

TOSHIBA InGaAlP LED

TLRE28C(F),TLRME28C(F),TLSE28C(F),TLOE28C(F), TLYE28C(F),TLGE28C(F)

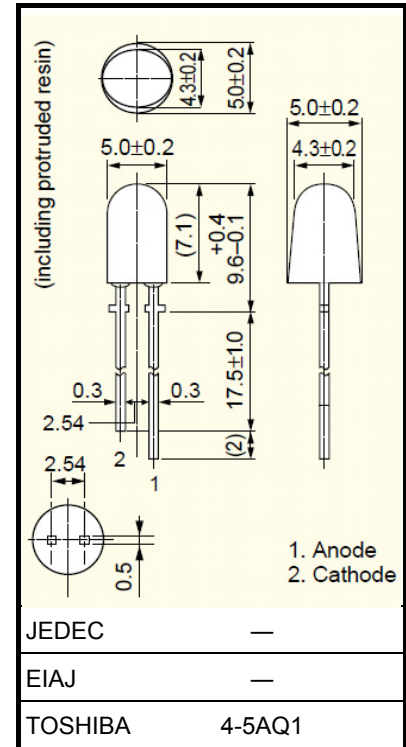
Unit: mm

○ Panel Circuit Indicator

- Lead(Pb)-free products (lead: Sn-Ag-Cu)
- 4.3x5mm
- InGaAlP technology
- Colored Transparent lens
- Lineup: 6 colors (red,yellow, green)
- Excellent low current light output
- High intensity light emission
- Applications: message boards, dashboard displays

Lineup

Product Name	Color	Material
TLRE28C(F)	Red	InGaAlP
TLRME28C(F)	Red	InGaAlP
TLSE28C(F)	Red	InGaAlP
TLOE28C(F)	Orange	InGaAlP
TLYE28C(F)	Yellow	InGaAlP
TLGE28C(F)	Green	InGaAlP



Weight: 0.25 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)
TLRE28C(F)	50	4	120	-40~100	-40~120
TLRME28C(F)	50	4	120		
TLSE28C(F)	50	4	120		
TLOE28C(F)	50	4	120		
TLYE28C(F)	50	4	120		
TLGE28C(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).

