

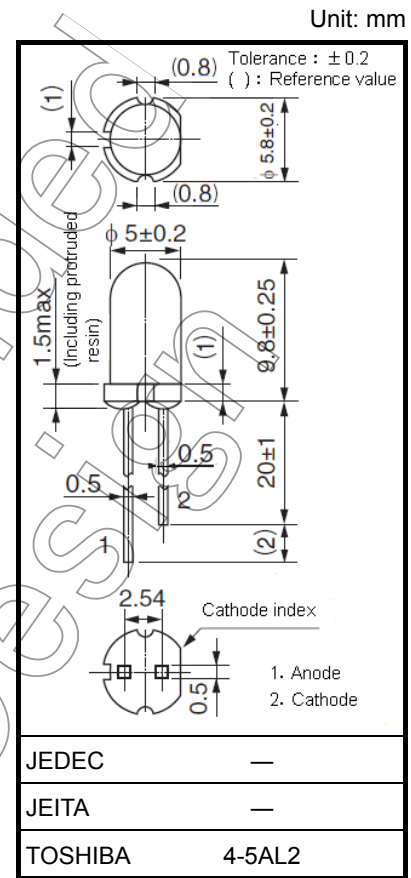
**TLPGE23TP(F),TLFGE23TP(F),TLGE23TP(F),TLPYE23TP(F)**

Panel Circuit Indicator

- $\phi$  5mm package
  - InGaA&P technology
  - Transparent lens
  - Lineup: 3 colors (pure green, green, pure yellow)
  - High intensity light emission
  - Excellent low current light output
  - Applications: Various types of information panels, backlightings, etc.
  - Stopper lead type is also available
- TLPGE23T(F), TLFGE23T(F), TLGE23T(F), TLPYE23T(F)

Lineup

Product Name	Color	Material
TLPGE23TP(F)	Pure Green	InGaA/P
TLFGE23TP(F)	Green	
TLGE23TP(F)	Green	
TLPYE23TP(F)	Pure Yellow	



Weight: 0.31 g (typ.)

Not Recommended for New Design

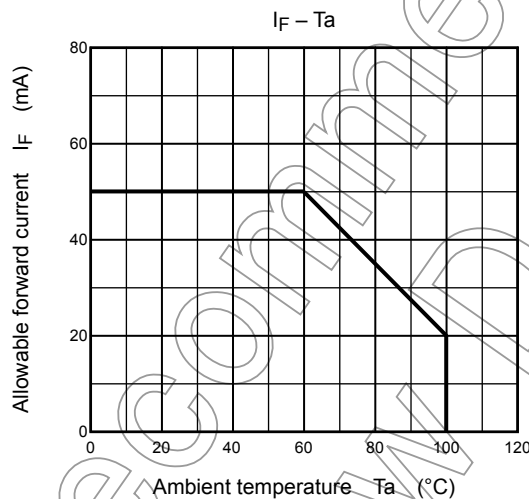
## Absolute Maximum Ratings (Ta = 25°C)

Product Name	Forward Current I <sub>F</sub> (mA) (Note 1)	Reverse Voltage V <sub>R</sub> (V)	Power Dissipation P <sub>D</sub> (mW)	Operating Temperature T <sub>opr</sub> (°C)	Storage Temperature T <sub>stg</sub> (°C)
TLPGE23TP(F)	50	4	120	-40 to 100	-40 to 120
TLFGE23TP(F)	50	4	120		
TLGE23TP(F)	50	4	120		
TLPYE23TP(F)	50	4	120		

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)

