

TOSHIBA InGaAlP LED

TLRE50T(F),TLRME50T(F),TLSE50T(F),TLOE50T(F),TLYE50T(F), TLPYE50T(F),TLGE50T(F),TLFGE50T(F),TLPGE50T(F)

Panel Circuit Indicators

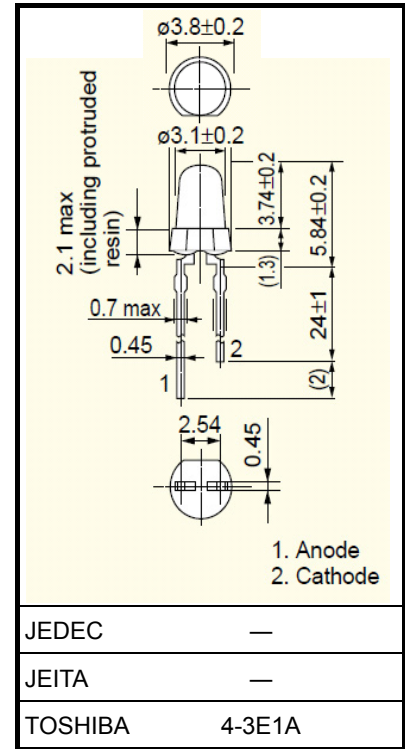
Unit: mm

Lead(Pb)-free products (lead: Sn-Ag-Cu)

- 3mm package
- InGaAlP technology
- All plastic mold type
- Transparent lens
- Line-up: 6 colors (red, orange, yellow, pure yellow, green and pure green)
- High intensity light emission
- Excellent low current light output
- Applications: message boards, security devices and dashboard displays

Lineup

Product Name	Color	Material
TLRE50T(F)	Red	InGaAlP
TLRME50T(F)	Red	
TLSE50T(F)	Red	
TLOE50T(F)	Orange	
TLYE50T(F)	Yellow	
TLPYE50T(F)	Pure Yellow	
TLGE50T(F)	Green	
TLFGE50T(F)	Green	
TLPGE50T(F)	Pure Green	



Weight: 0.14 g(Typ.)

Absolute Maximum Ratings (Ta = 25°C)

Product Name	Forward Current I _F (mA)	Reverse Voltage V _R (V)	Power Dissipation P _D (mW)	Operating Temperature T _{opr} (°C)	Storage Temperature T _{stg} (°C)
TLRE50T(F)	50	4	120	-40~100	-40~120
TLRME50T(F)	50	4	120		
TLSE50T(F)	50	4	120		
TLOE50T(F)	50	4	120		
TLYE50T(F)	50	4	120		
TLPYE50T(F)	50	4	120		
TLGE50T(F)	50	4	120		
TLFGE50T(F)	50	4	120		
TLPGE50T(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).

Electrical and Optical Characteristics (Ta = 25°C)

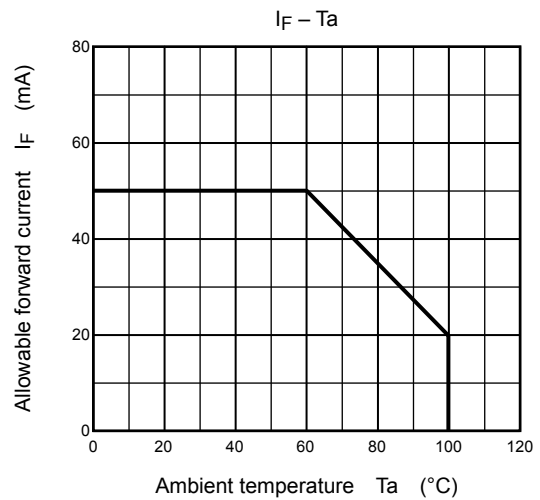
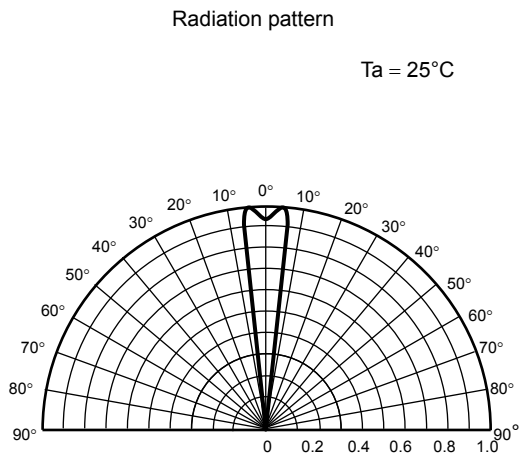
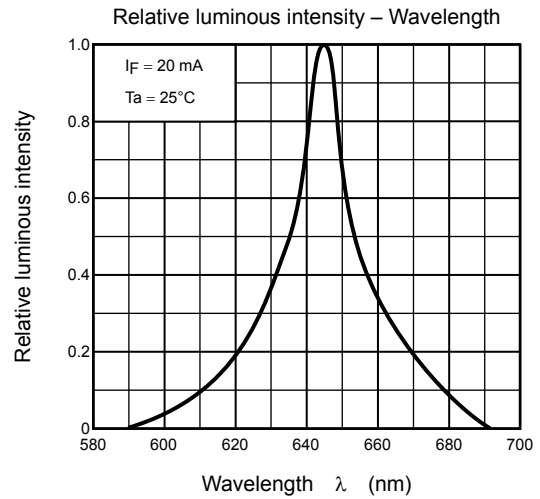
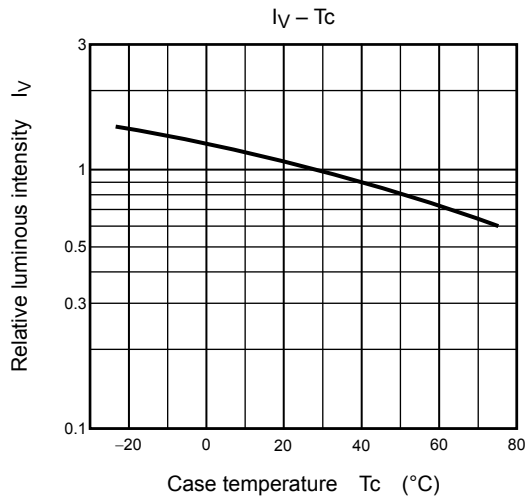
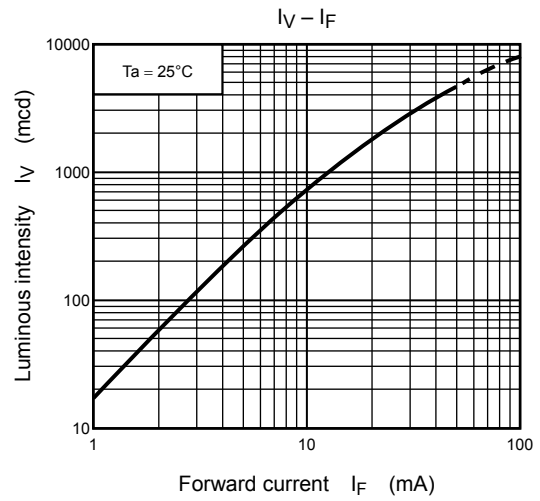
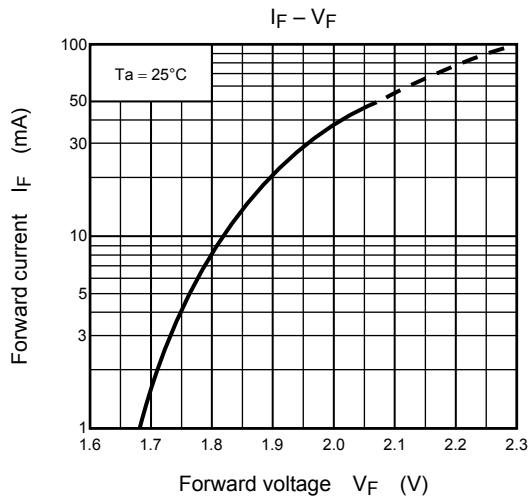
Product Name	Typ. Emission Wavelength				Luminous Intensity I _V			Forward Voltage V _F			Reverse Current I _R	
	λ _d	λ _p	Δλ	I _F	Min	Typ.	I _F	Typ.	Max	I _F	Max	V _R
TLRE50T(F)	630	(644)	20	20	850	1800	20	1.9	2.4	20	50	4
TLRME50T(F)	626	(636)	23	20	850	2200	20	1.9	2.4	20	50	4
TLSE50T(F)	613	(623)	20	20	1530	3500	20	1.9	2.4	20	50	4
TLOE50T(F)	605	(612)	20	20	1530	4500	20	2.0	2.4	20	50	4
TLYE50T(F)	587	(590)	17	20	1530	3500	20	2.0	2.4	20	50	4
TLPYE50T(F)	580	(583)	14	20	850	2500	20	2.0	2.4	20	50	4
TLGE50T(F)	571	(574)	17	20	476	1500	20	2.0	2.4	20	50	4
TLFGE50T(F)	565	(568)	15	20	272	1000	20	2.0	2.4	20	50	4
TLPGE50T(F)	558	(562)	14	20	153	600	20	2.1	2.4	20	50	4
Unit	nm			mA	mcd		mA	V		mA	μA	V

