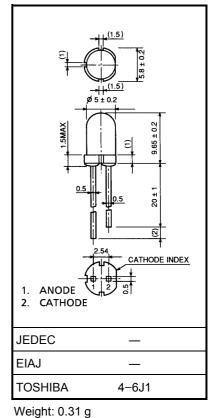
TOSHIBA LED Lamp InGaA{P Red Light Emission

TLSH180P

Panel Circuit Indicator

- 5 mm 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: $I_F = 1 \sim 20 \text{ mA}$ (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)	١ _F	50	mA
Reverse voltage	V _R	4	V
Power dissipation	PD	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	Тур.	Max	Unit
Forward voltage		VF	I _F = 20mA	—	2.1	2.5	V
Reverse current		I _R	V _R = 4V	—	_	50	μA
Luminous intensity	TLSH180P	- I _V	I _F = 20mA (Note	2720	10000	_	mcd
	TLSH180P(VW)			4760	—	23000	
Peak emission wavelength		λ _P	I _F = 20mA	—	623	_	nm
Spectral line half width		Δλ	I _F = 20mA	_	15		nm
Dominant wavelength		λ _d	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: 3200–6400 mcd, V: 5600–11200 mcd, W: 8500–23000 mcd.

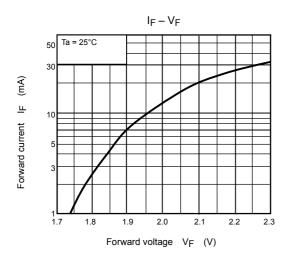
Unit in mm

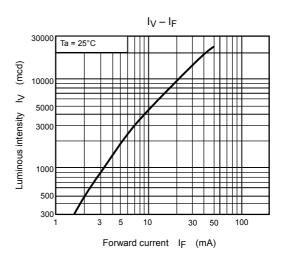
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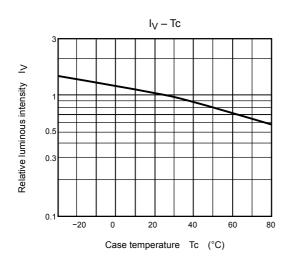
Precaution

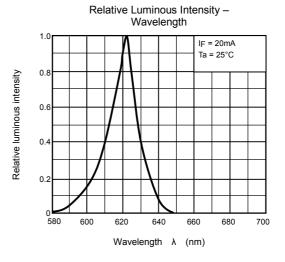
- Please be careful of the followings
- Soldering temperature: 260°C max Soldering time: 3s max
- (Soldering portion of lead: Up to 2mm from the body of the device)
- If the lead is formed, the lead should be formed up to 5mm from the body of the device without forming stress to the resin. Soldering 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.

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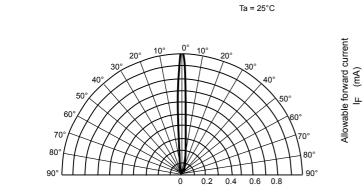


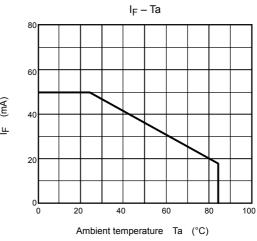






Radiation Pattern





2002-09-25

RESTRICTIONS ON PRODUCT USE

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