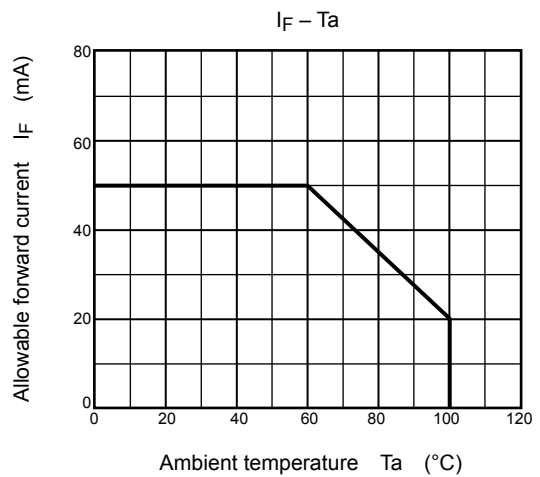
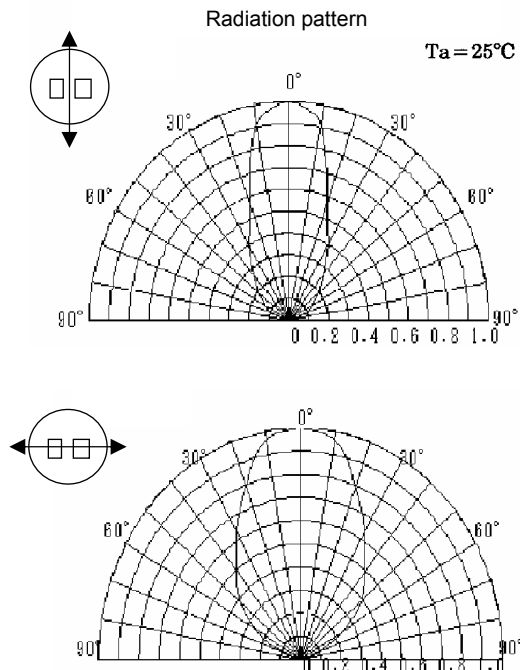
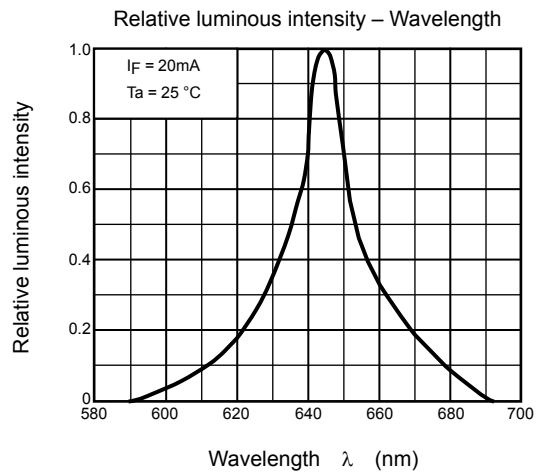
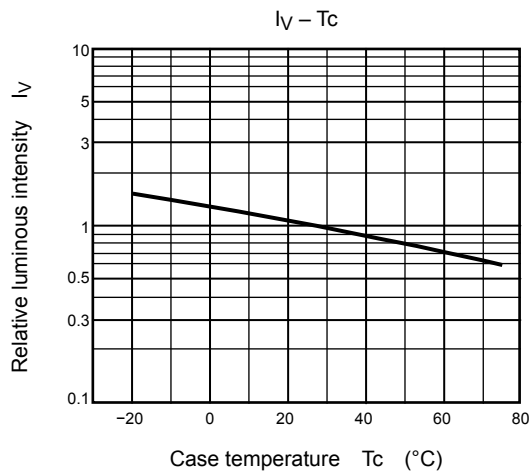
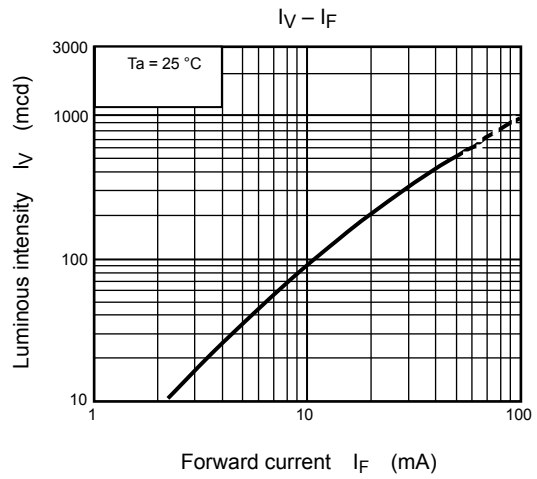
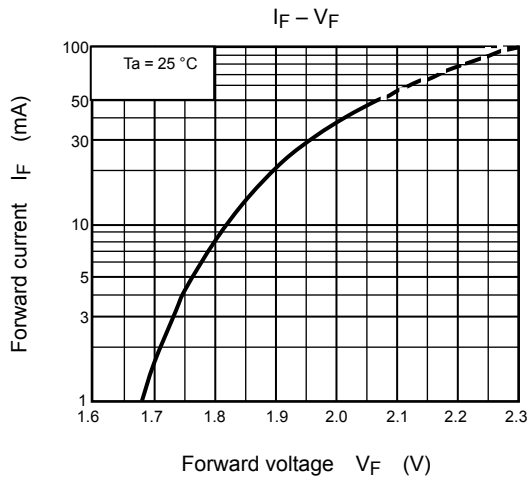
Electrical and Optical Characteristics (Ta = 25°C)

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
TLRE28C(F)	630	(644)	20	20	85	200	20	1.9	2.4	20	50	4
TLRME28C(F)	626	(636)	23	20	85	200	20	1.9	2.4	20	50	4
TLSE28C(F)	613	(623)	20	20	85	300	20	1.9	2.4	20	50	4
TLOE28C(F)	605	(612)	20	20	153	500	20	2.0	2.4	20	50	4
TLYE28C(F)	587	(590)	17	20	153	350	20	2.0	2.4	20	50	4
TLGE28C(F)	571	(574)	17	20	47.6	150	20	2.0	2.4	20	50	4
Unit	nm			mA	mcd		mA	V		mA	μA	V