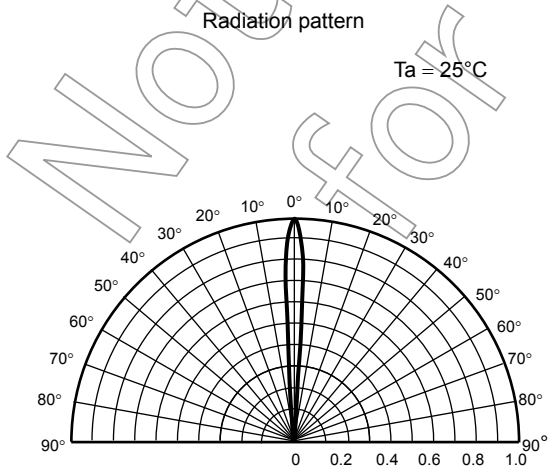
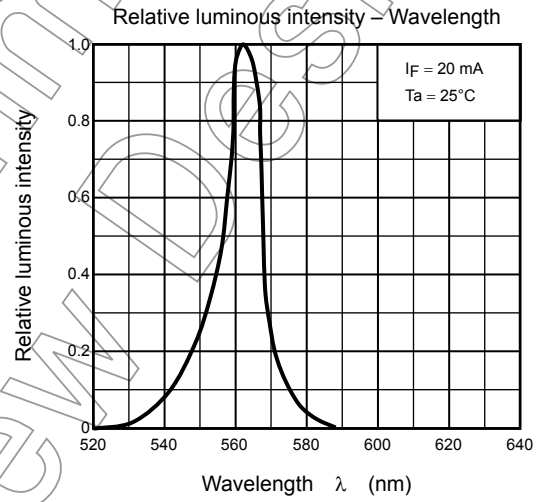
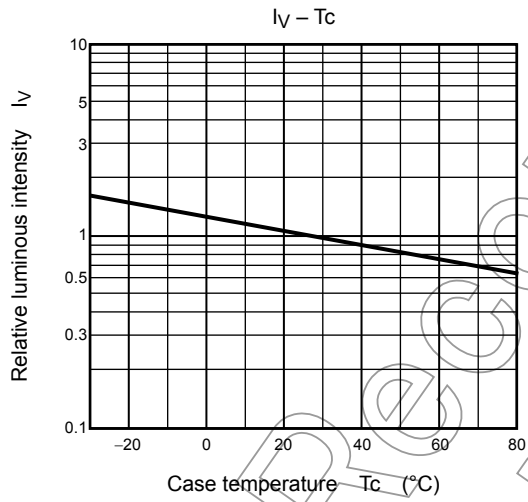
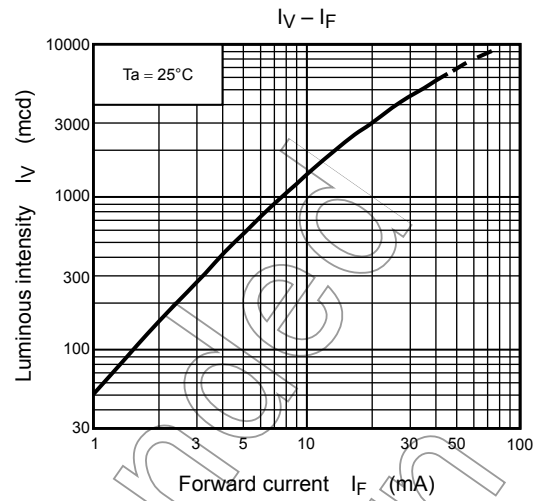
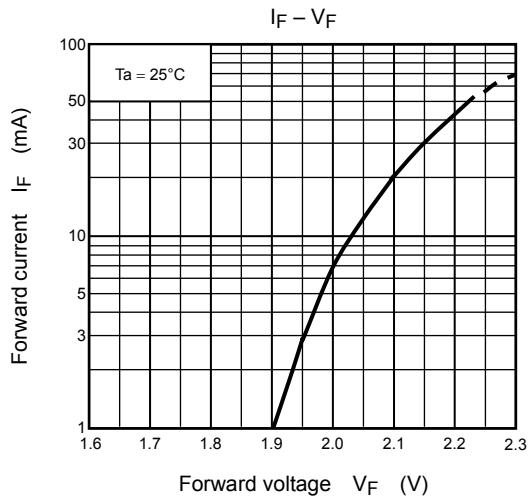
Product Name	Emission Wavelength						Luminous Intensity I <sub>v</sub>			Forward Voltage V <sub>F</sub>			Reverse Current I <sub>R</sub>			
	λ <sub>d</sub>			λ <sub>P</sub>	Δλ	I <sub>F</sub>	Min	Typ.	I <sub>F</sub>	Typ.	Max	I <sub>F</sub>	Max	V <sub>R</sub>		
	Min	Typ.	Max	Typ.	Typ.											
TLPGE23TP(F)	-	558	564	562	14	20	850	3000	20	2.1	2.4	20	50	4		
TLFGE23TP(F)	559	565	570	568	15	20	1530	5000	20	2.0	2.4	20	50	4		
TLGE23TP(F)	565	571	576	574	17	20	2720	7000	20	2.0	2.4	20	50	4		
TLPYE23TP(F)	574	580	586	583	14	20	2720	8000	20	2.0	2.4	20	50	4		
Unit	nm						mA			mcd			V		mV	