Precautions

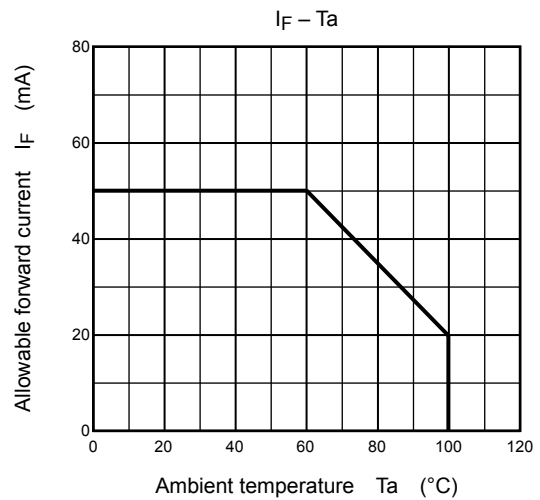
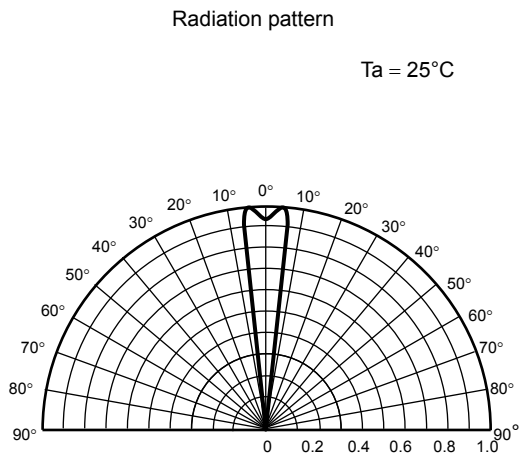
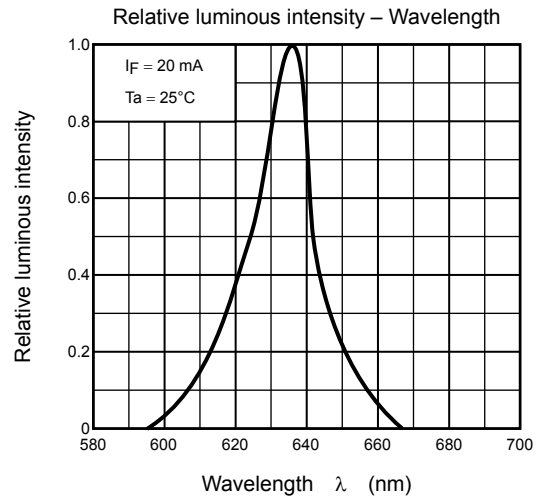
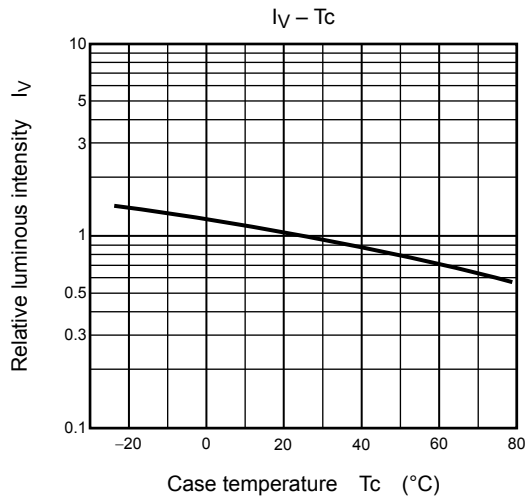
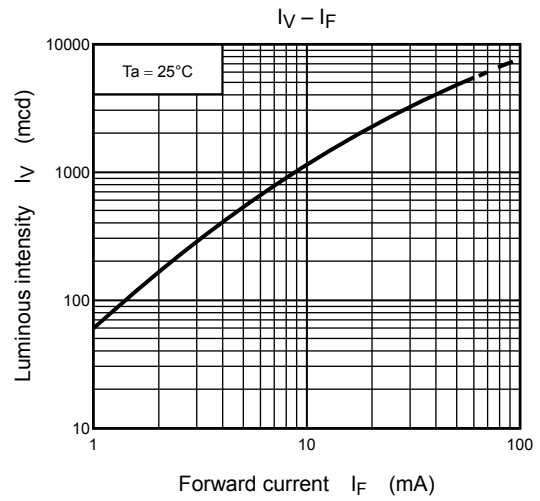
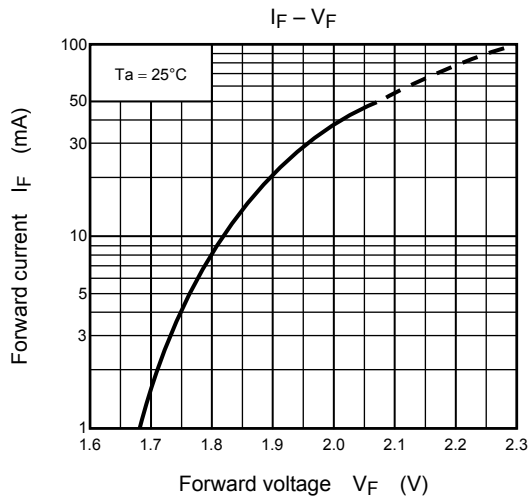
Please be careful of the following:

