

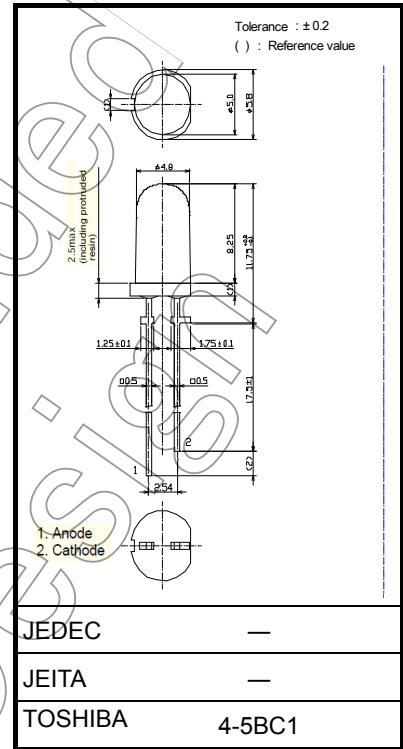
TOSHIBA LED Lamp InGaAlP Red Light Emission

# TLRMK37T(F)

## Panel Circuit Indicator

- $\phi$  5 mm package
- InGaAlP technology
- Transparent lens
- High intensity light emission
- Excellent low current light output
- Applications : Various types of information panels, backlightings, etc.
- Straight lead type is also available.  
TLRMK37TP(F)

Unit: mm



Weight: 0.31 g (typ.)

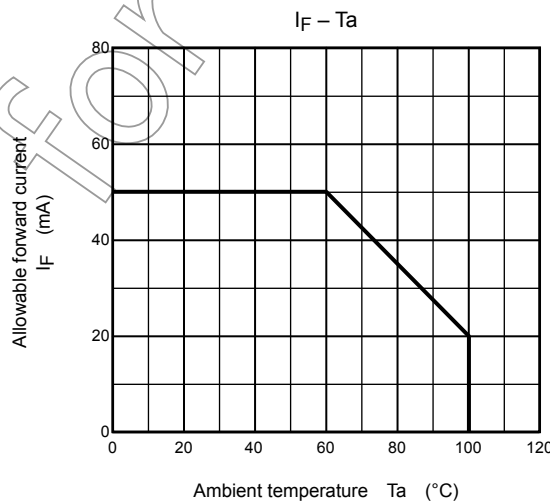
## Absolute Maximum Ratings (Ta = 25°C)

Characteristic	Symbol	Rating	Unit
Forward current	$I_F$ (Note 1)	50	mA
Reverse voltage	$V_R$	4	V
Power dissipation	$P_D$	125	mW
Operating temperature range	$T_{opr}$	-40 to 100	°C
Storage temperature range	$T_{stg}$	-40 to 120	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.

Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/"Derating Concept and Methods") and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Note1: Forward current derating



## Electrical and Optical Characteristics (Ta = 25°C)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Forward voltage	$V_F$	$I_F = 20 \text{ mA}$	1.8	2.15	2.5	V
Reverse current	$I_R$	$V_R = 4 \text{ V}$	—	—	50	$\mu\text{A}$
Luminous intensity	$I_V$	$I_F = 20 \text{ mA}$ (Note2)	1530	5600	—	mcd
Peak emission wavelength	$\lambda_P$	$I_F = 20 \text{ mA}$	—	636	—	nm
Spectral line half width	$\Delta\lambda$	$I_F = 20 \text{ mA}$	—	14	—	nm
Dominant wavelength	$\lambda_d$	$I_F = 20 \text{ mA}$	—	626	—	nm

Note2: Lamps are classified into the following ranks according to their luminous intensity. Each packing box includes single luminous Intensity class.

