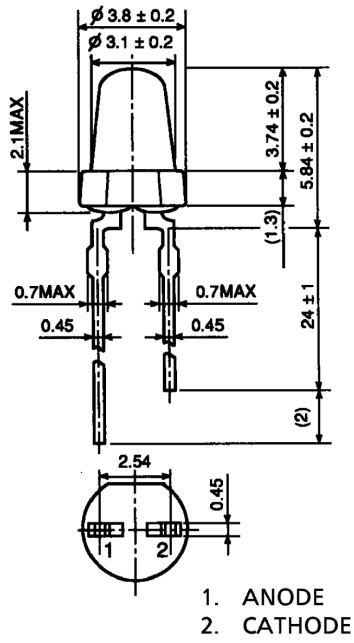
TOSHIBA LED Lamp InGaAℓP Red Light Emission

TLSH160

Panel Circuit Indicator

- 3.1mm diameter (T1)
- InGaAℓP red LED
- Colorless transparent 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.
- Applications: Indicator, backlight.

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	4−3E1A

Weight: 0.14 g

Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Forward current	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 = 20mA	—	2.1	2.5	V
Reverse current	I_R	V_R = 4V	—	—	50	μA
Luminous intensity	I_V	I_F = 20mA (Note)	2720	4500	—	mcd
Peak emission wavelength	λ_P	I_F = 20mA	—	623	—	nm
Spectral line half width	Δλ	I_F = 20mA	—	15	—	nm
Dominant wavelength	λd	I_F = 20mA	—	613	—	nm

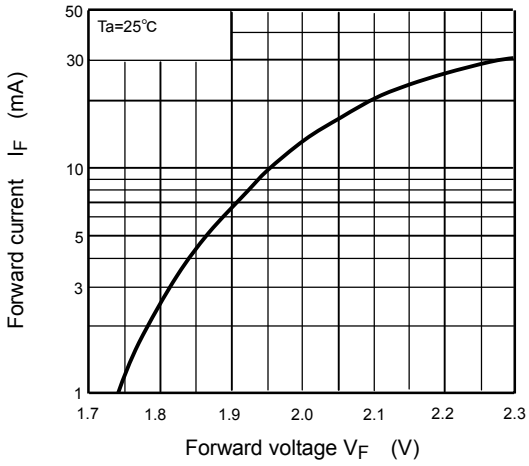
(Note): Lamps are classified into the following ranks according to their luminous intensity.
Measurement tolerance for each limit is ±15%.
U: 3200~6400mcd, V: 5600~11200mcd, W: 8500~23000mcd

Precaution

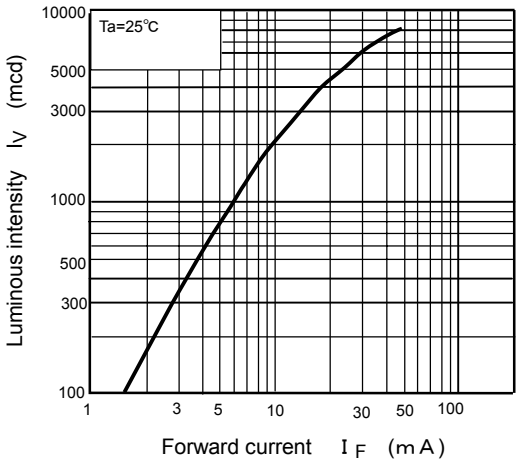
Please be careful of the followings

- Soldering temperature: 260°C max Soldering time: 3 s max
  (Soldering portion of lead: Up to 2mm from the body of the device)
- If the lead is formed, the lead should be formed up to 5mm 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.

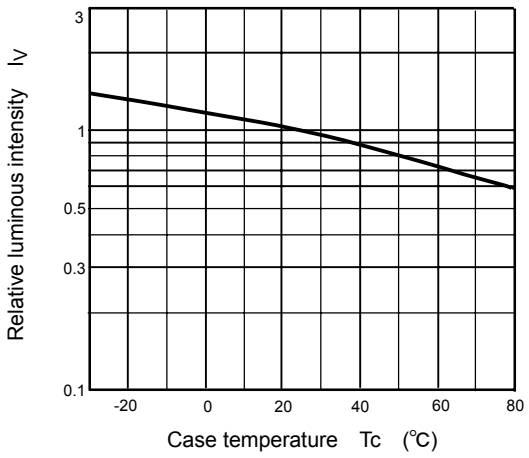
$I_F - V_F$



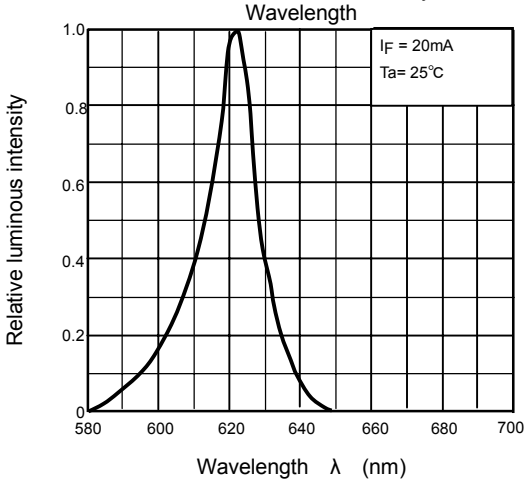
$I_V - I_F$



$I_V - T_C$

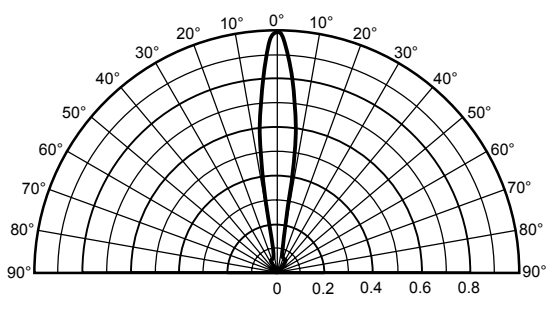


Relative Luminous Intensity
Wavelength

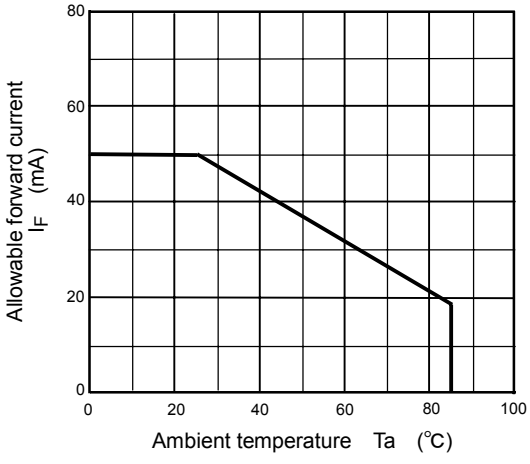


Radiation Pattern

Ta=25℃



$I_F - Ta$



RESTRICTIONS ON PRODUCT USE

000707EAC

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