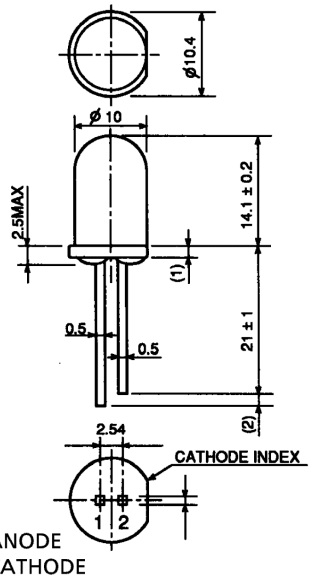
TOSHIBA LED Lamp InGaAℓP Red Light Emission

TLRH190P

Panel Circuit Indicator

- 10 mm diameter
- InGaAℓP red LED
- All plastic mold type.
- Colorless clear lens
- Low drive current, high intensity red light emission
  Recommended forward current: I_F = 1~20mA (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.

Unit in mm



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Weight: 1.0 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

Electrical And Optical Characteristics (Ta = 25°C)

Characteristic		Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage		V_F	I_F = 20 mA	—	1.9	2.5	V
Reverse current		I_R	V_R = 4 V	—	—	50	μA
Luminous intensity	TLRH190P	I_V	I_F = 20 mA (Note)	4760	19000	—	mcd
	TLRH190P (WX)			8500	—	41400	
Peak emission wavelength		λ_P	I_F = 20 mA	—	644	—	nm
Spectral line half width		Δλ	I_F = 20 mA	—	18	—	nm
Dominant wavelength		λ_d	I_F = 20mA	—	630	—	nm

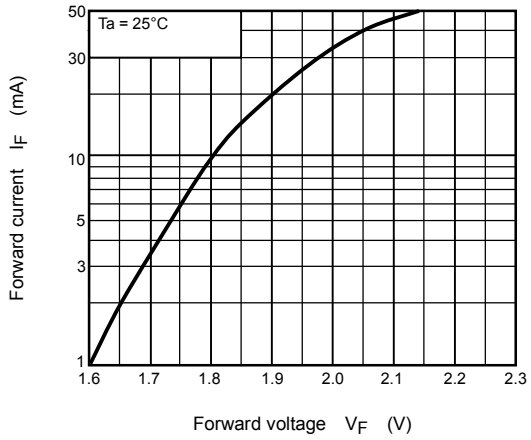
(Note): Lamps are classified into the following ranks according to their luminous intensity.
Measurement tolerance for each limit is ±15%.
V: 5600−11200mcd, W: 10000−20000mcd, X: 18000−36000mcd.

Precaution

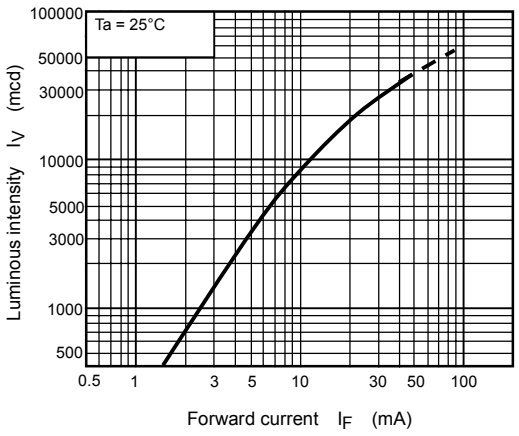
Please be careful of the followings

- 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.

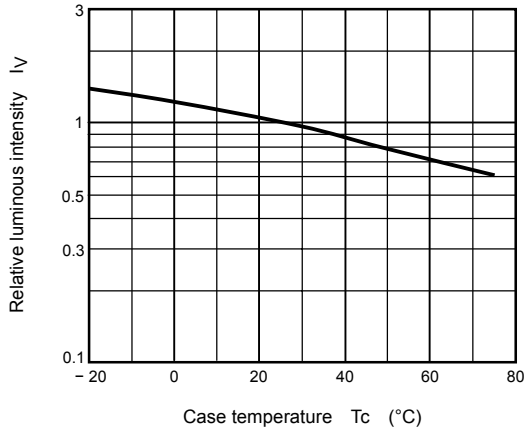
$I_F - V_F$



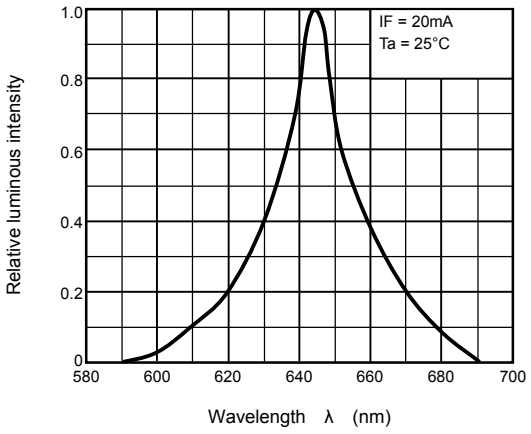
$I_V - I_F$



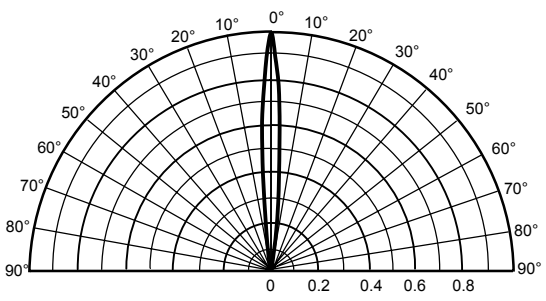
$I_V - Tc$



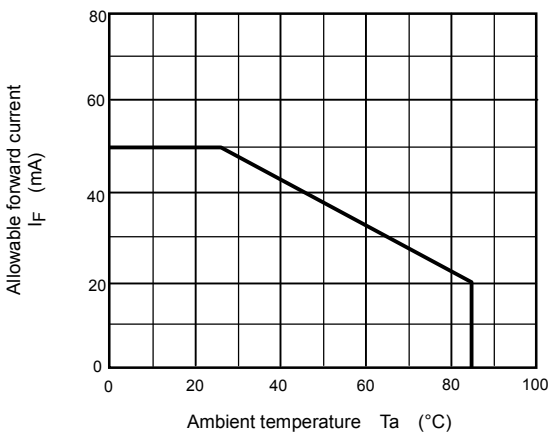
Relative Luminous Intensity _ Wavelength



Radiation Pattern T_a = 25 °C



$I_F - Ta$



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