

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

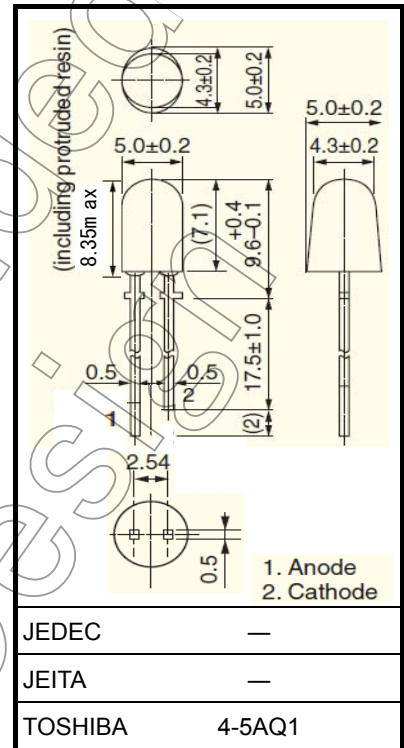
○ Panel Circuit Indicator

- 4.3 mm × 5 mm package
- InGaAlP technology
- Colored transparent lens
- Emitted colors: red, yellow, green
- High luminous intensity
- Applications: message boards, etc.

Color and Material

art Number	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

Unit: mm



Weight: 0.25 g (typ.)

Not Recommended for New Design

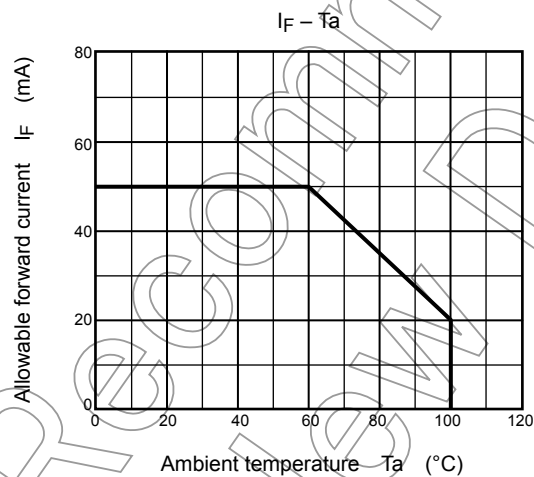
Absolute Maximum Ratings (Ta = 25°C)

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)
TLRE28C(F)	50	4	120	-40 to 100	-40 to 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).

Note 1: Forward current derating



Electrical and Optical Characteristics (Ta = 25°C)