- 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 photodetector is located near the LED lamp, please ensure that it will not be affected by this IR light.

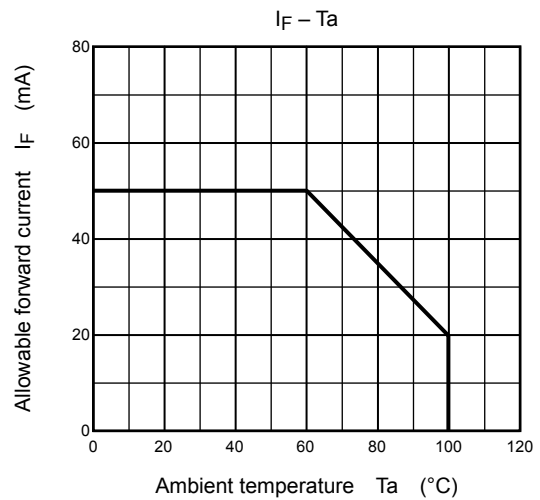
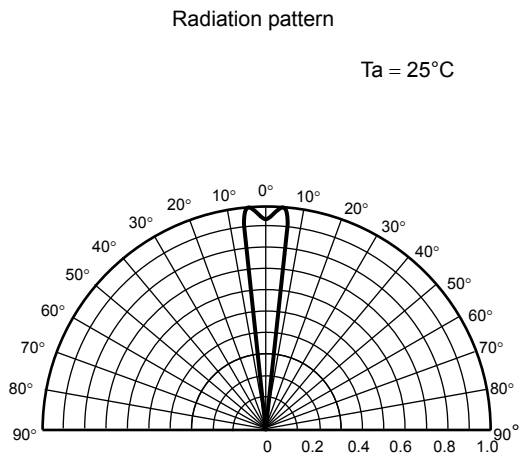
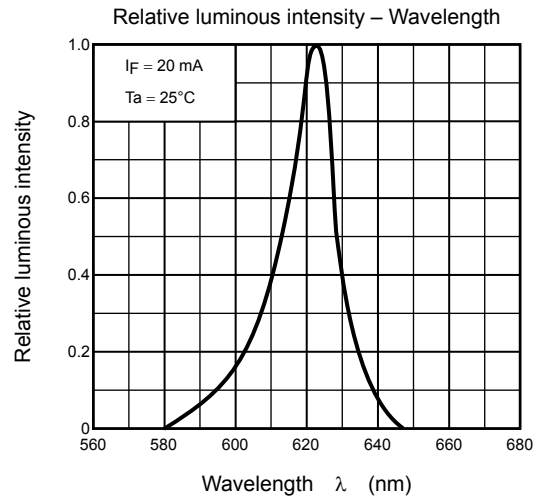
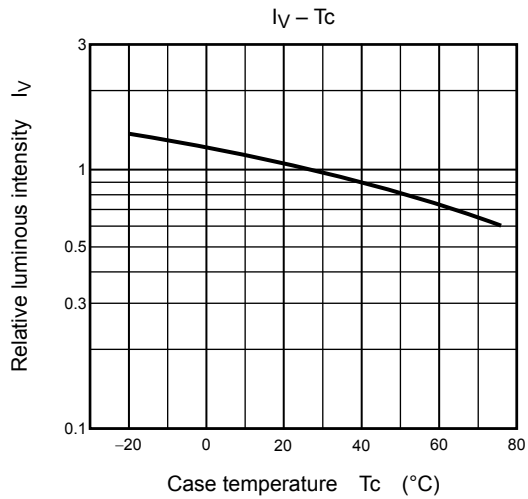
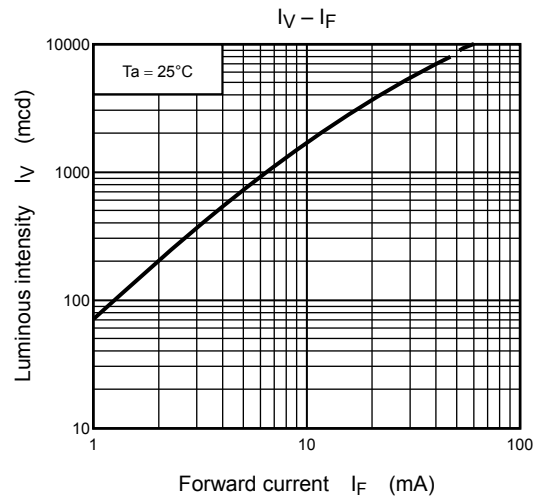
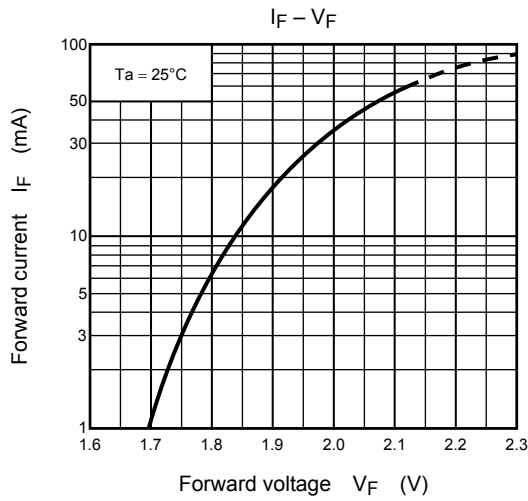
TLRE50T(F)



