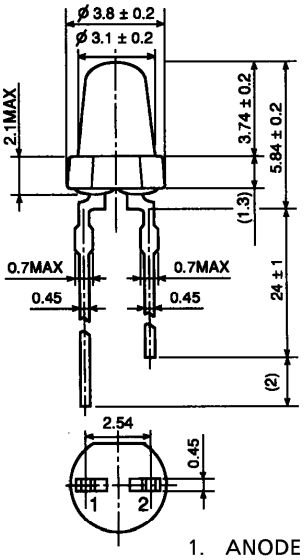
TOSHIBA LED LAMP InGaAℓP RED LIGHT EMISSION

TLRH160

PANEL CIRCUIT INDICATOR

Unit in mm



1. ANODE
2. CATHODE

JEDEC	—
EIAJ	—
TOSHIBA	4-3E1A

Weight : 0.14 g

- 3.1 mm DIAMETER (T1)
- InGaAℓP RED LED
- All Plastic Mold Type.
- Colorless Clear Lens
- Low Drive Current, High Intensity Red Light Emission
  Recommended Forward Current : I_F = 1~20 mA (DC)
- All Plastic Molded Lens, Provides an Excellent ON-OFF Contrast Ratio.
- Fast Response Time, Capable of Pulse Operation.
- High Power Luminous Intensity
- APPLICATIONS : Suitable for Outdoor Message Signboard, Safety equipment, 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	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	TLRH160	I_V	I_F = 20 mA (Note)	850	1800	—	mcd
	TLRH160 (ST)			850	—	4140	
Peak Emission Wavelength		λ_p	I_F = 20 mA	—	644	—	nm
Spectral Line Half Width		$\Delta\lambda$	I_F = 20 mA	—	18	—	nm
Dominant Wavelength		λ_d	I_F = 20 mA	—	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.

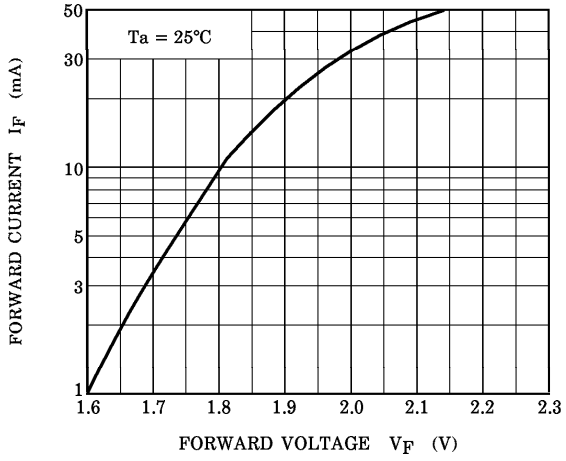
961001EAC2

PRECAUTION

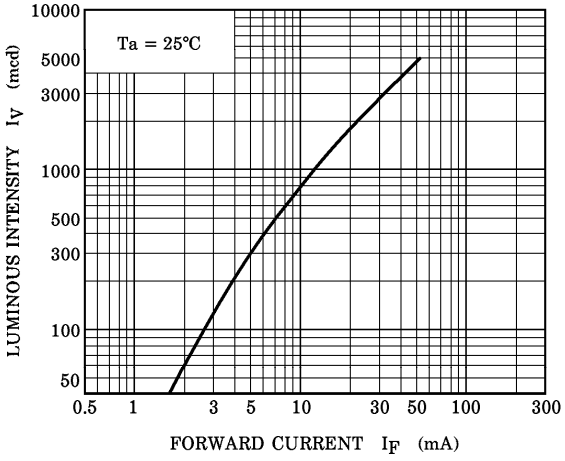
Please be careful of the followings

- 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.

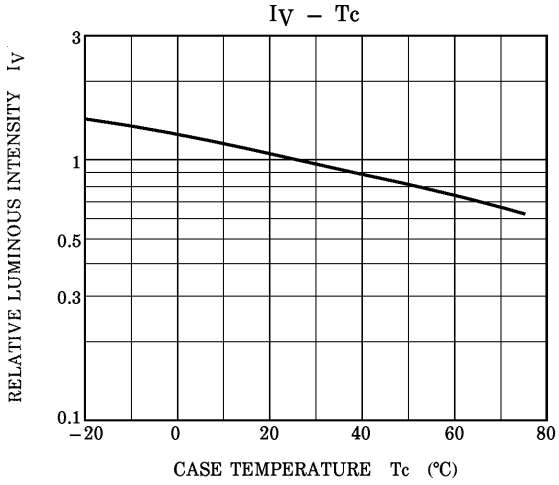
$I_F - V_F$



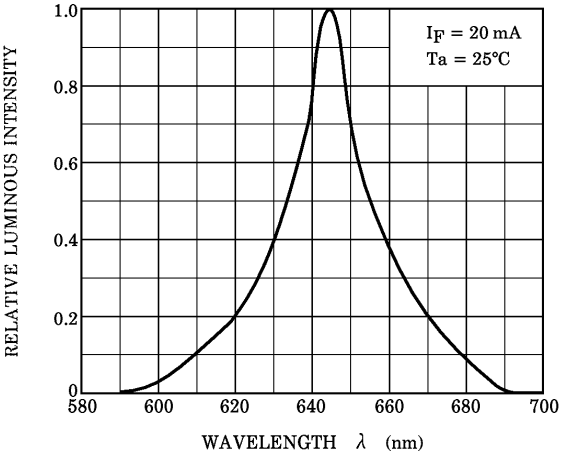
$I_V - I_F$



$I_V - T_c$

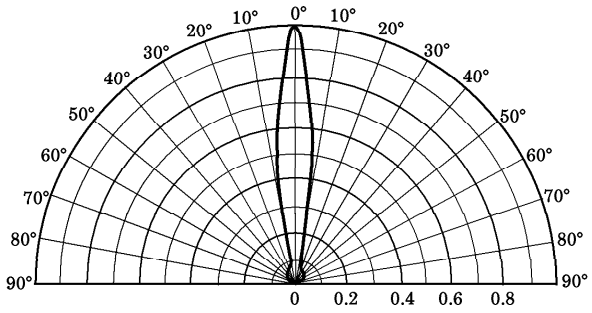


RELATIVE LUMINOUS INTENSITY − WAVELENGTH



RADIATION PATTERN

Ta = 25°C



$I_F - Ta$