Part Number	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

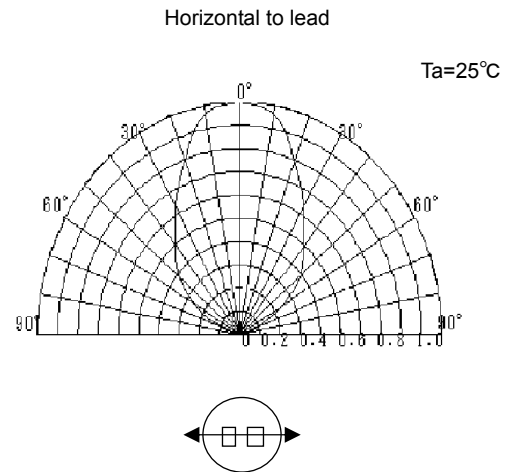
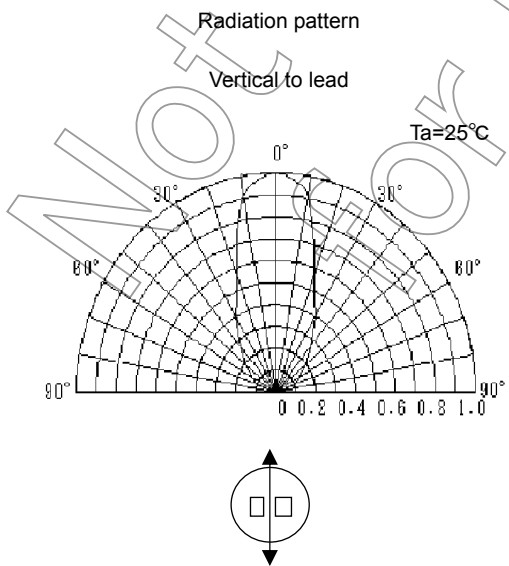
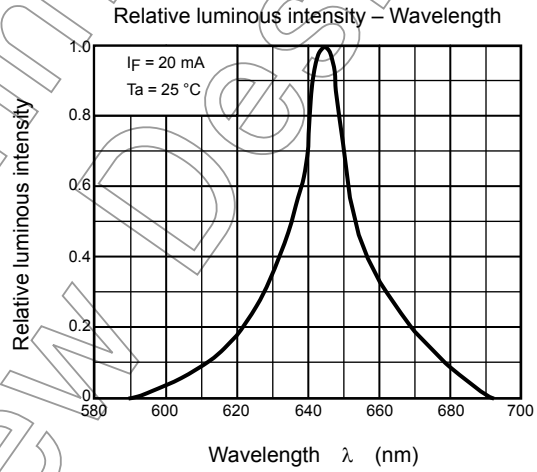
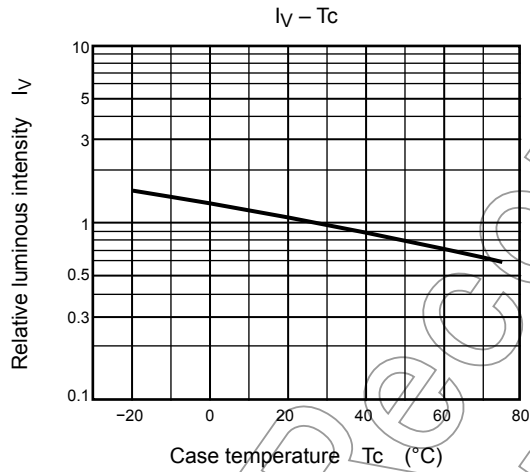
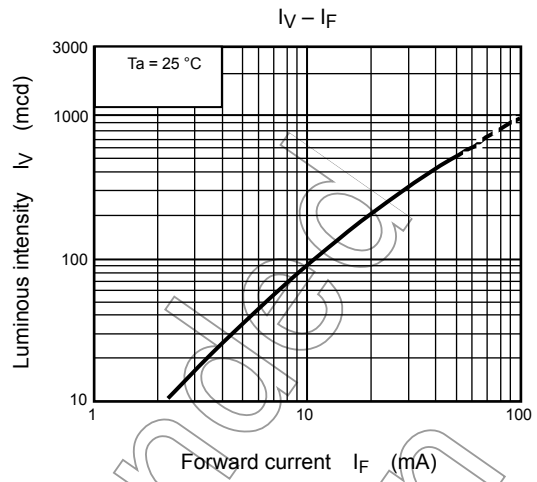
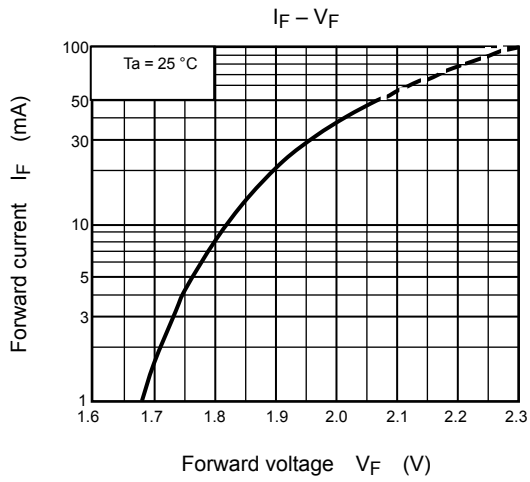
Precautions

Please be careful of the following:

