



## ■Features

- High Performance
- Free Design
- Longer Life and Low Power Consumption
- Various Color :Blue,Green,Yellow Green(Standard),Orange,Amber,Red

## ■Descriptions

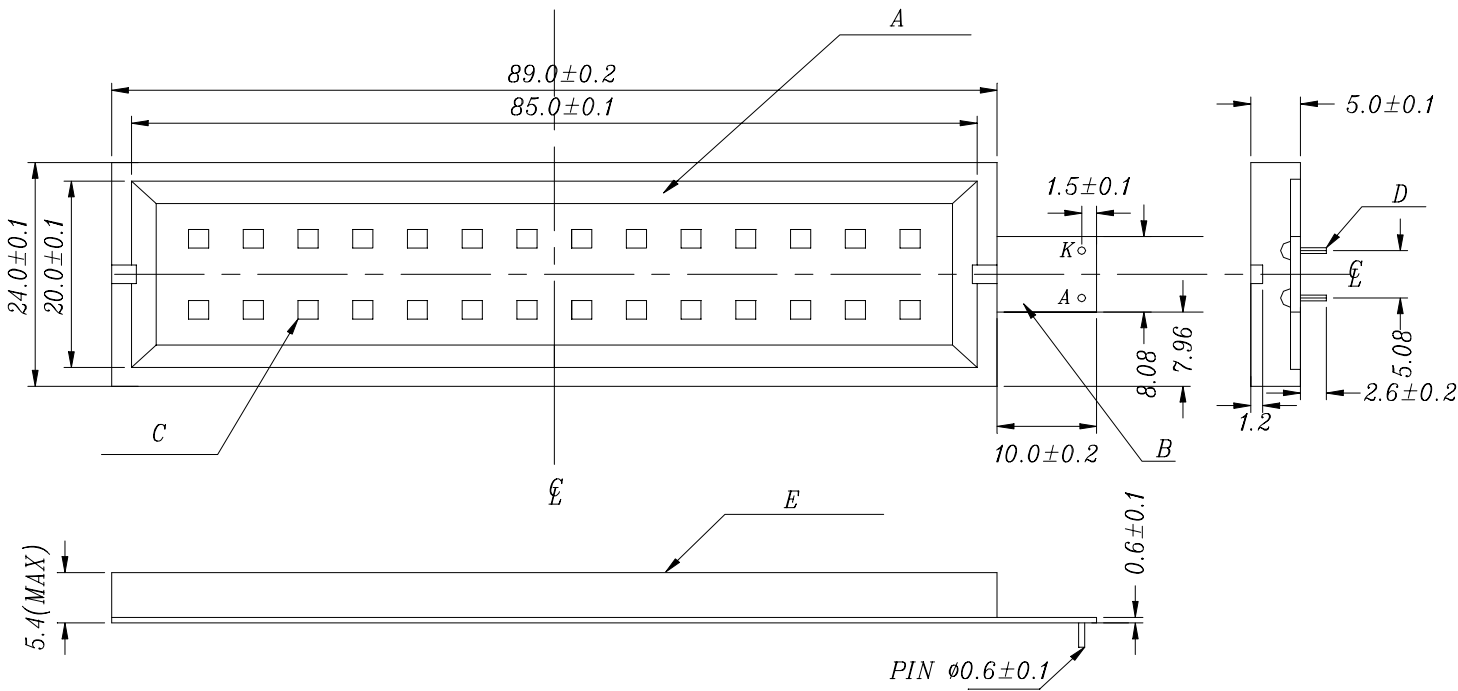
LED back light provides uniform ,high output backlighting with low power than CCFL and EL's. There are two back light method are available :

- (1)Bottom Backlight
- (2)Edge Backlight

## ■Applications

- LCD Backlight:
  - Medical Instruments
  - Cellular Phone
  - Viedo, Audio Equipment
  - PDA
- Office Automation Equipment
- Measuring Device Illumination

