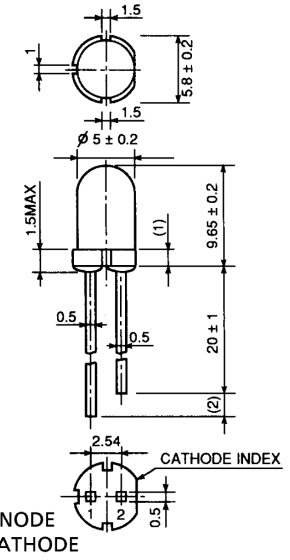
TOSHIBA LED Lamp InGaAℓP Red Light Emission

TLRE180AP

Panel Circuit Indicator

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	4−6J1

Weight: 0.31g

- 5mm 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 = 15~20mA (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.

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 = 20mA	—	1.85	2.4	V
Reverse current		I_R	V_R = 4V	—	—	50	μA
Luminous intensity	TLRE180AP	I_V	I_F = 20mA (Note)	850	3000	—	mcd
	TLRE180AP(TU)			1530	—	7360	
Peak emission wavelength		λ_p	I_F = 20mA	—	644	—	nm
Spectral line half width		Δλ	I_F = 20mA	—	18	—	nm
Dominant wavelength		λ_d	I_F = 20mA	—	630	—	nm

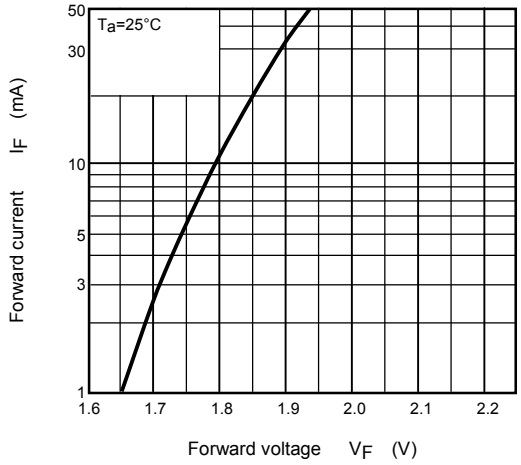
(Note): Lamps are classified into the following ranks according to their luminous intensity.
Measurement tolerance for each limit is ±15%.
S: 1000–2000 mcd, T: 1800–3600 mcd, U: 3200–6400 mcd.

Precaution

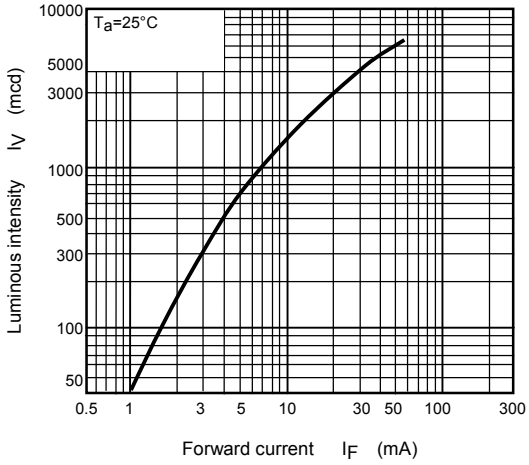
Please be careful of the followings

- Soldering temperature: 260°Cmax Soldering time: 3s 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.

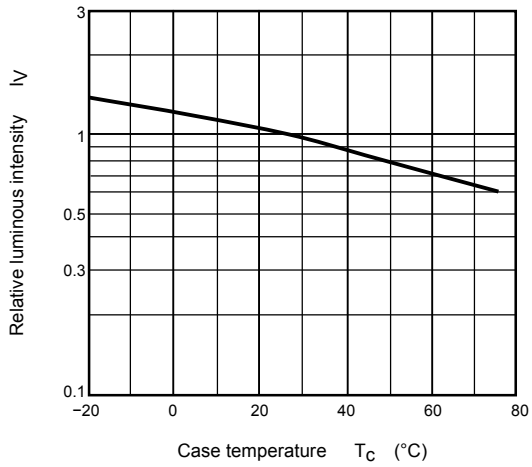
$I_F - V_F$



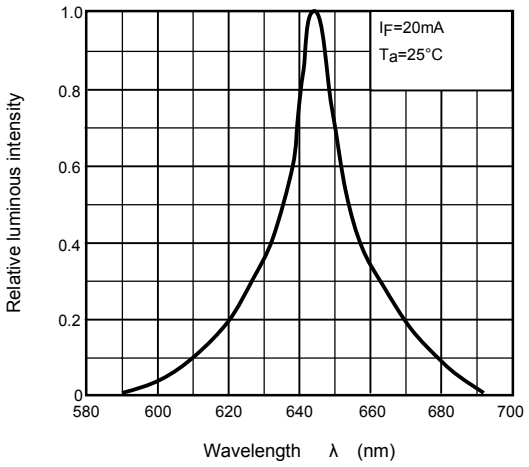
$I_V - I_F$



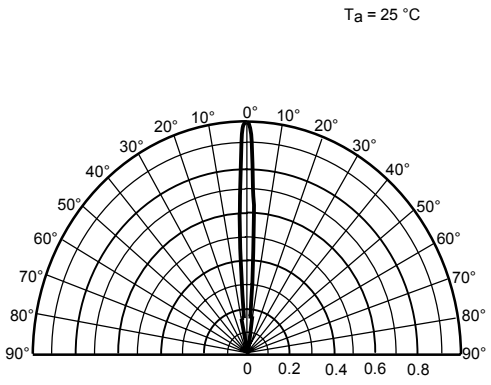
$I_V - T_c$



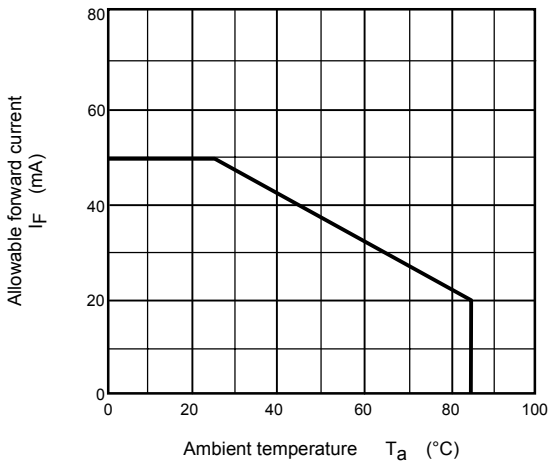
Relative Luminous Intensity – Wavelength



Radiation Pattern



$I_F - T_a$



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