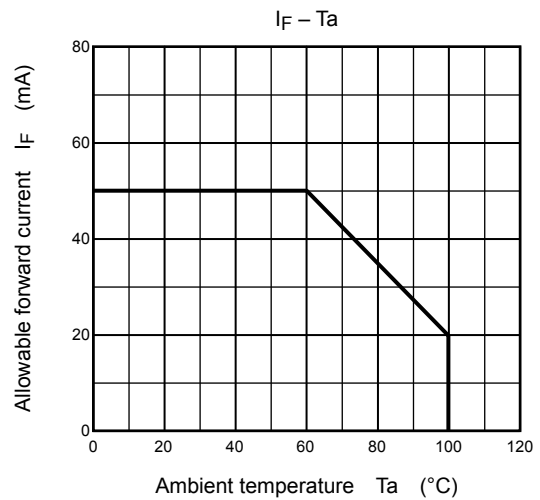
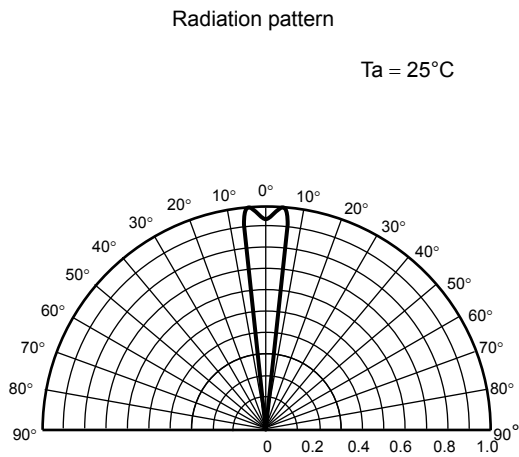
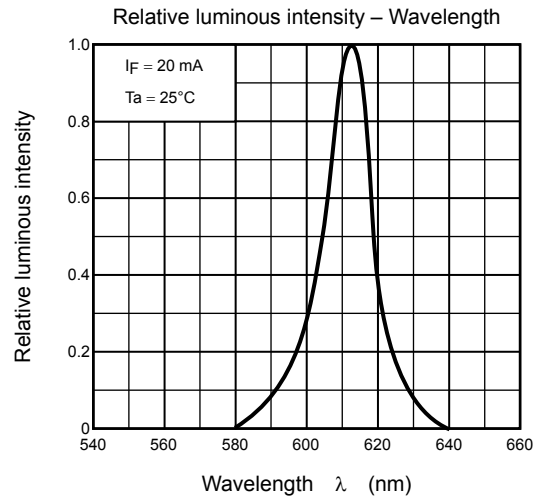
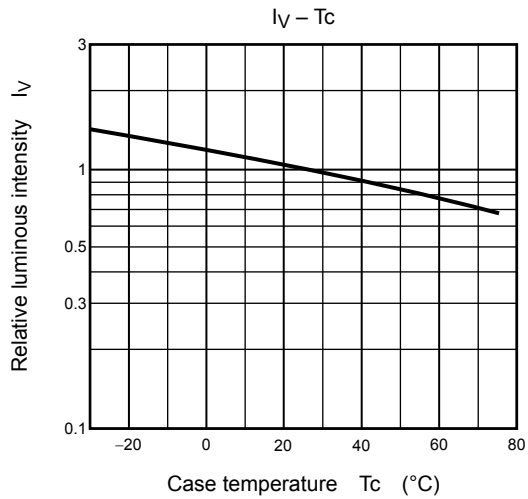
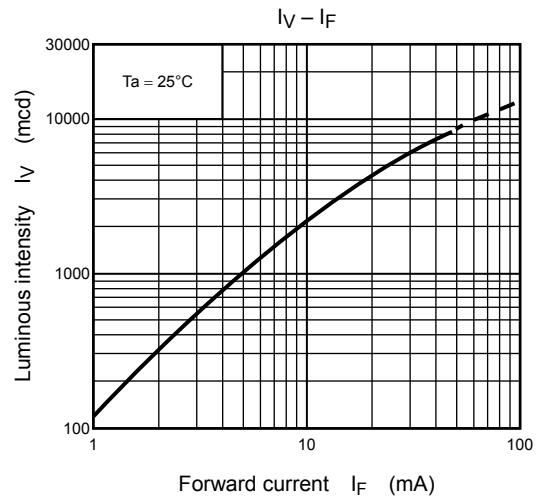
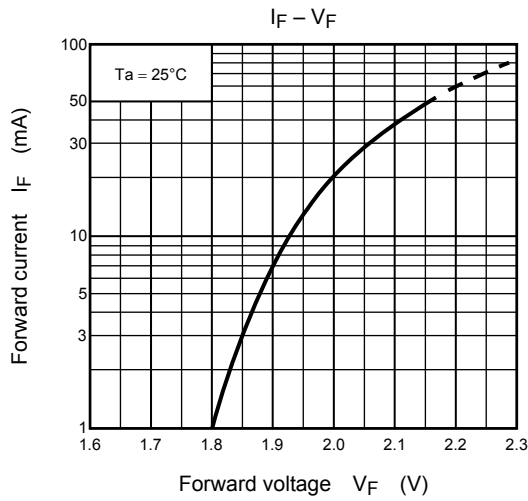
TLRME50T(F)



