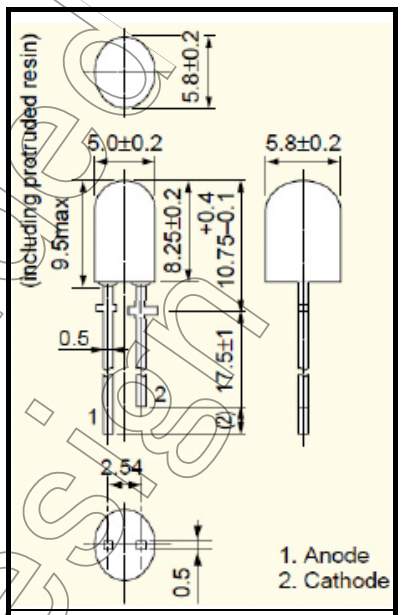
TOSHIBA InGaAℓP LED

TLRH27T(F),TLYH27T(F)

Panel Circuit Indicator

- InGaAℓP technology
- Elliptical transparent lens
- Wide viewing angle
- High optical output power at low currents
- Applications: Message boards, full-color panels, backlighting

Unit: mm



JEDEC	—
JEITA	—
TOSHIBA	4-5AP1

Weight: 0.3 g (typ.)

Color and Material

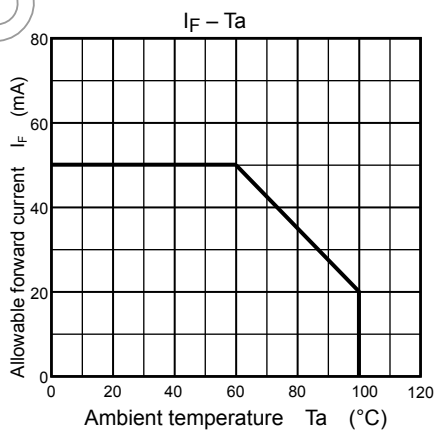
Part Number	Color	Material
TLRH27T(F)	Red	InGaAℓP
TLYH27T(F)	Yellow	

Absolute Maximum Ratings (Ta = 25°C)

Part Number	Forward Current I_F (mA) (Note 1)	Reverse Voltage V_R (V)	Power Dissipation P_D (mW)	Operating Temperature T_{opr} (°C)	Storage Temperature T_{stg} (°C)
TLRH27T(F)	50	4	120	−40 to 100	−40 to 120
TLYH27T(F)					

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).

Note 1: Forward current derating



Electrical and Optical Characteristics (Ta = 25°C)

Part Number	Typ. Emission Wavelength (Note 2)				Luminous Intensity I_V (Note 2)			Forward Voltage V_F				Reverse Current I_R	
	λ_d	λ_P	$\Delta\lambda$	I_F	Min	Typ.	I_F	Min	Typ.	Max	I_F	Max	V_R
TLRH27T(F)	630	644	13	20	153	450	20	1.7	1.9	2.4	20	50	4
TLYH27T(F)	587	590	13	20	272	900	20	1.7	2.0	2.4	20	50	4
Unit	nm			mA	mcd		mA	V			mA	μA	V

Note 2 : LED lamps are classified into the following ranks according to their luminous intensity, and packed in boxes by each rank.

TLRH27T(F):

Iv rank P: 153 − 414 mcd, Q : 272 − 736 mcd, R : 476 mcd −

TLYH27T(F):

