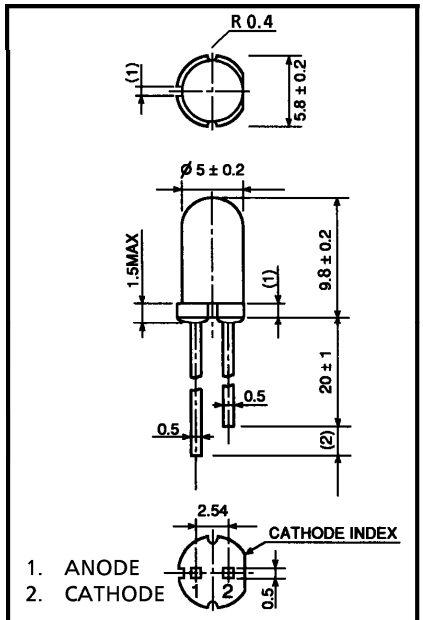
TOSHIBA LED LAMP InGaAℓP PURE GREEN LIGHT EMISSION

TLPGE183P

PANEL CIRCUIT INDICATOR

Unit in mm



JEDEC	—
EIAJ	—
TOSHIBA	—

- 5 mm DIAMETER (T1-3 / 4)
- InGaAℓP PURE GREEN LED
- All Plastic Mold Type.
- Colorless Clear Lens
- Low Drive Current, High Intensity Pure Green Light Emission
  Recommended Forward Current : I_F = 15~20 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 Traffic Signal, Safety equipment, Automotive use, etc.

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	140	mW
Operating Temperature Range	T_{opr}	−30~85	°C
Storage Temperature Range	T_{stg}	−40~120	°C

ELECTRICAL AND OPTICAL CHARACTERISTICS (Ta = 25°C)

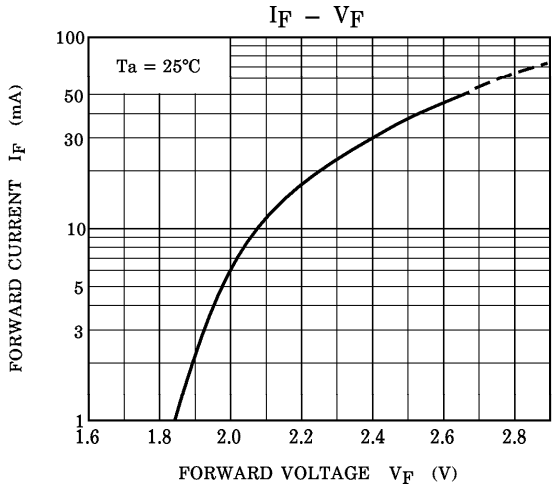
CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN	TYP.	MAX	UNIT
Forward Voltage	V_F	I_F = 20 mA	—	2.27	2.8	V
Reverse Current	I_R	V_R = 4 V	—	—	50	μA
Luminous Intensity	I_V	I_F = 20 mA (Note)	476	2000	—	mcd
Peak Emission Wavelength	λ_p	I_F = 20 mA	—	562	—	nm
Spectral Line Half Width	$\Delta\lambda$	I_F = 20 mA	—	11	—	nm
Dominant Wavelength	λ_d	I_F = 20 mA	—	558	—	nm

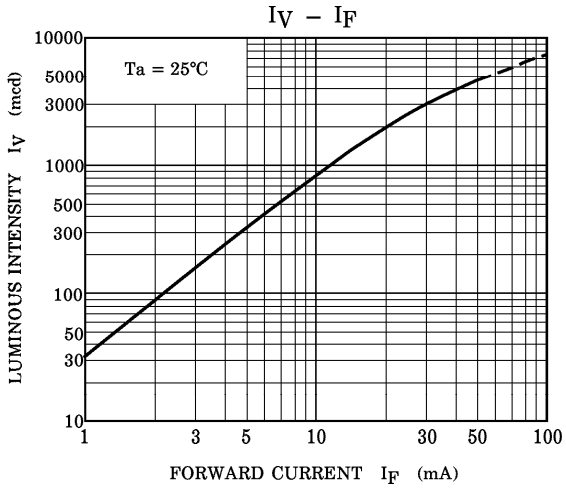
(Note) : Lamps are classified into the following ranks according to their luminous intensity.
Measurement tolerance for each limit is ±15%.
R : 560-1120 mcd, S : 1000-2000 mcd, T : 1800-3600 mcd