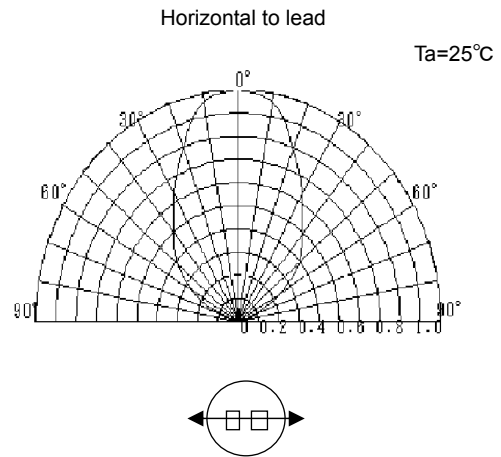
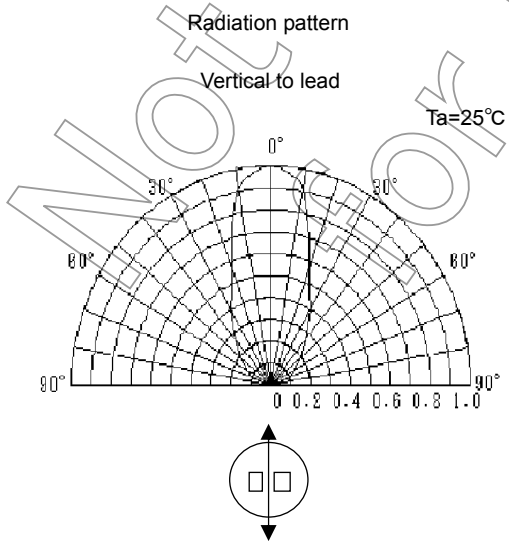
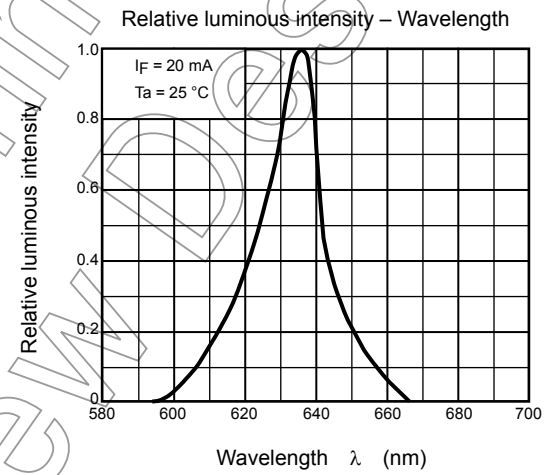
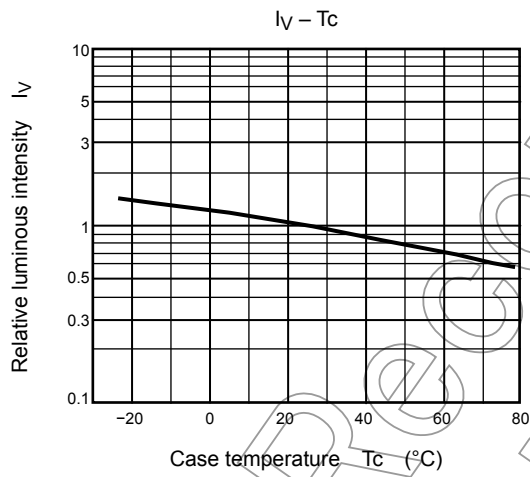
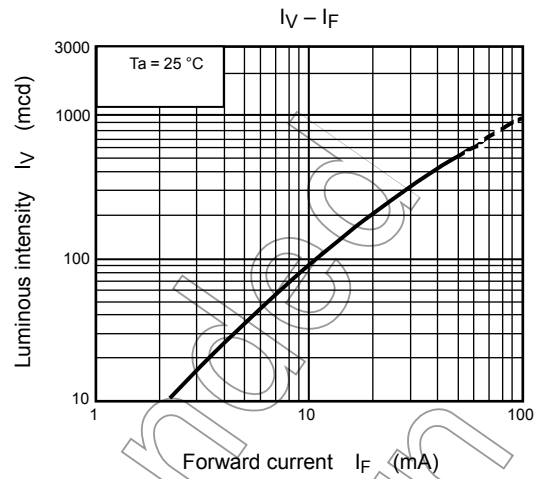
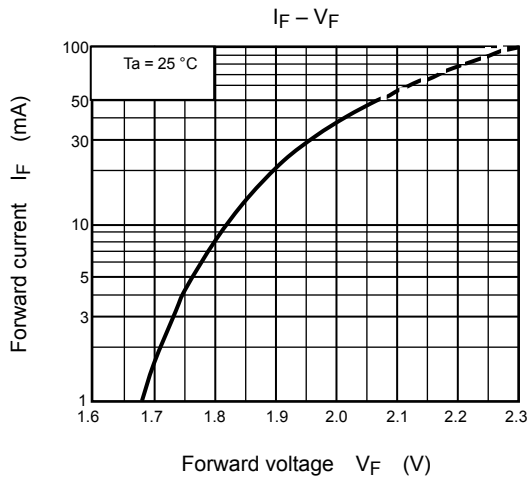
- Soldering temperature: 260°C max, soldering time: 3 s max (soldering portion of lead: below the lead stopper of the device)
- If the lead is formed, the lead should be formed up to below the lead stopper of the device without forming stress to the resin. Soldering should be performed after lead forming.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