Iv rank Q: 272 − 736 mcd, R : 476 − 1290 mcd, S : 850 mcd −

λd rank 1: 581 − 588 nm, 2 : 585 − 592 nm, 3 : 589 − 595 nm

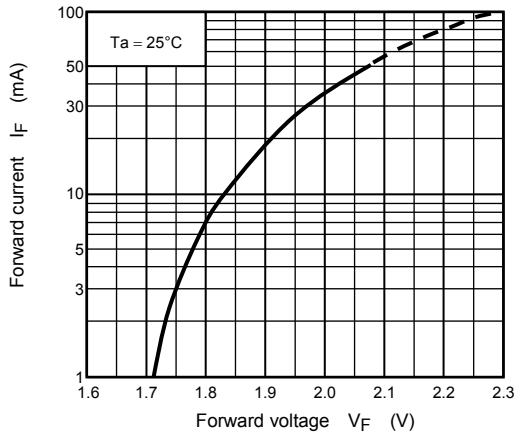
Precautions

Please be careful of the followings

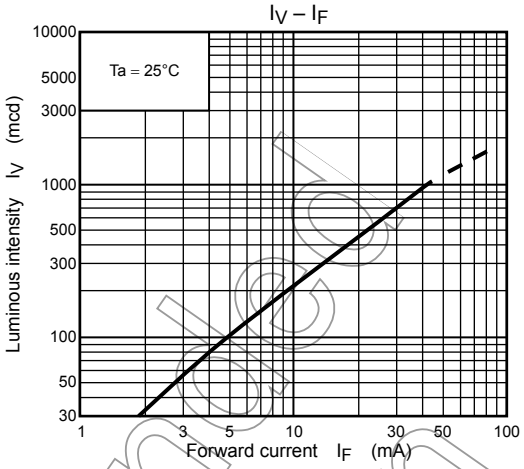
- Soldering temperature: 260°C max Soldering time: 3 seconds max
  (Soldering portion of lead: below the lead stopper of the device)
- If the lead is formed, the lead should be formed up to below the lead stopper of the device without forming stress to the resin. Soldering should be performed after lead 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.

TLRH27T(F)