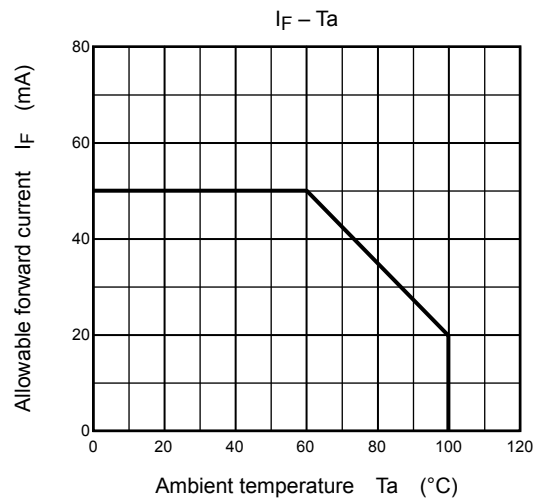
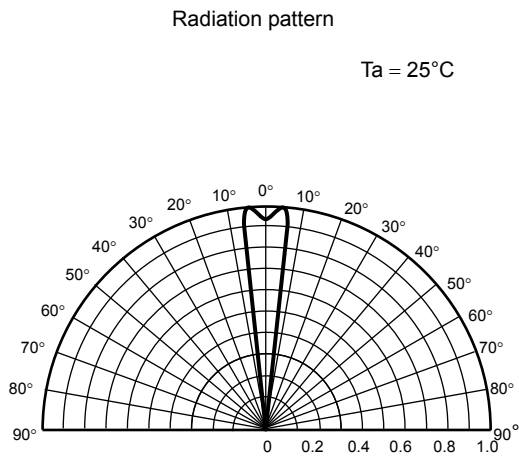
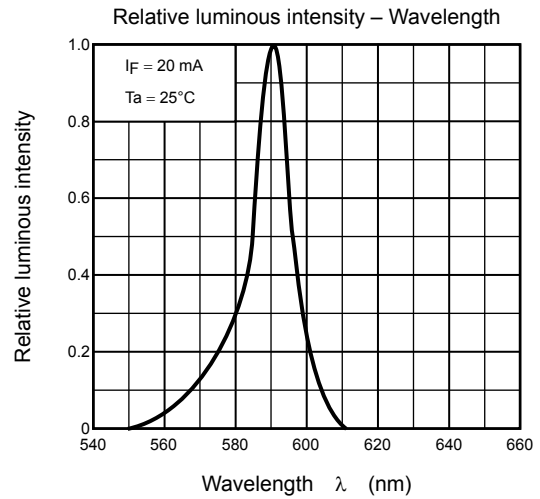
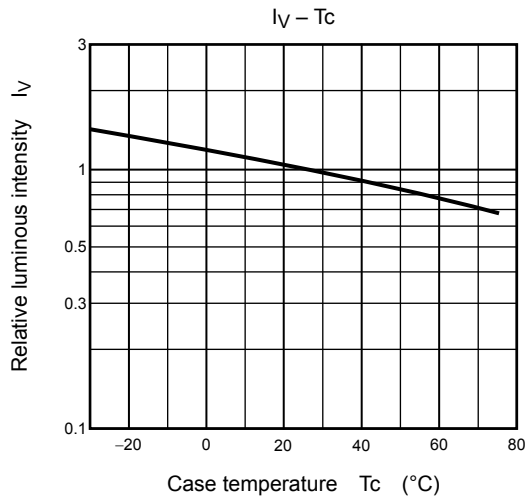
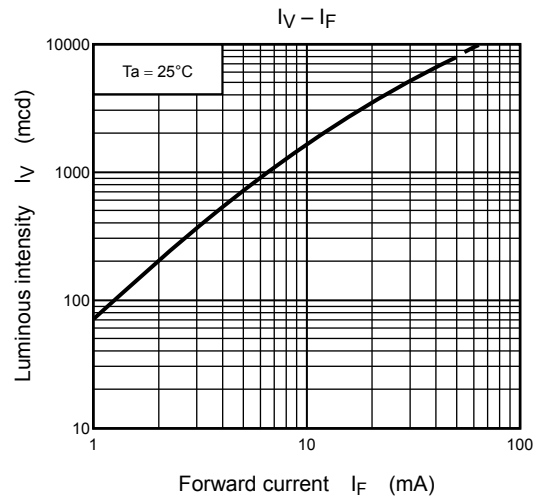
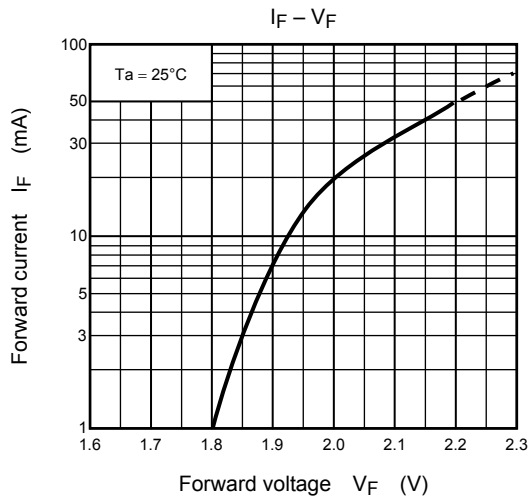
TLSE50T(F)