Not Recommended for New Design

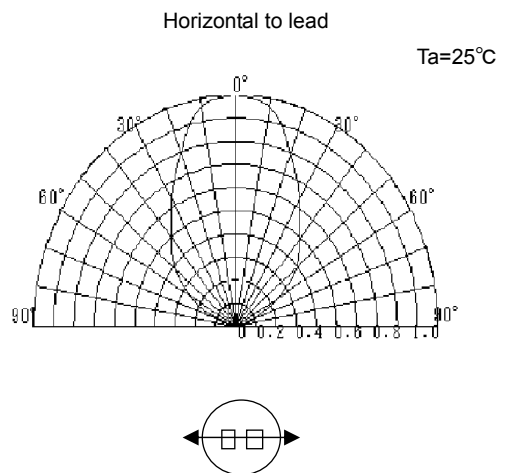
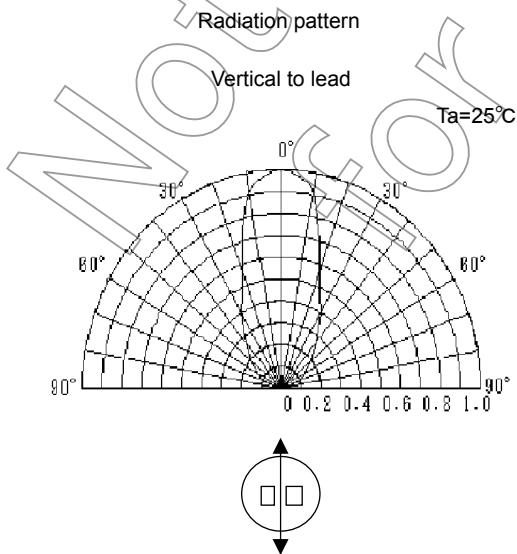
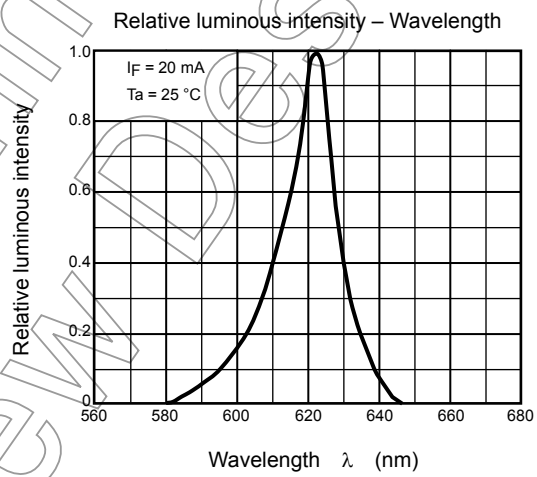
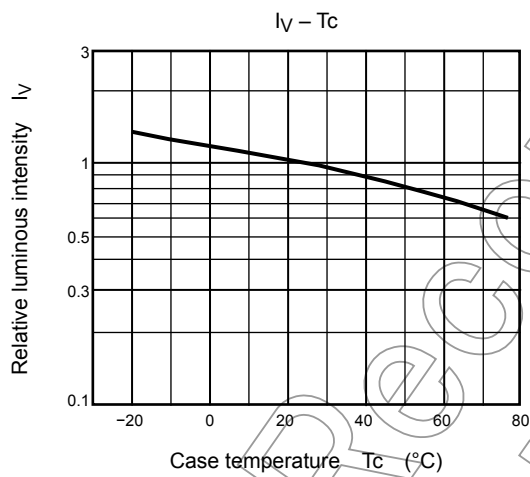
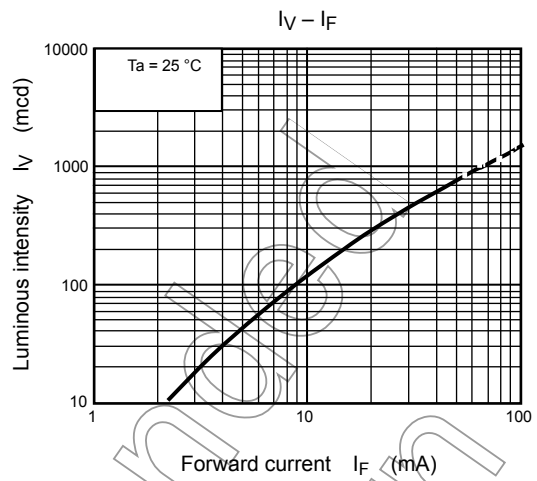
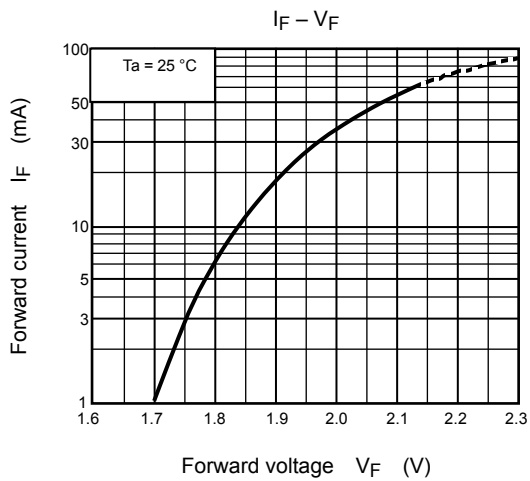
TLRE28C(F)