# Package Dimensions

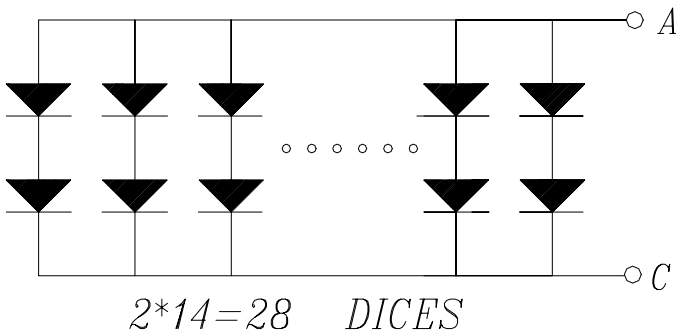


| NO. | PART      | MATERIAL |
|-----|-----------|----------|
| A   | Reflector | PC       |
| B   | PCB       | FR4      |
| C   | Chips     | GaP      |
| D   | Pins      | Cu+Sn    |
| E   | Diffusive | PE       |

# Notes

1. All dimensions are in millimeters.
2. Tolerance is  $\pm 0.2$ mm unless otherwise noted.

# Circuit Diagram



## ■ Absolute Maximum Ratings(Ta=25℃)

| Parameter             | Symbol                         | Rating      | Unit |
|-----------------------|--------------------------------|-------------|------|
| Forward Current       | I <sub>F</sub>                 | 280         | mA   |
| Reverse Voltage       | V <sub>R</sub>                 | 8           | V    |
| Power Dissipation     | P <sub>D</sub>                 | 1.2         | W    |
| Operating Temperature | T <sub>opr</sub>               | -20 to + 70 | ℃    |
| Storage Temperature   | T <sub>stg</sub>               | -30 to + 80 | ℃    |
| Soldering Temperature | <sup>*1</sup> T <sub>sol</sub> | 260         | ℃    |

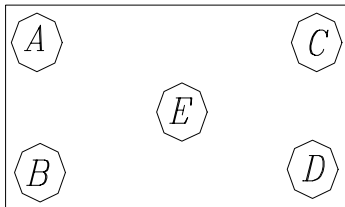
\*1: Soldering time ≤ 5seconds.

## ■ Electro-Optical Characteristics (Ta=25℃)

Emitting Color : Yellow Green

| Parameter                   | Symbol         | Condition             | Min | Typ | Max | Unit              | Remark |
|-----------------------------|----------------|-----------------------|-----|-----|-----|-------------------|--------|
| Forward Voltage             | V <sub>F</sub> | I <sub>F</sub> =140mA | --  | 4.2 | 4.6 | V                 |        |
| Reverse Current             | I <sub>R</sub> | V <sub>R</sub> =8V    | --  | --  | 0.1 | mA                |        |
| Luminous Intensity          | I <sub>V</sub> | I <sub>F</sub> =140mA | 30  | 50  | --  | cd/m <sup>2</sup> | * 1,2  |
| Emission Wavelength         | λ <sub>P</sub> | I <sub>F</sub> =140mA | --  | 570 | --  | nm                | * 2    |
| Spectral Line Half Width    | Δ λ            | I <sub>F</sub> =140mA | --  | 30  | --  | nm                |        |
| Illuminance Power Deviation | Δ EH           | I <sub>F</sub> =140mA | --  | --  | 25  | %                 | * 3    |

- 1.The test position of luminous intensity is Fig1.
- 2.The test equipment is Photo Research PR650.
- 3.The defination of luminous intensity deviation.



$$\Delta EH\% = \frac{B(MAX) - B(MIN)}{B(MAX)} * 100\%$$

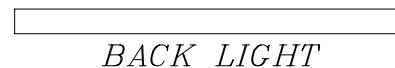


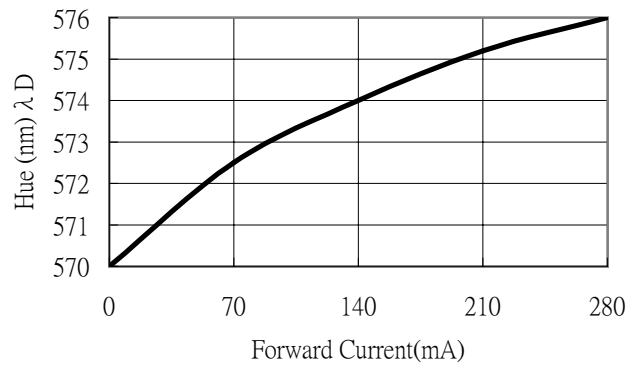
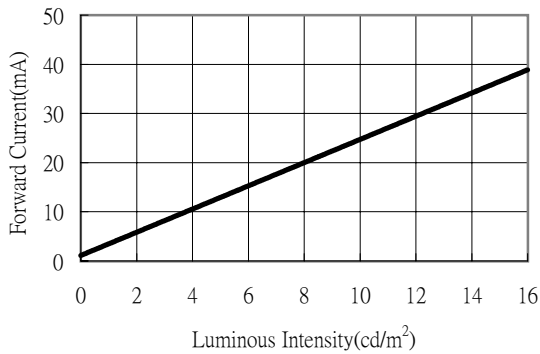
Figure 1 :Point for testing deviation→A,B,C,D,E