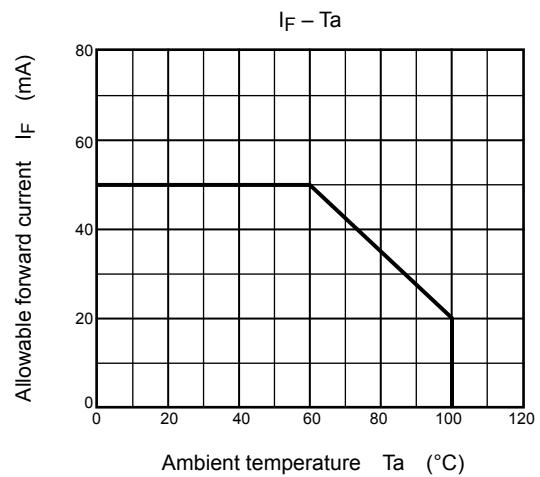
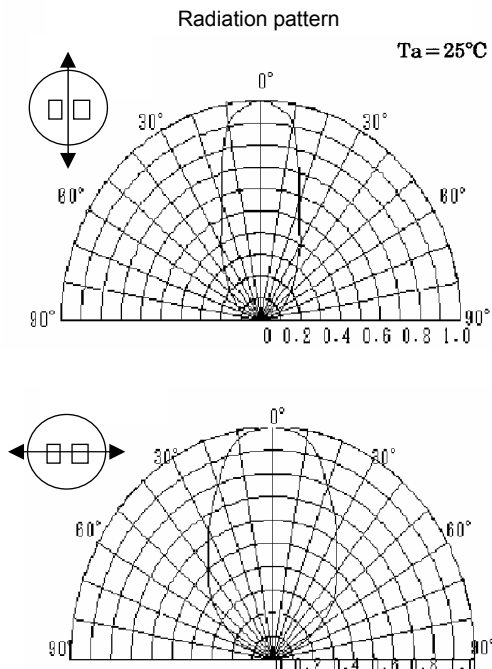
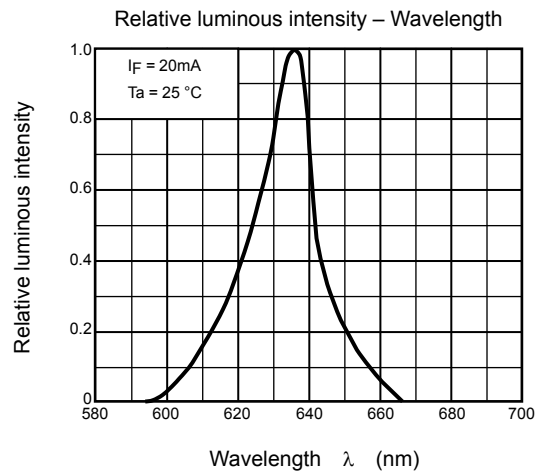
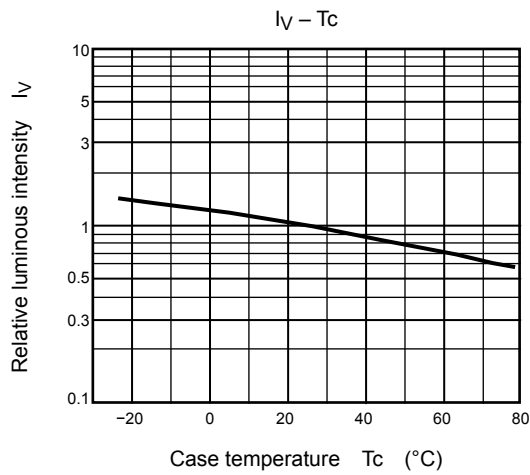
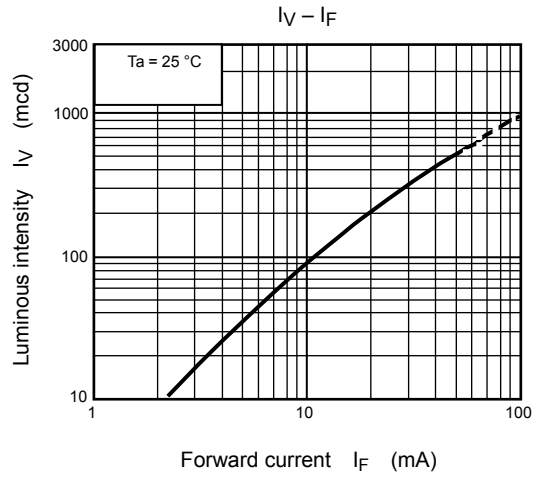
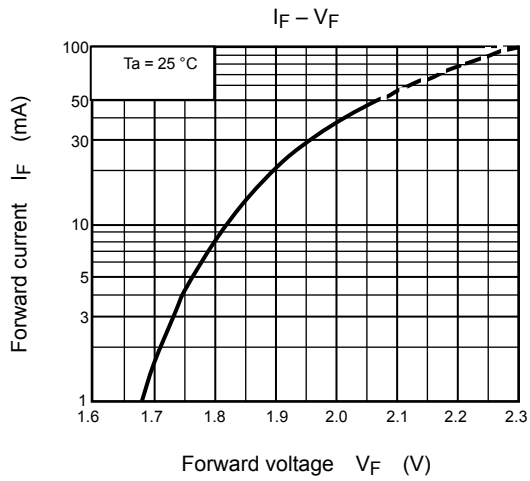
Please be careful of the following:

- 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 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.