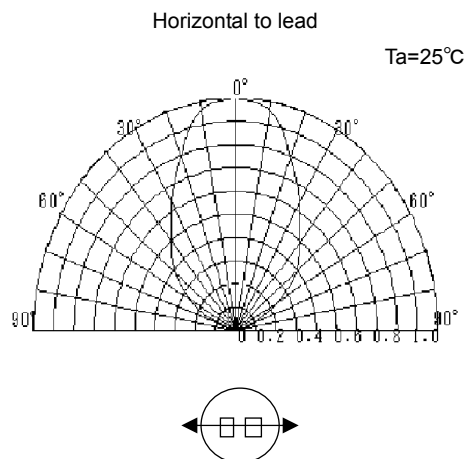
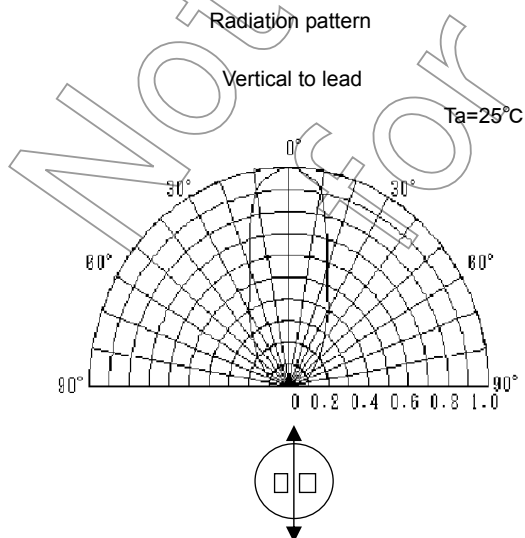
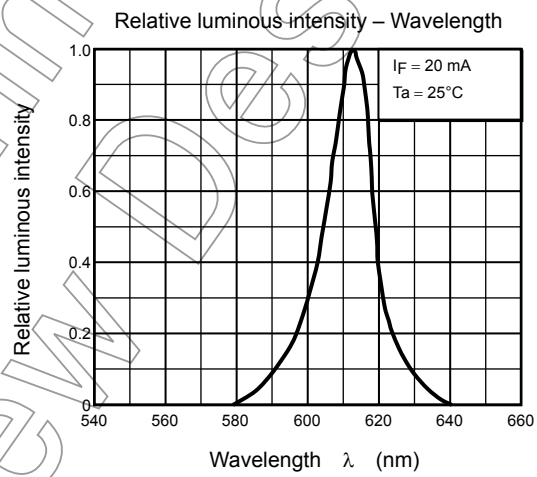
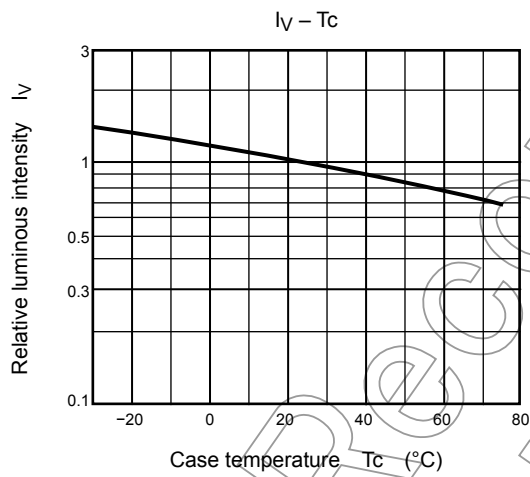
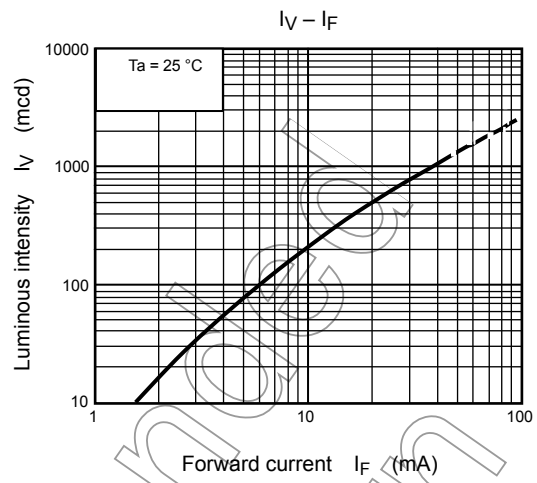