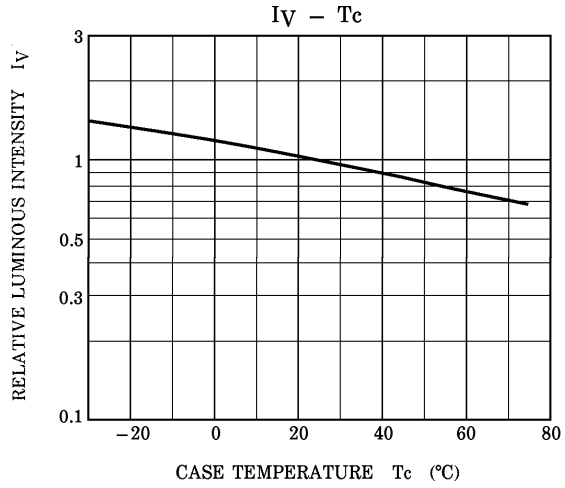
PRECAUTION

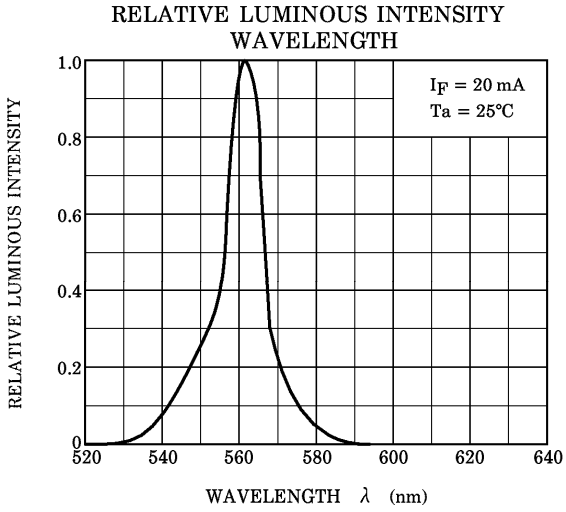
Please be careful of the followings

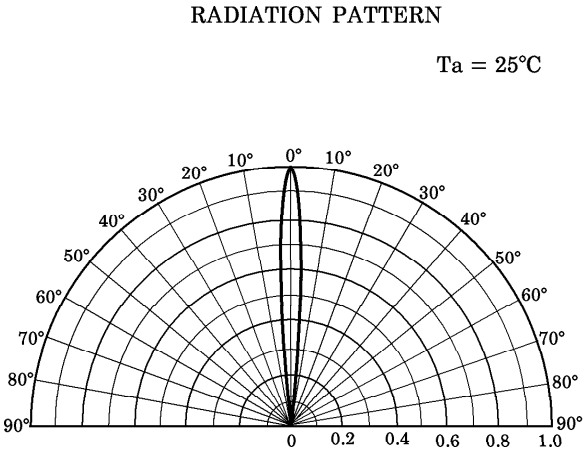
- Soldering temperature : 260°C max Soldering time : 3 s max
  (Soldering portion of lead : up to 2 mm from the body of the device)
- If the lead is formed, the lead should be formed up to 5 mm from the body of the device without forming stress to the resin. Soldering should be performed after lead forming.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

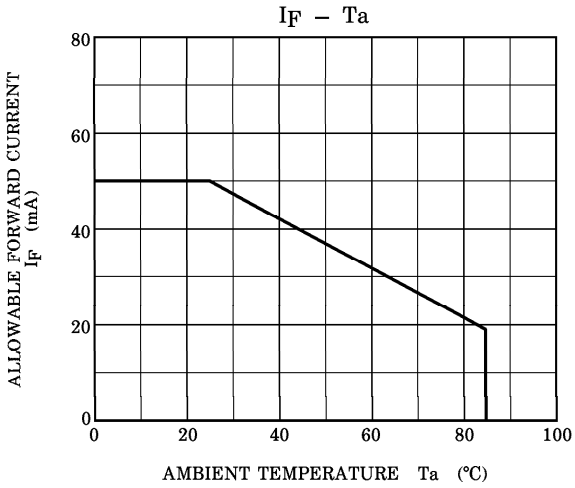

IF – VF
Ta = 25°C
FORWARD CURRENT IF (mA)
100
50
30
10
5
3
1
1.6
1.8
2.0
2.2
2.4
2.6
2.8
FORWARD VOLTAGE VF (V)


IV – IF
Ta = 25°C
LUMINOUS INTENSITY IV (mcd)
10000
5000
3000
1000
500
300
100
50
30
10
1
3
5
10
30
50
100
FORWARD CURRENT IF (mA)


IV – Tc
RELATIVE LUMINOUS INTENSITY IV
3
1
0.5
0.3
0.1
−20
0
20
40
60
80
CASE TEMPERATURE Tc (°C)


RELATIVE LUMINOUS INTENSITY
WAVELENGTH
IF = 20 mA
Ta = 25°C
RELATIVE LUMINOUS INTENSITY
1.0
0.8
0.6
0.4
0.2
0
520
540
560
580
600
620
640
WAVELENGTH λ (nm)


RADIATION PATTERN
Ta = 25°C
0°
10°
20°
30°
40°
50°
60°
70°
80°
90°
0
0.2
0.4
0.6
0.8
1.0


IF – Ta
ALLOWABLE FORWARD CURRENT IF (mA)
80
60
40
20
0
0
20
40
60
80
100
AMBIENT TEMPERATURE Ta (°C)

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