## Precautions

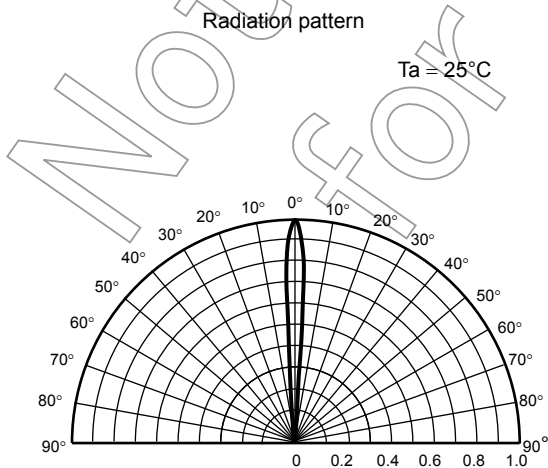
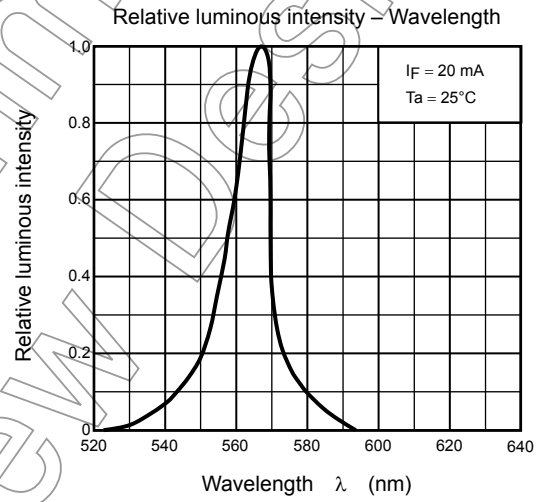
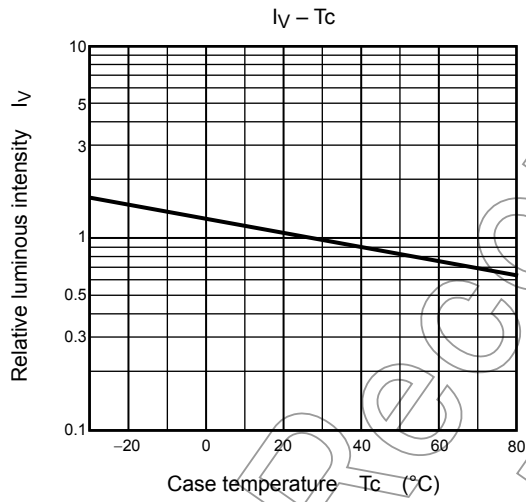
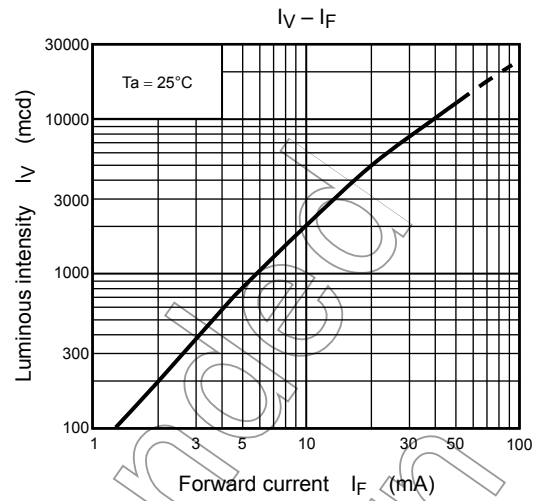
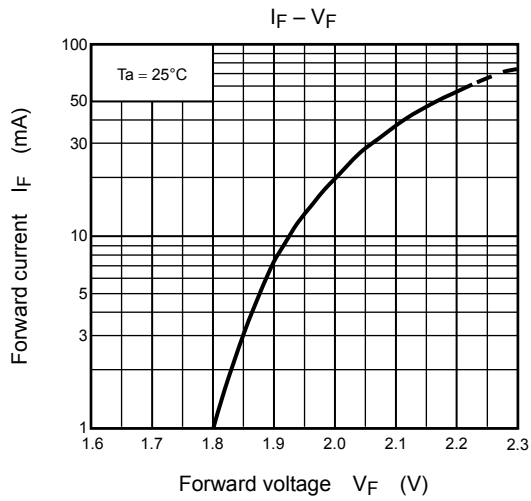
Please be careful of the following:

- Soldering temperature: 260°C max, soldering time: 3 s max  
(soldering portion of lead: up to 1.6 mm from the body of the device)
- If the lead is formed, the lead should be formed up to 1.6 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 photo detector is located near the LED lamp, please ensure that it will not be affected by this IR light.