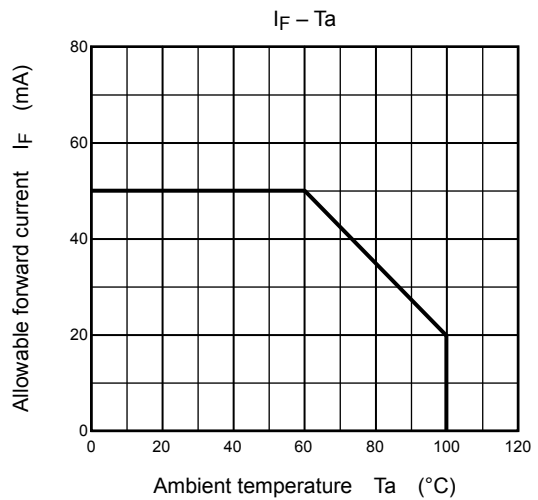
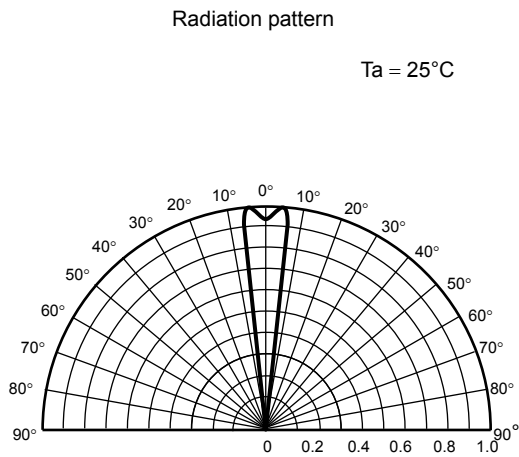
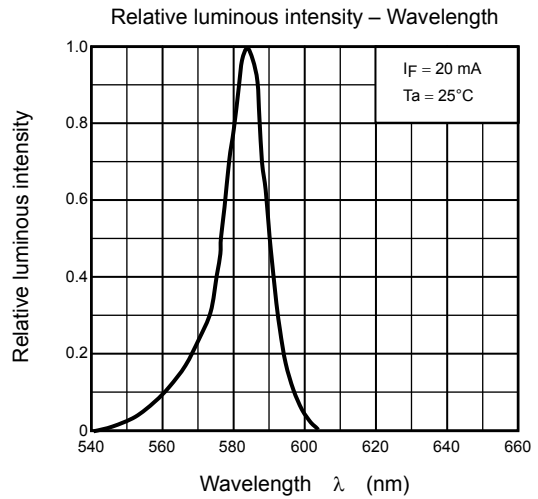
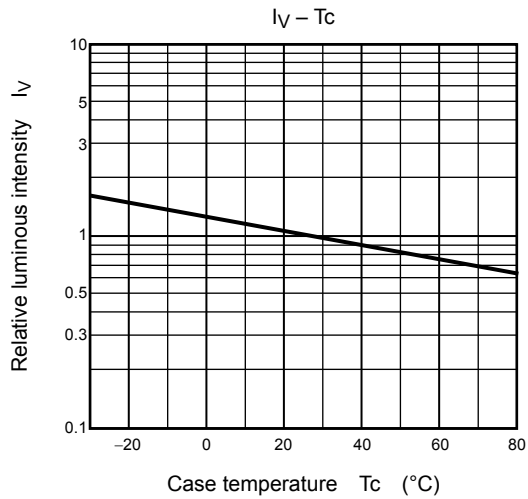
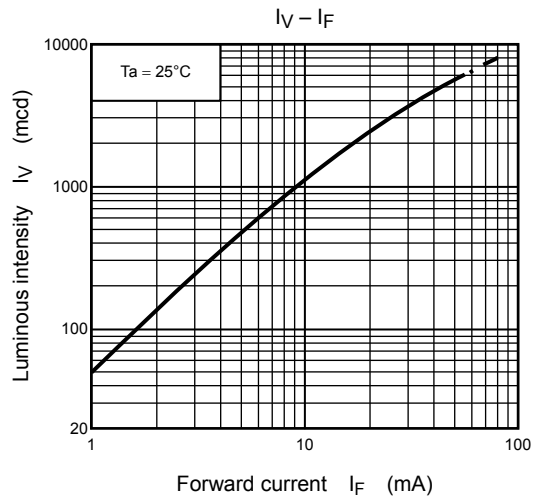
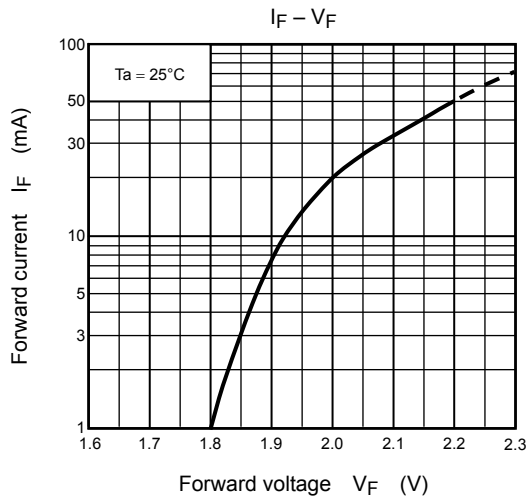
TLOE50T(F)