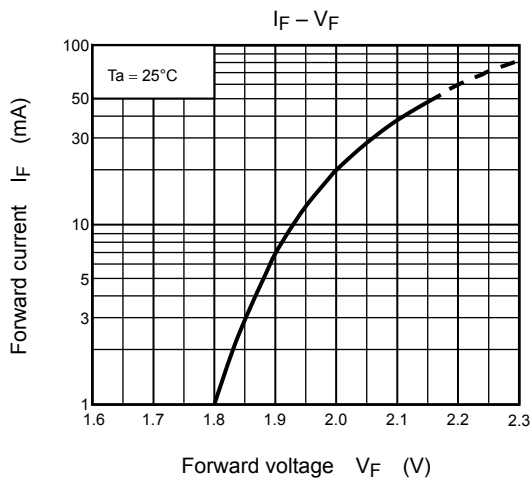
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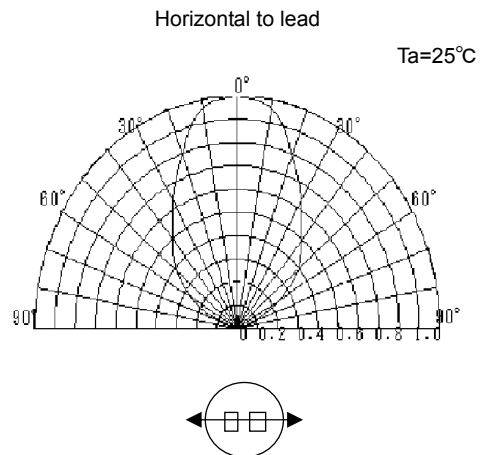
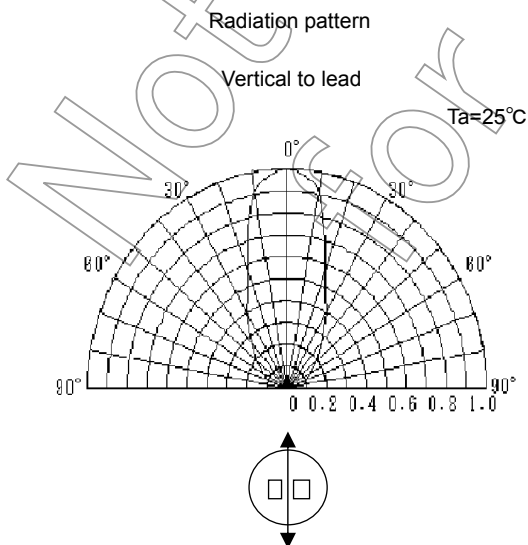