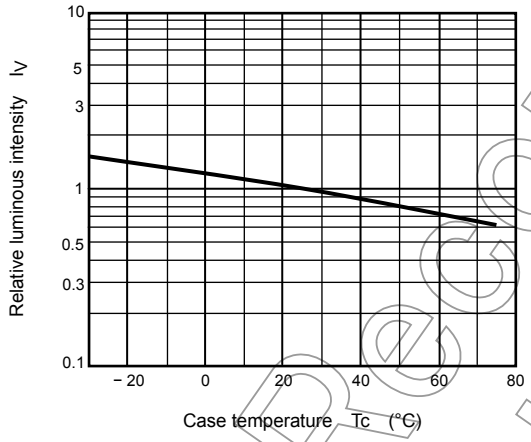
$I_F - V_F$



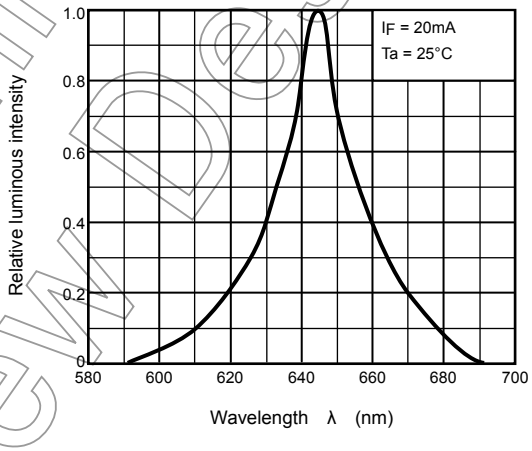
$I_V - I_F$



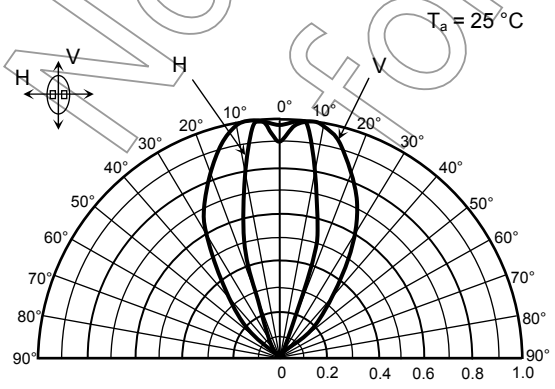
$I_V - Tc$



Relative Luminous Intensity – Wavelength

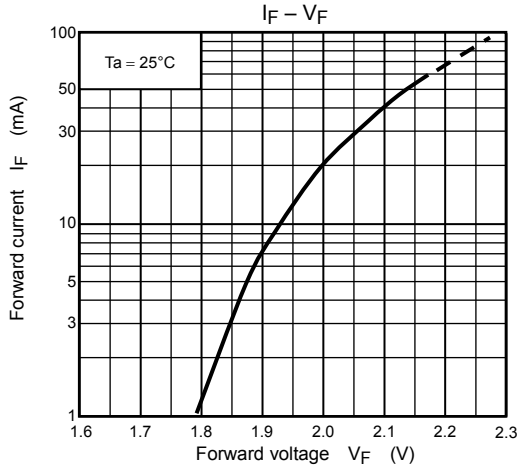


Radiation Pattern

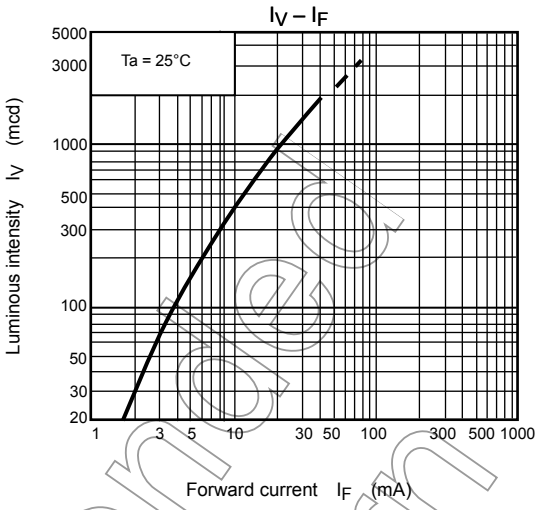


TLYH27T(F)

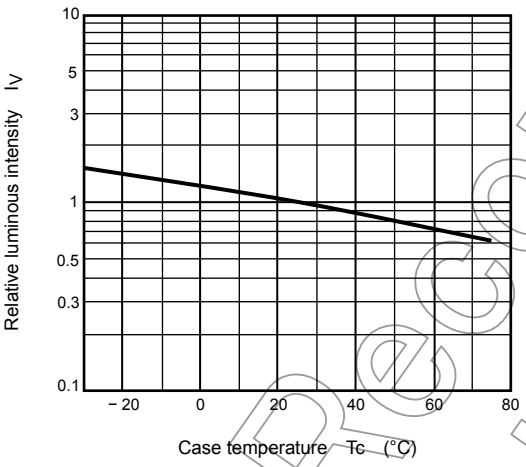
$I_F - V_F$



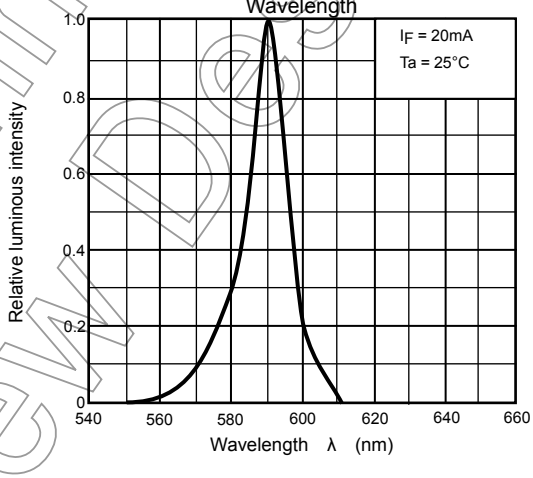
$I_V - I_F$



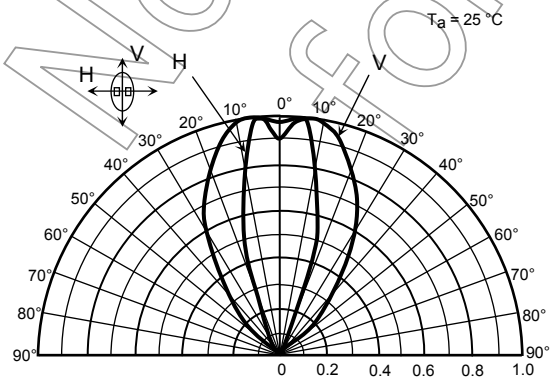
$I_V - Tc$



Relative Luminous Intensity – Wavelength



Radiation Pattern



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