

## Features

- High efficiency
- Low Power consumption
- General purpose leads
- Selected minimum intensities
- Available on tape and reel
- Pb free

## Descriptions

- The series is specially designed for applications requiring higher brightness
- The LED lamps are available with different colors, intensities, epoxy colors, etc
- Superior performance in outdoor environment

## Usage Notes:

- Surge will damage the LED
- When using LED, it must use a protective resistor in series with DC current about 20mA

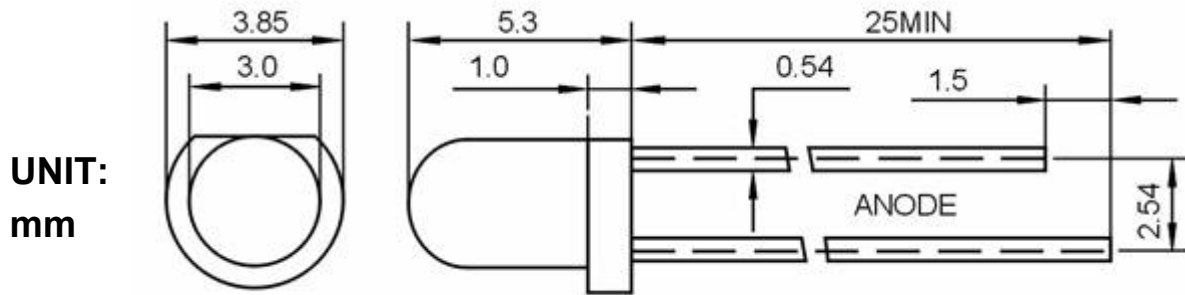
## Applications

- Status indicators
- Commercial use
- Advertising Signs
- Back lighting

## Device Selection Guide

LED Part No.	Chip		Lens Color
	Material	Emitted Color	
3-22b-CD44	AlGaInP	Yellow	Color Diffused

## Package Dimensions



**UNIT:**  
**mm**

## Notes:

- Other dimensions are in millimeters, tolerance is 0.25mm except being specified.
- Protruded resin under flange is 1.5mm Max LED.
- Bare copper alloy is exposed at tie-bar portion after cutting.

## Absolute Maximum Rating ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Absolute Maximum Rating	Unit
Forward Pulse Current	$I_{FPM}$	100	mA
Forward Current	$I_{FM}$	30	mA
Reverse Voltage	$V_R$	5	V
Power Dissipation	$P_D$	130	mW
Operating Temperature	$T_{opr}$	-40~+80	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	-40~+100	$^\circ\text{C}$
Soldering Heat (5s)	$T_{sol}$	260	$^\circ\text{C}$

## Electro-Optical Characteristics ( $T_a=25^\circ\text{C}$ )

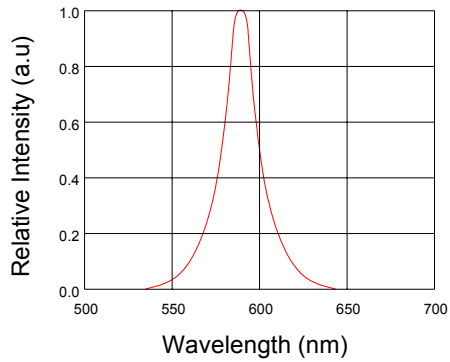
Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity	$I_v$	100	150	---	mcd	$I_F=20\text{mA}$ (Note1)
Viewing Angle	$2\theta_{1/2}$	---	40	50	Deg	(Note 2)
Peak Emission Wavelength	$\lambda_p$	580	590	595	nm	$I_F=20\text{mA}$
Spectral Line Half-Width	$\Delta\lambda$	15	20	25	nm	$I_F=20\text{mA}$
Forward Voltage	$V_F$	1.9	---	2.3	V	$I_F=20\text{mA}$
Reverse Current	$I_R$	---	---	10	$\mu\text{A}$	$V_R=5\text{V}$

## Notes:

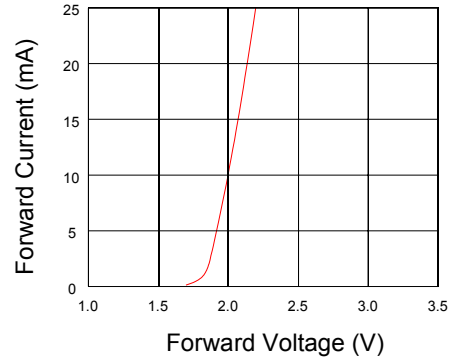
1. Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.
2.  $\theta_{1/2}$  is the off-axis angle at which the luminous intensity is half the axial luminous intensity.

## Typical Electro-Optical Characteristics Curves

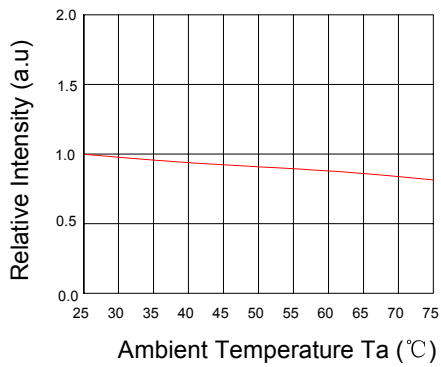
Relative Intensity VS. Wavelength



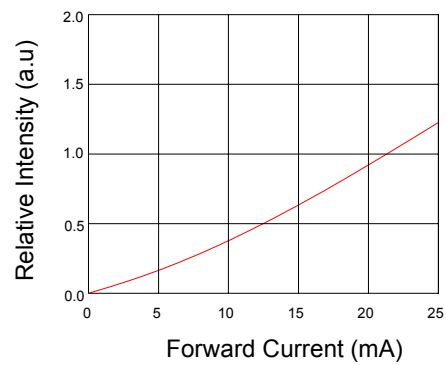
Forward Current VS. Forward Voltage



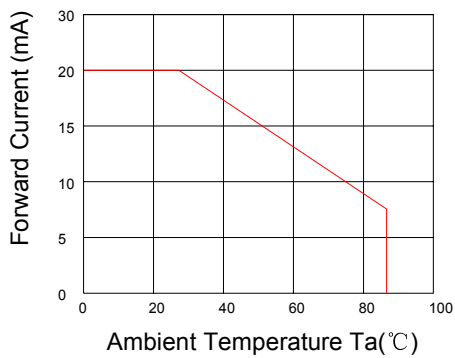
Relative Intensity VS. Ambient Temp



Forward Current VS. Relative Intensity



Forward Current VS. Ambient Temp.



Radiation Characteristics