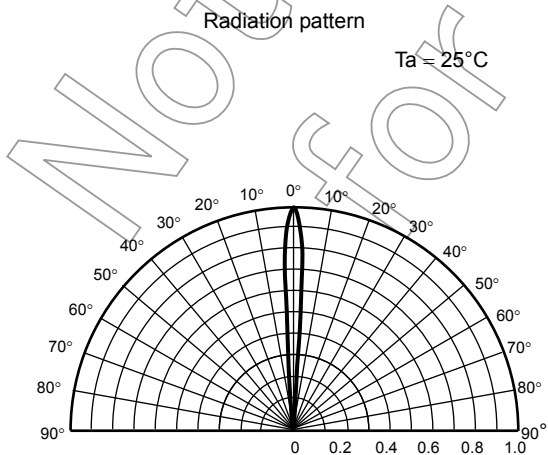
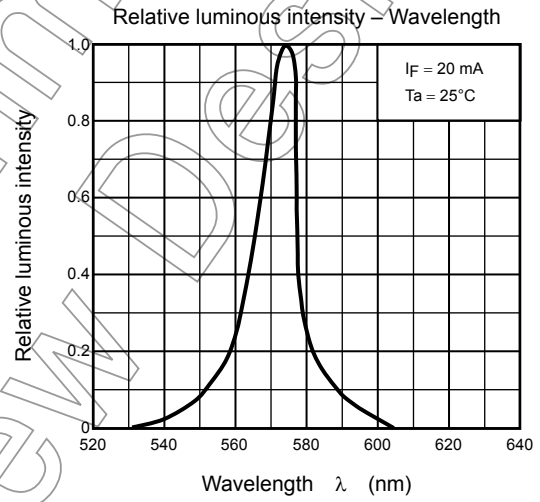
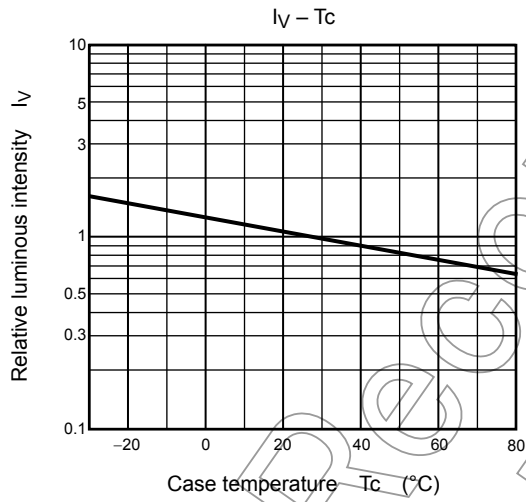
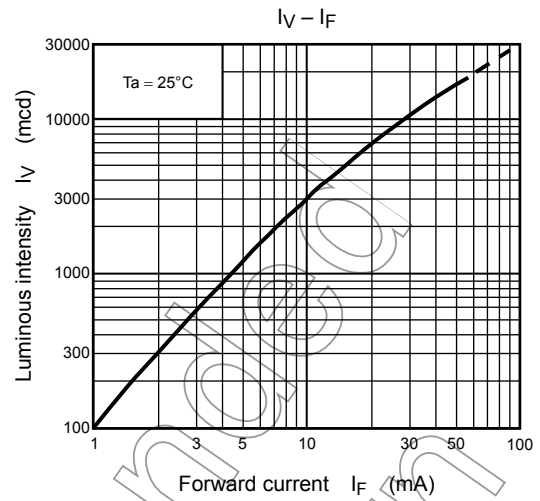
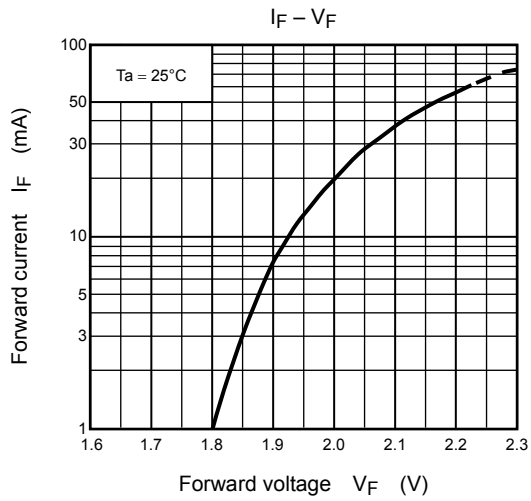
**TLPGE23TP(F)**