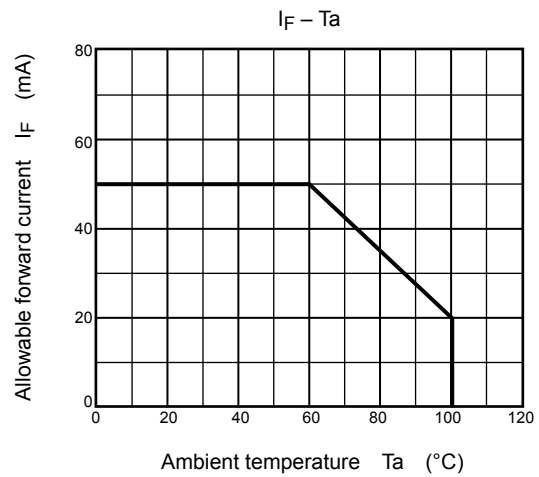
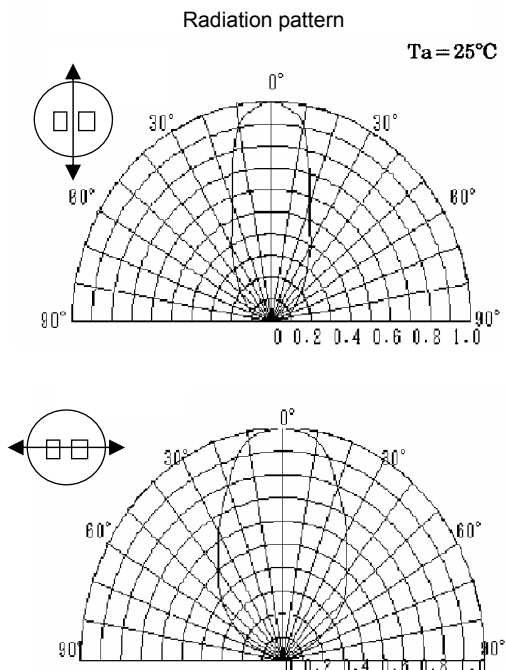
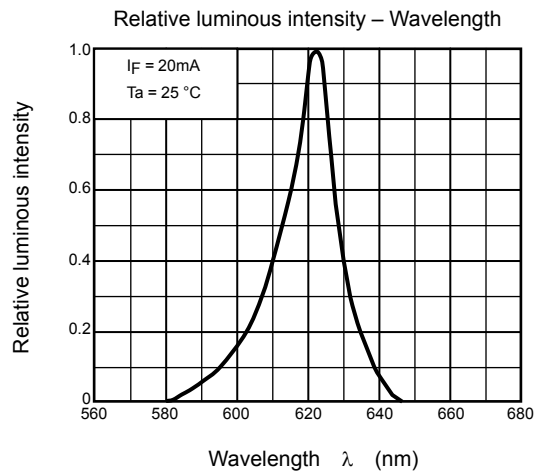
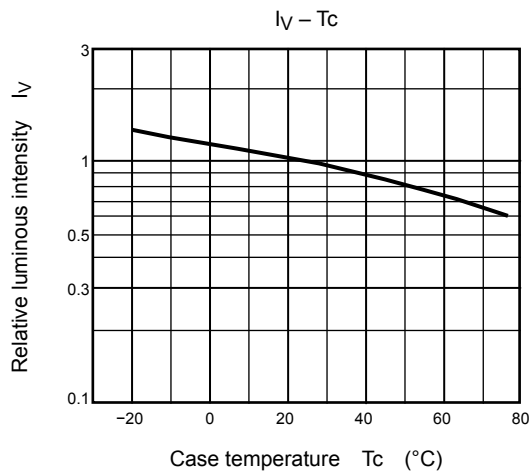
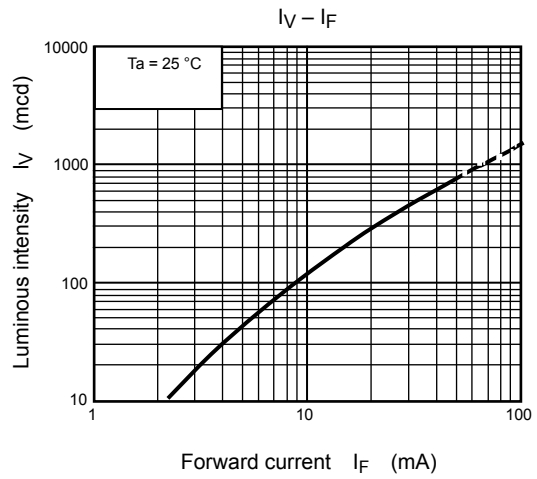
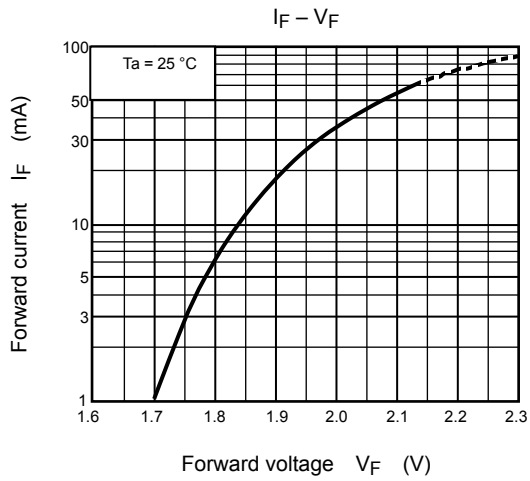
TLRE28C(F)