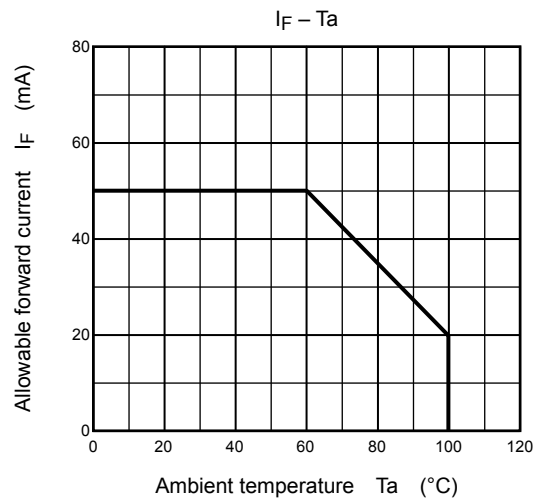
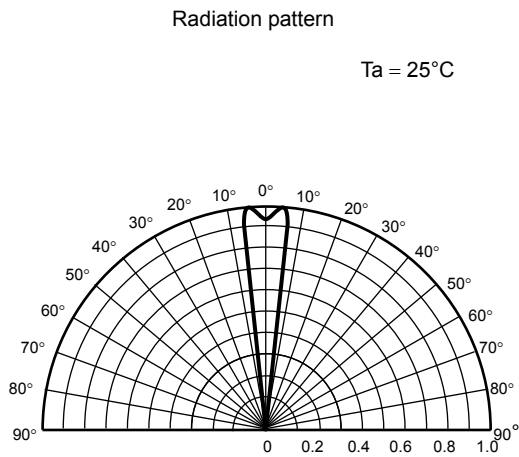
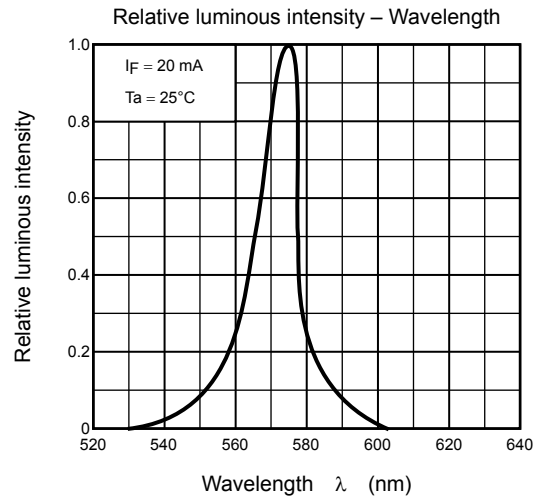
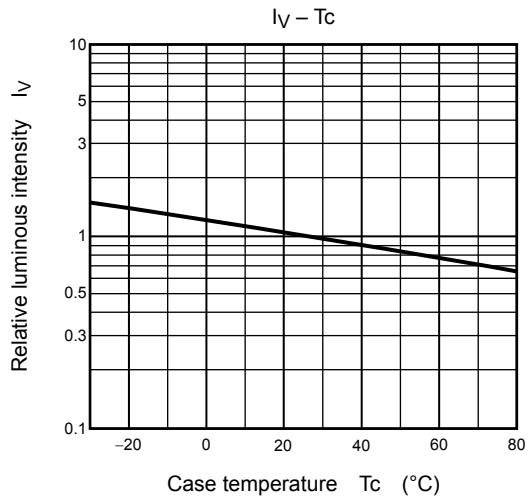
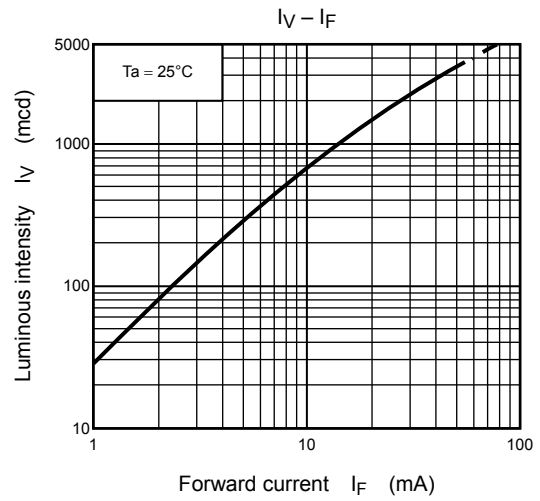
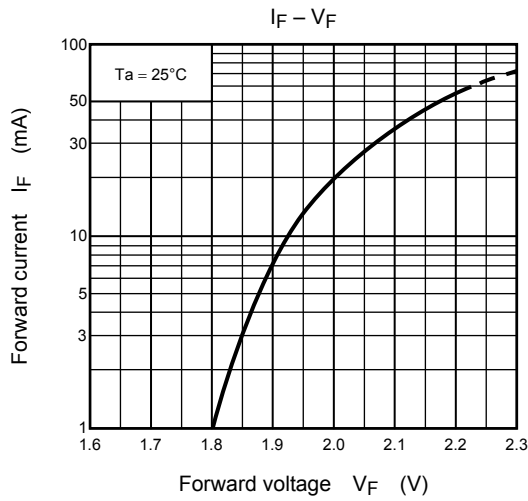
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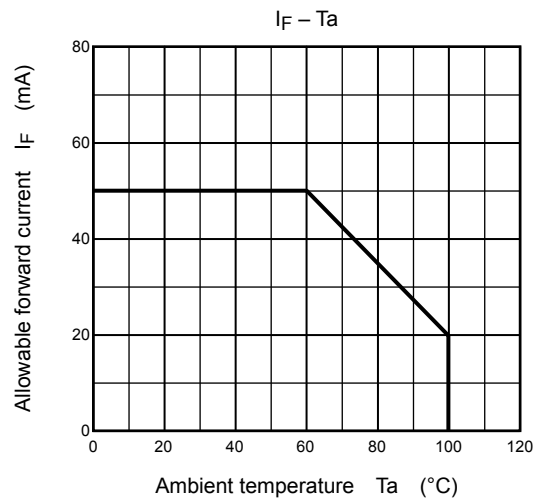
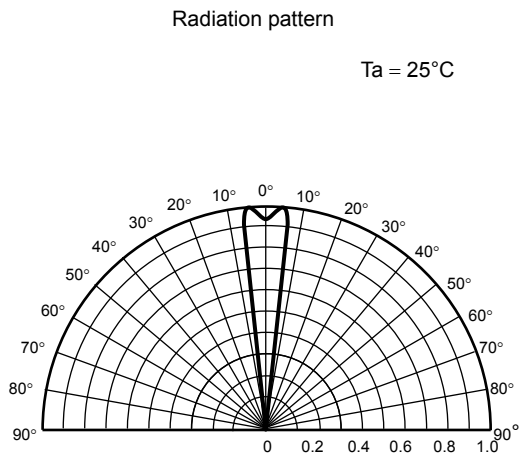
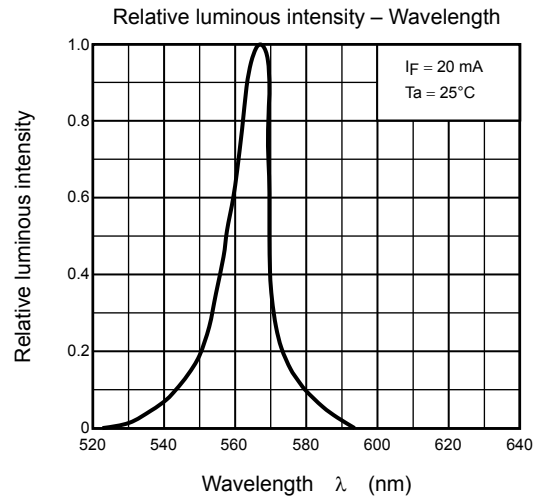
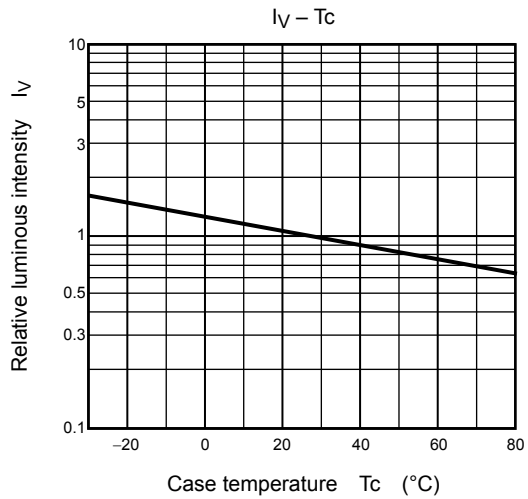
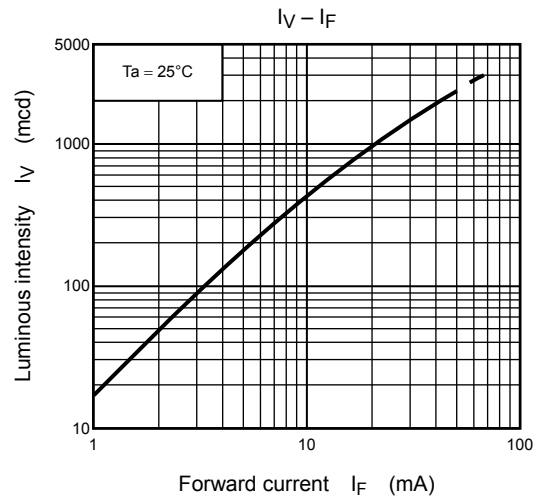
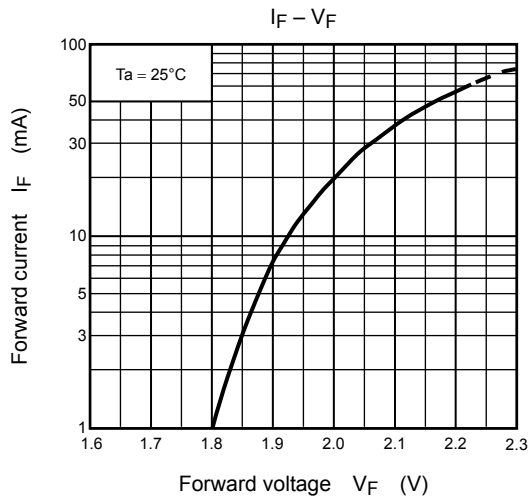
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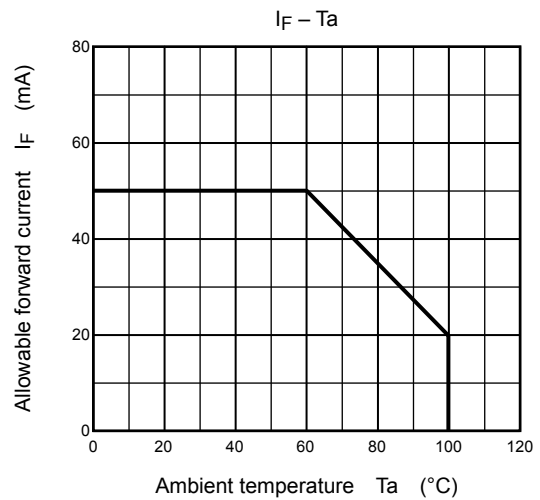
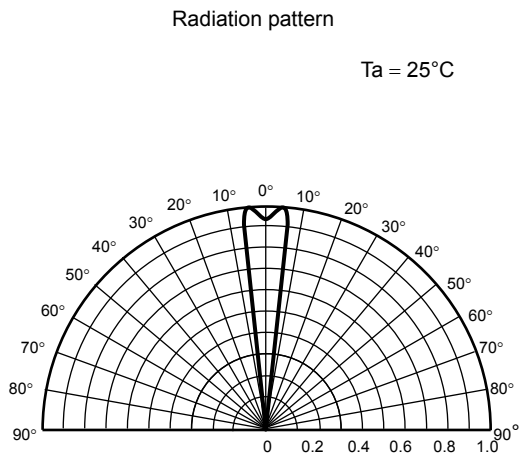
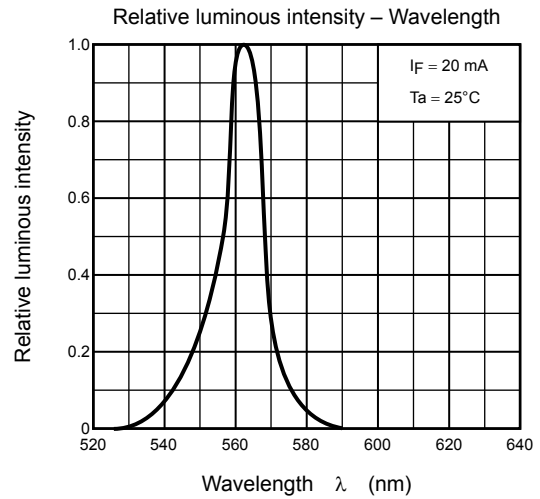