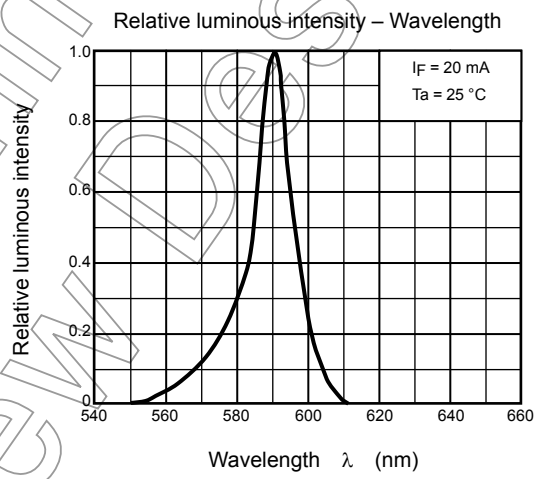
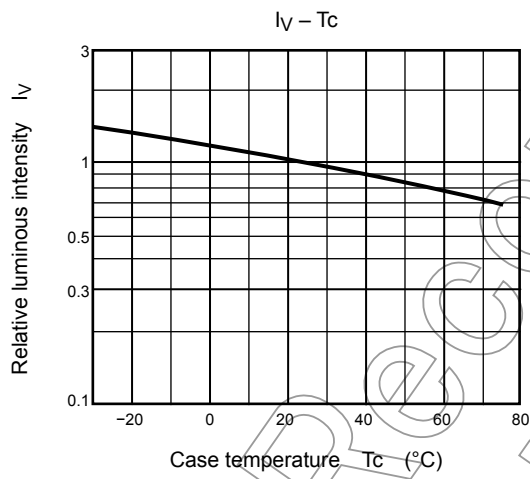
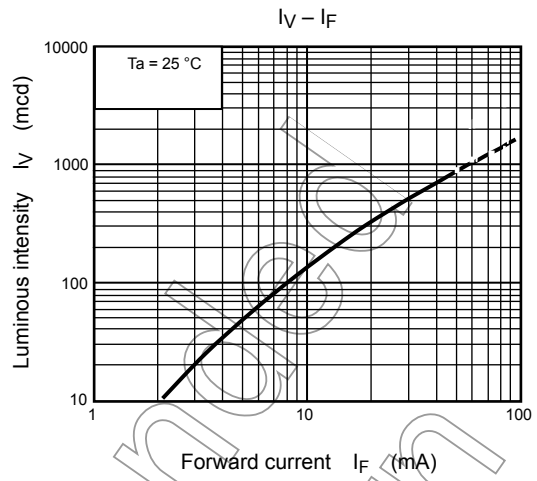
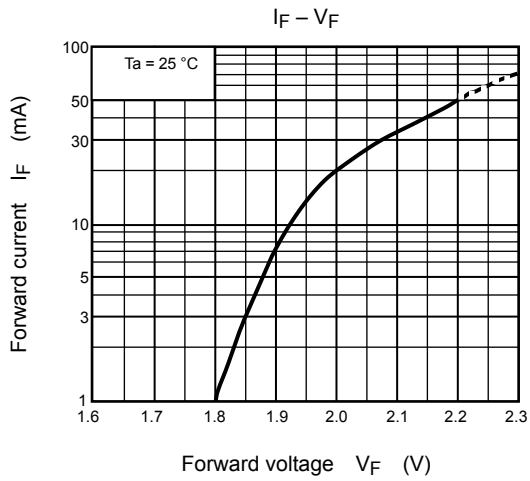
TLSE28C(F)