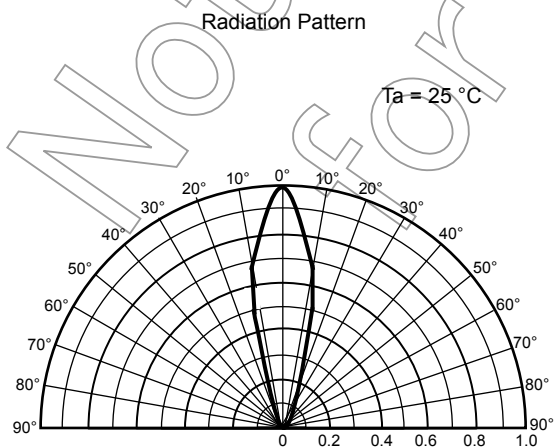
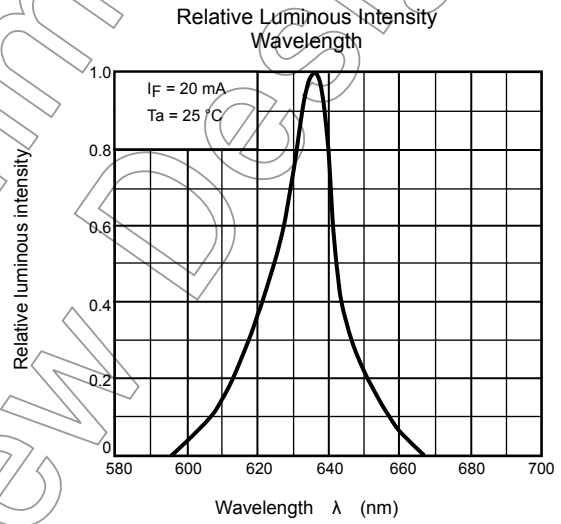
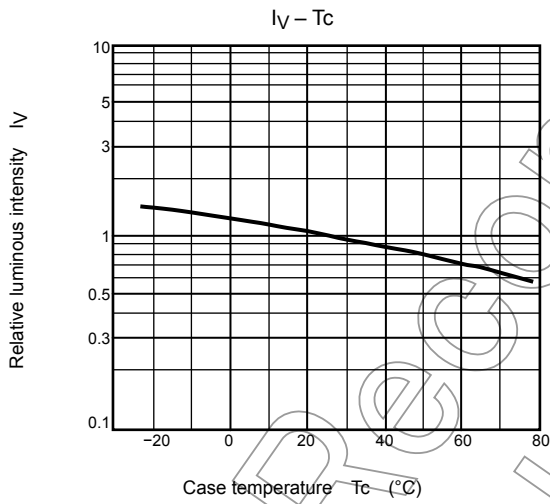
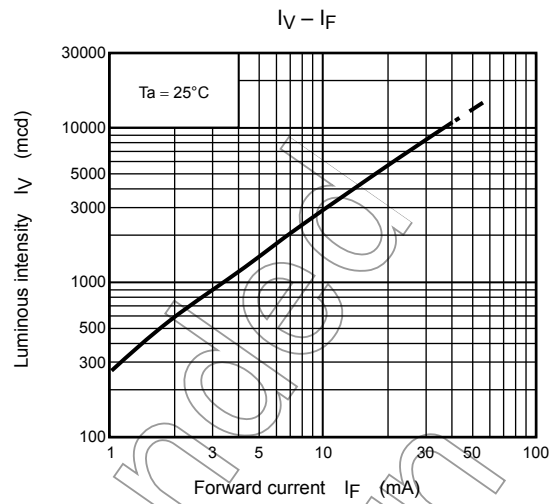
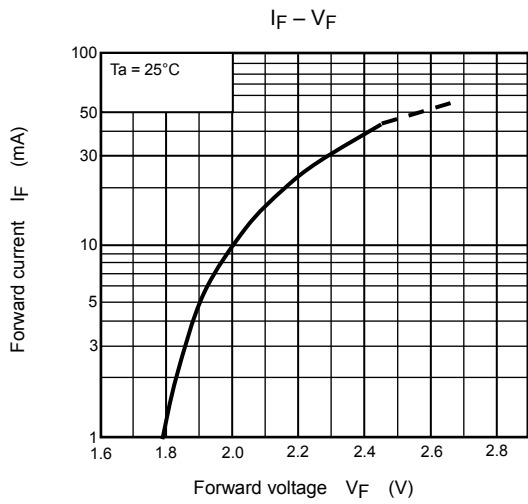
$I_V$ \_rank T:1530 to 4140 mcd, U: 2720 to 7360 mcd, V:4760 mcd and over

## Precaution

Please be careful of the followings

- Soldering temperature: 260°C max      Soldering time: 3 s max  
(Soldering portion of lead: below the lead stopper of the device)
- If the lead is formed, the lead should be formed up below the lead stopper 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.

Not Recommended for New Design



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