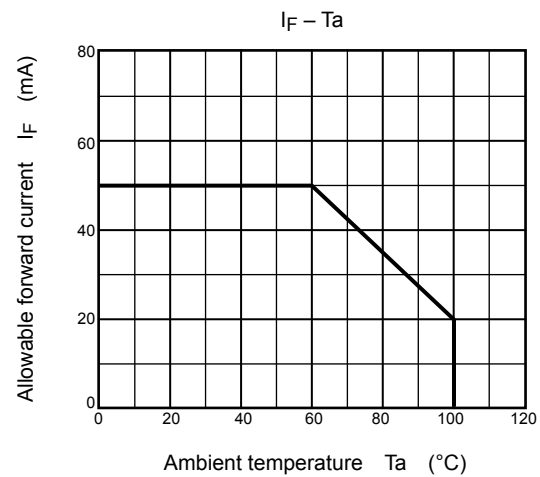
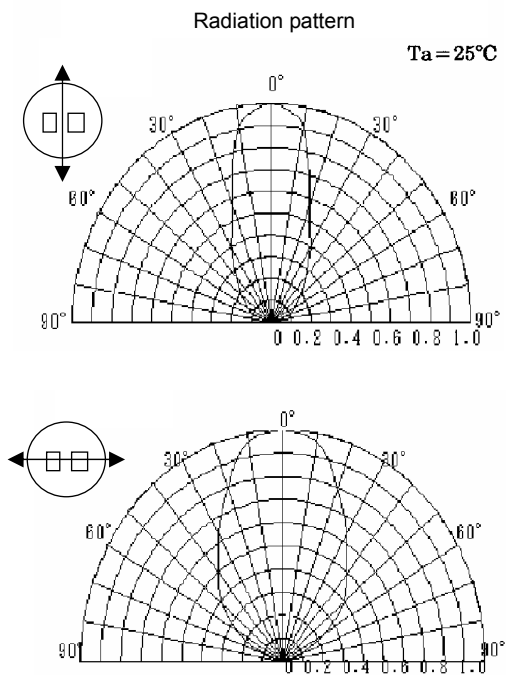
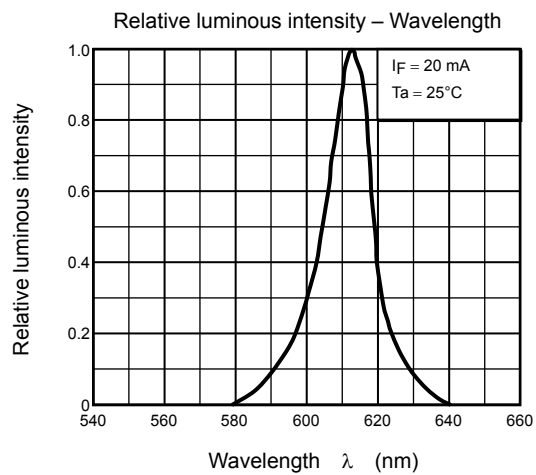
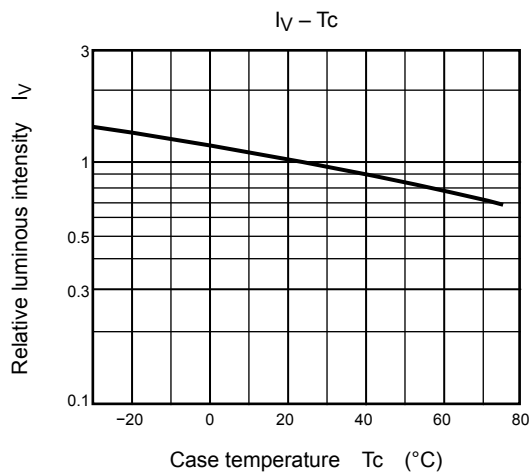
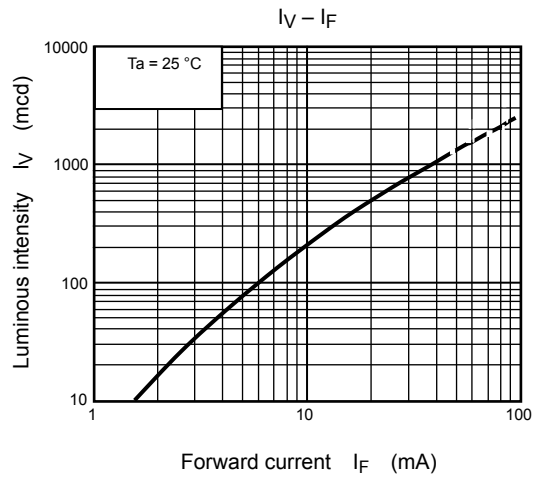
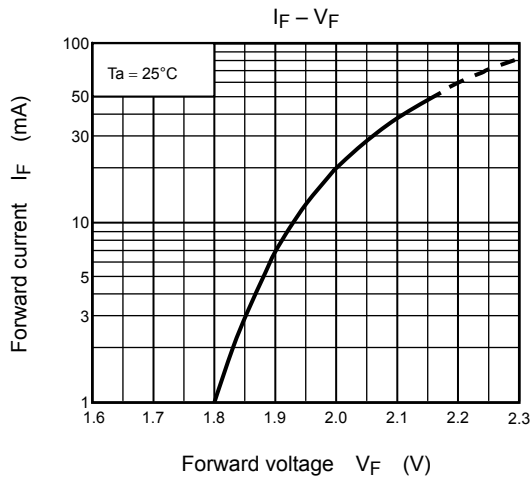
TLRME28C(F)