Measuring Method: (Ta=25℃,65%RH)  
(Measured by our equipment)

## ■ Typical Electro-Optical Characteristics Curves

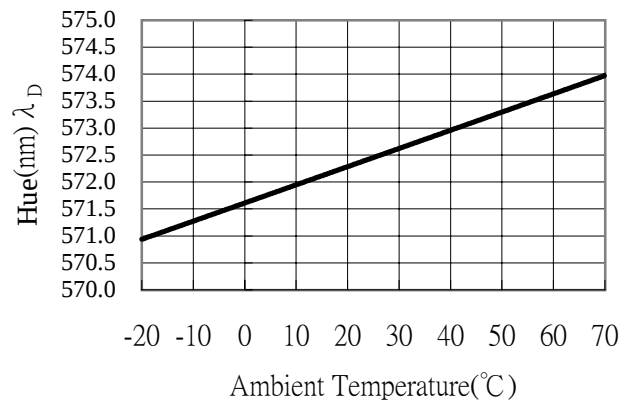
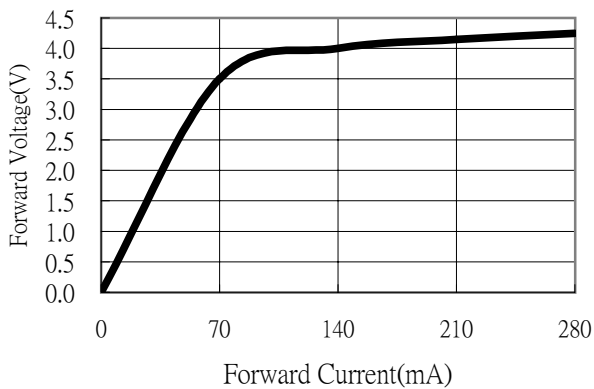
● Forward Voltage vs. Forward Current (Ta=25°C)

● Emission Wavelength vs. Forward Current (Ta=25°C)

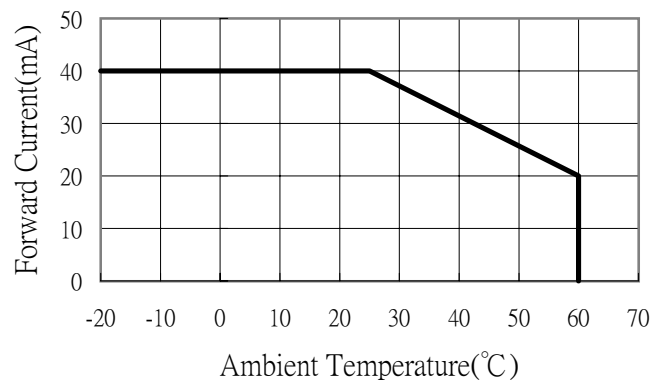


● Forward Voltage vs. Luminous Intensity (Ta=25°C)

● Wavelength vs. Ambient Temperature (If=20mA)



● Forward Current vs. Ambient Temperature





MODEL NO:BL-8511

Device Number:DEA-511-001 REV:1.0

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Reliability Test

| Items                                   | Conditions                     | Jusification Criteria | Quantity               |
|-----------------------------------------|--------------------------------|-----------------------|------------------------|
| High Temperature/<br>High Humidity Test | 85℃ ,85%RH,1000hr              | A,B,C                 | 24dies*4pcs<br>=96dies |
| High Temperature<br>Storage             | 85℃ ,1000hr                    | A,B,C                 | 24dies*4pcs<br>=96dies |
| Low Temperature<br>Storage              | -30℃ ,1000hr                   | A,B,C                 | 24dies*4pcs<br>=96dies |
| Room Temperature<br>DC Operating Life   | 25℃ ,60±10%RH,<br>1000hr/140mA | A,B,C                 | 24dies*4pcs<br>=96dies |

\* Justification criteria:

A: Not one of LED is failed.

B: Not allowed to have warpage, scraping,discoloration , distortion, separation.

C: The variation of brightness must not to be over 30% of initial value luminous intensity.

Circuit Diagram