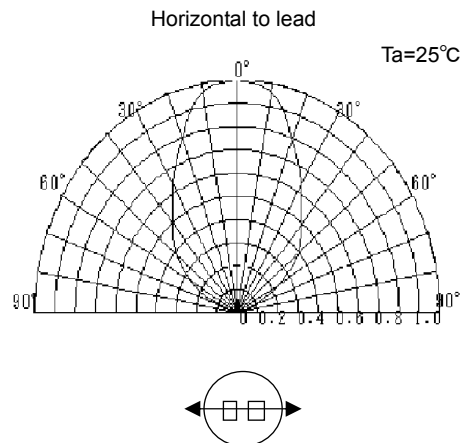
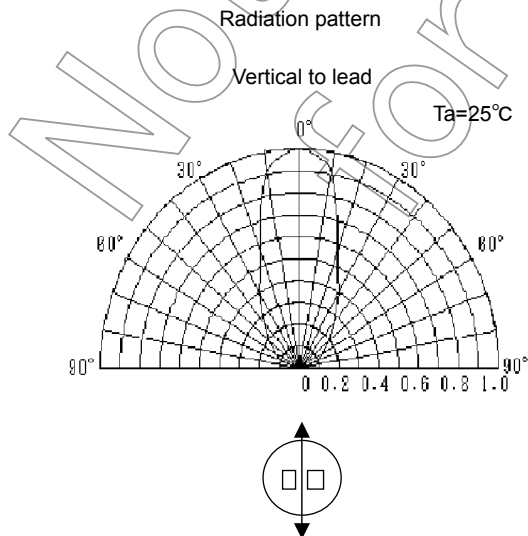
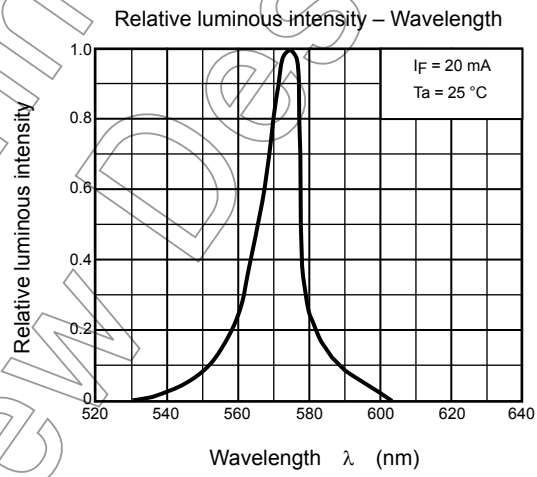
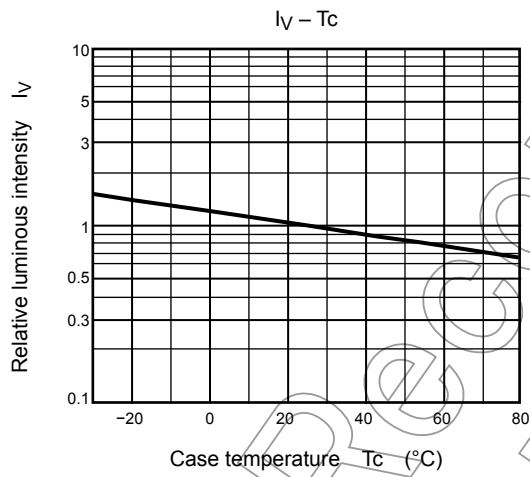
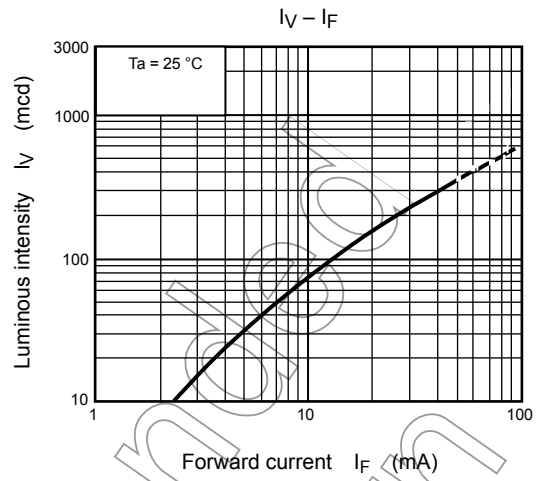
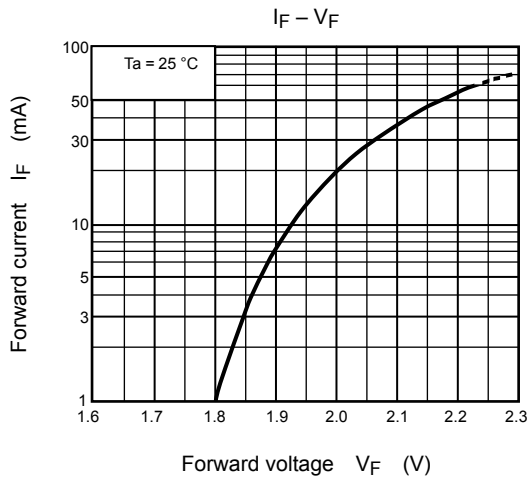
TLOE28C(F)



TLYE28C(F)



TLGE28C(F)



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