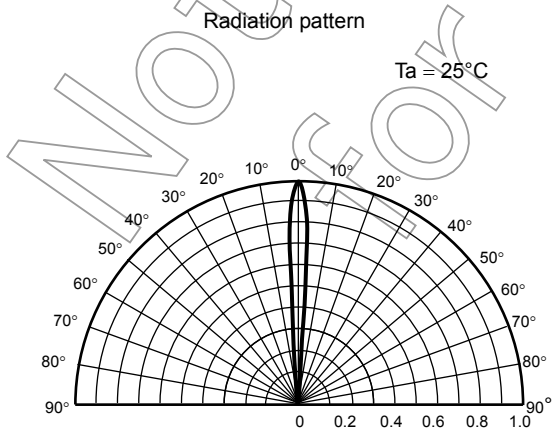
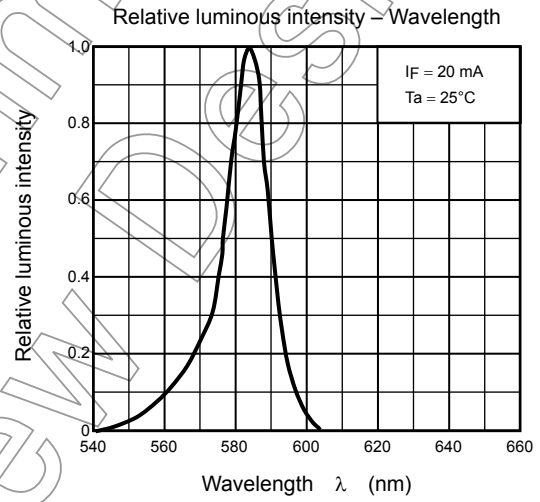
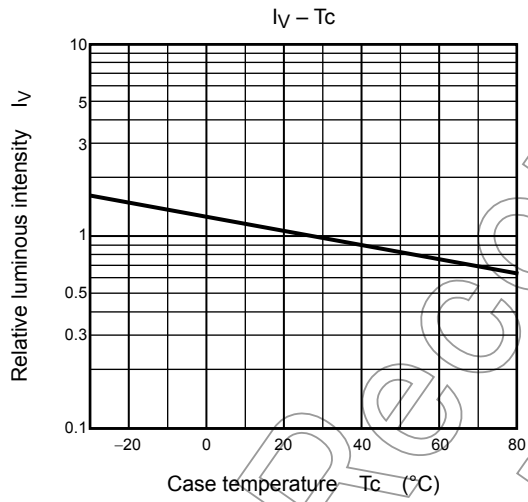
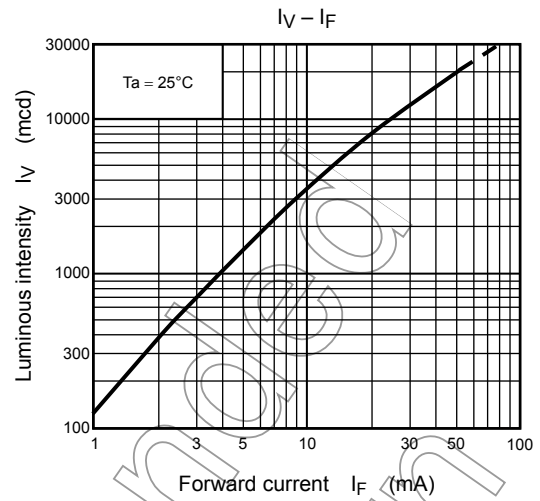
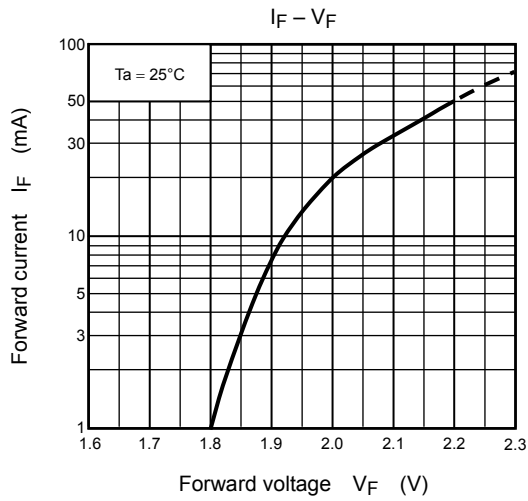
**TLFGE23TP(F)**



**TLGE23TP(F)**



**TLPYE23TP(F)**



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