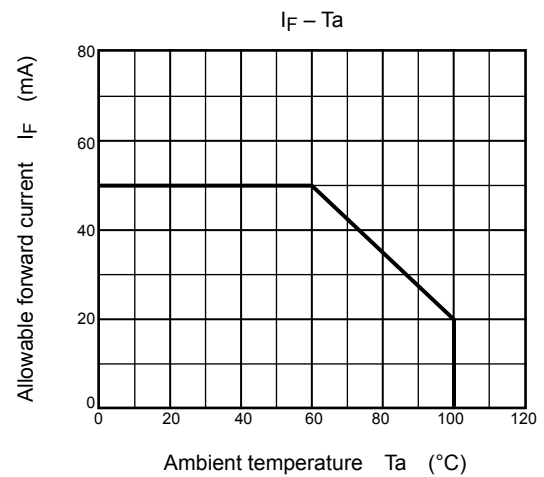
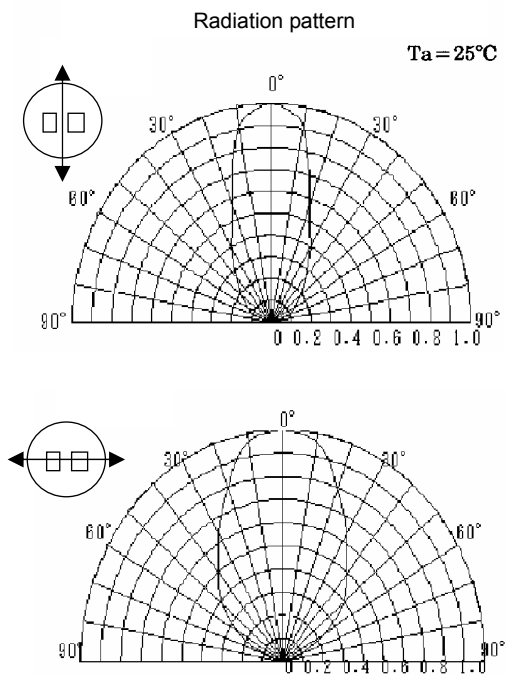
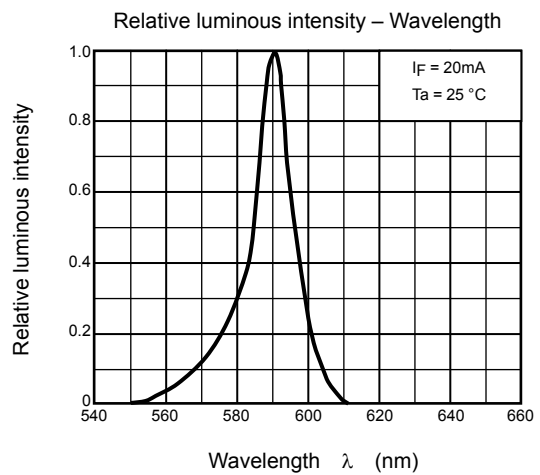
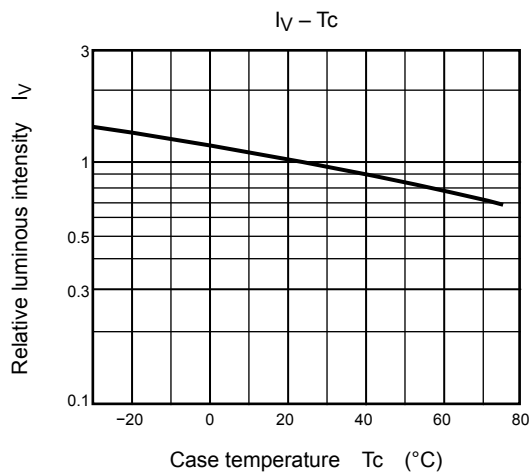
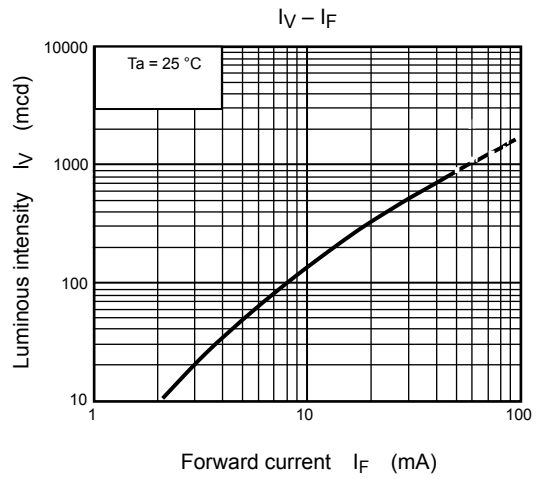
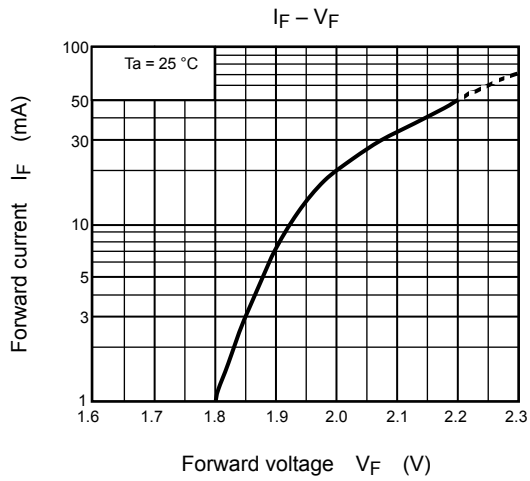
TLSE28C(F)



