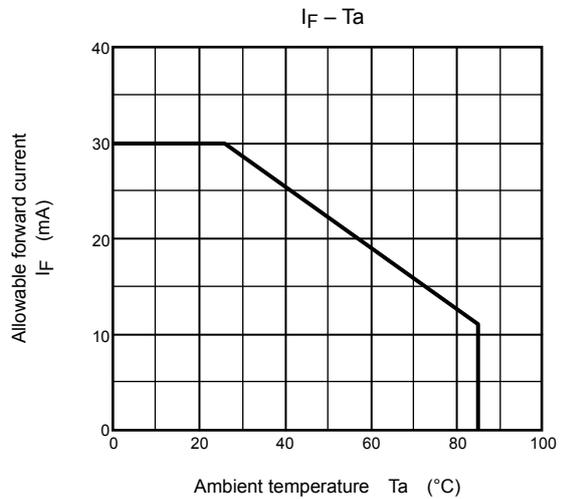
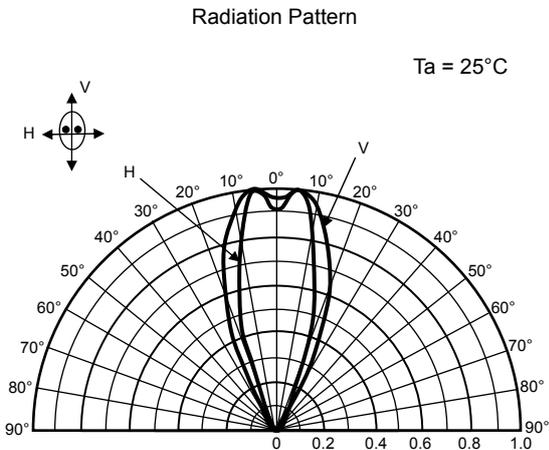
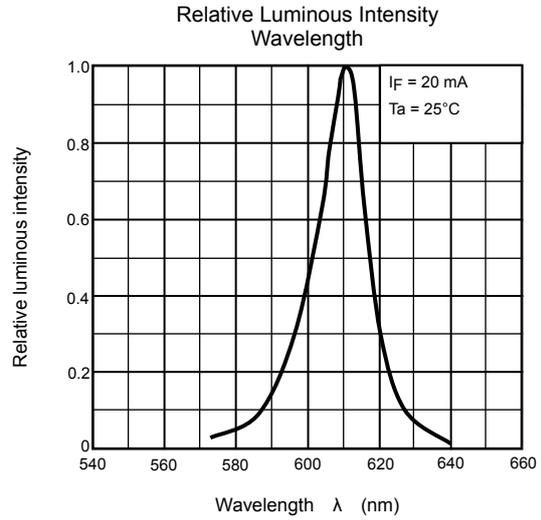
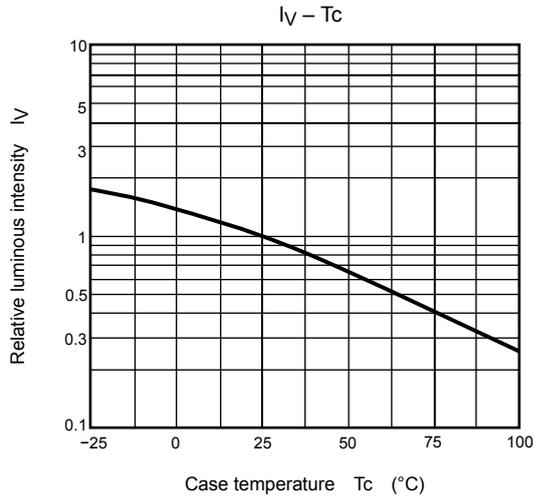
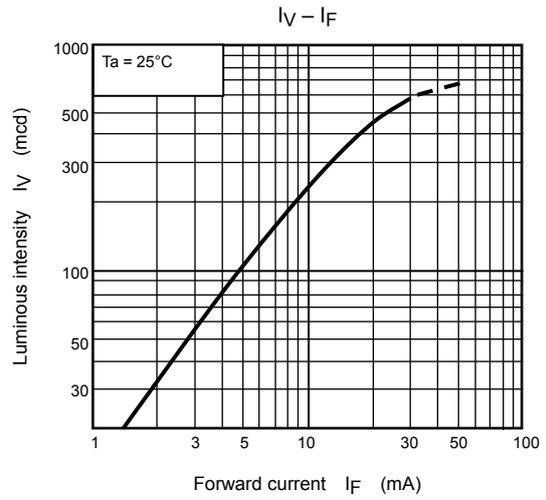
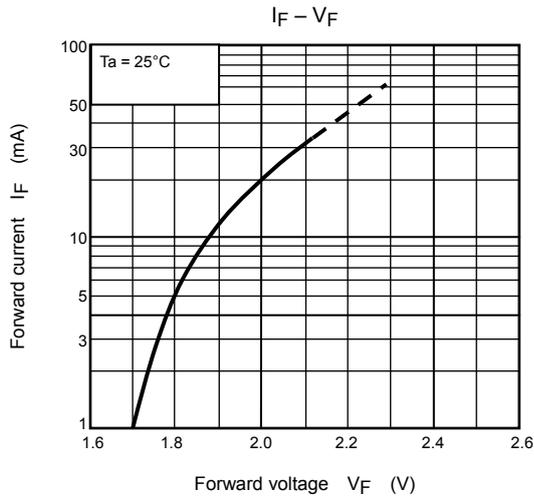
Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	V <sub>F</sub>	I <sub>F</sub> = 20 mA	—	2.0	2.4	V
Reverse current	I <sub>R</sub>	V <sub>R</sub> = 4 V	—	—	50	μA
Luminous intensity	I <sub>v</sub>	I <sub>F</sub> = 20 mA (Note)	85	300	—	mcd
Peak emission wavelength	λ <sub>p</sub>	I <sub>F</sub> = 20 mA	—	(612)	—	nm
Spectral line half width	Δλ	I <sub>F</sub> = 20 mA	—	15	—	nm
Dominant wavelength	λ <sub>d</sub>	I <sub>F</sub> = 20 mA	—	605	—	nm

Note: Lamps are classified into the following ranks according to their luminous intensity. Each packing box includes single Luminous Intensity class.  
N: 85-230mcd, P: 153-414mcd, Q: 272mcd-

## Precaution

Please be careful of the followings

- Soldering temperature: 260°C max      Soldering time: 3 s max  
(Soldering portion of lead: below the lead stopper of the device)
- If the lead is formed, the lead should be formed up to below the lead stopper 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.



**RESTRICTIONS ON PRODUCT USE**

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- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.  
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