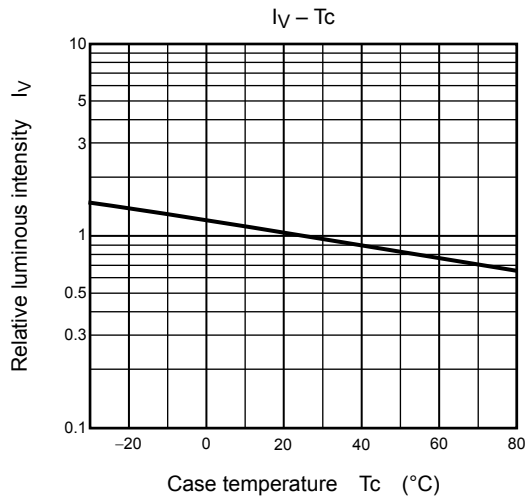
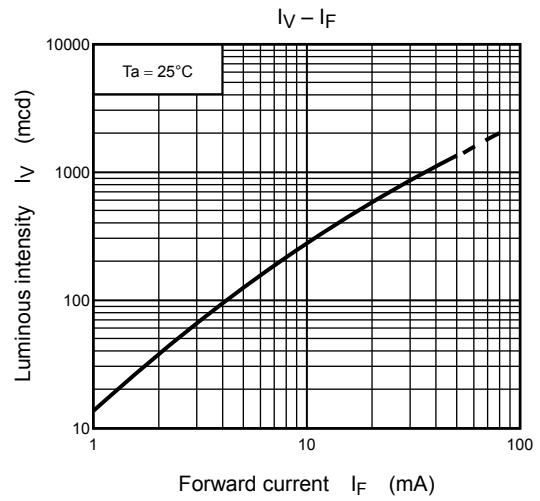
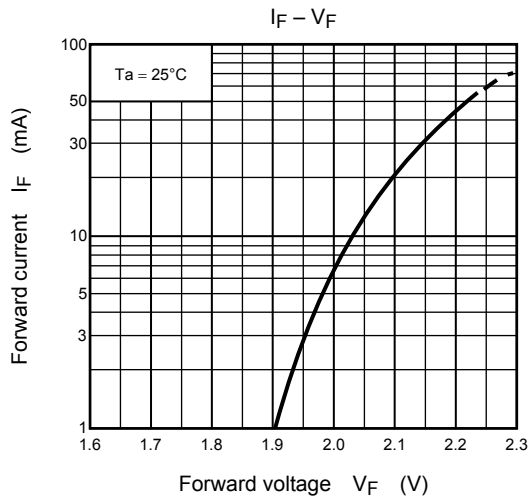
TLGE50T(F)



TLFGE50T(F)



TLPGE50T(F)



RESTRICTIONS ON PRODUCT USE

20070701-EN

- The information contained herein is subject to change without notice.
- TOSHIBA is continually working to improve the quality and reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to comply with the standards of safety in making a safe design for the entire system, and to avoid situations in which a malfunction or failure of such TOSHIBA products could cause loss of human life, bodily injury or damage to property.
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