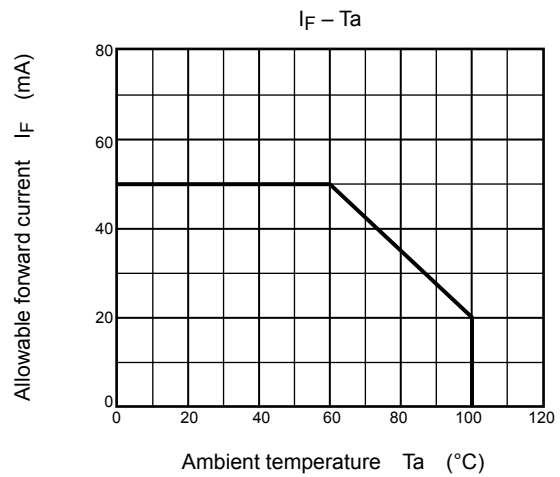
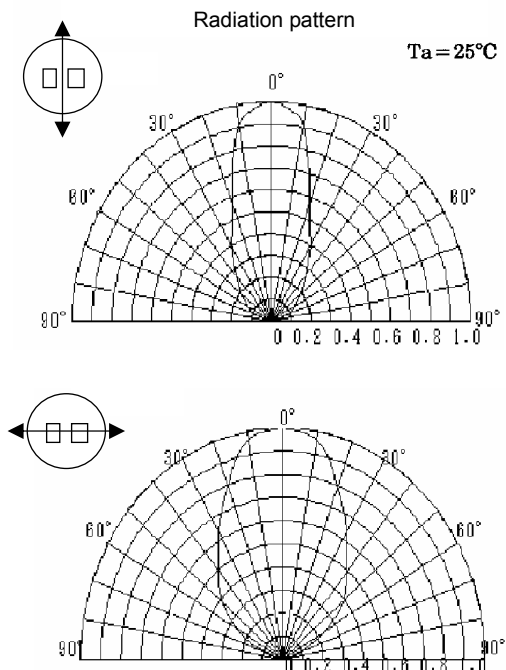
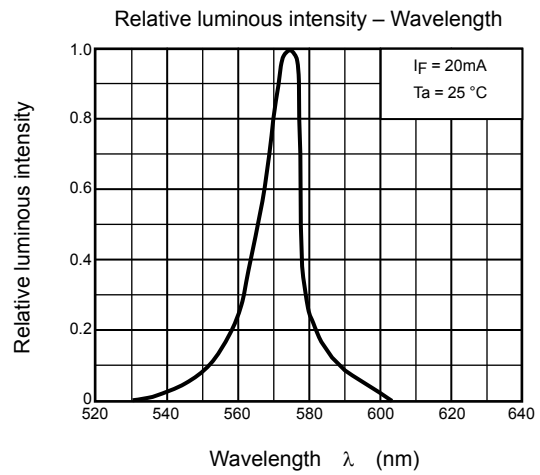
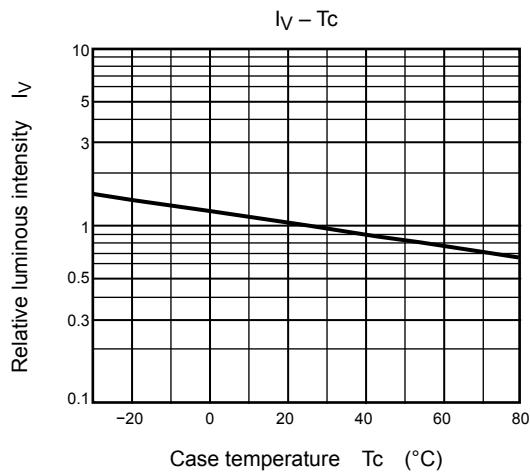
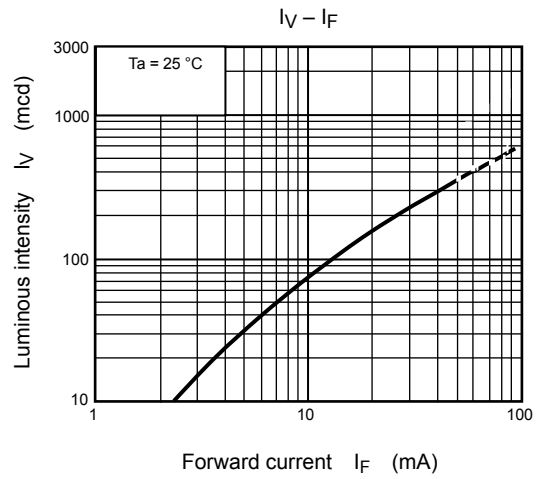
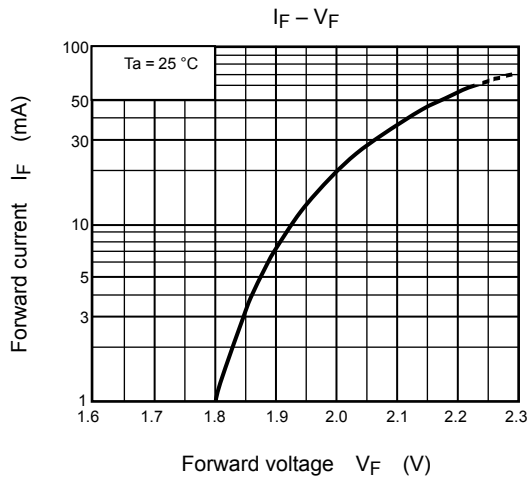
TLOE28C(F)



TLYE28C(F)



TLGE28C(F)



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