



EVERLIGHT ELECTRONICS CO.,LTD.

DATA SHEET

MODEL NO : BLB-5239

DATE : 2000/03/30

DEPARTMENT : R&D CENTER

REVISION : 1.1

RECEIVED			
☒ MASS PRODUCTION			
☐ PRELIMINARY			
☐ CUSTOMER DESIGN			
DEVICE NUMBER : DEA-850-001			
PAGE :5			
CUSTOMER	DESIGNER	CHECKER	APPROVER

1.1	Add appearance specification.	2000/3/30
REV	DESCRIPTION	RELEASE DATE

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<http://www.everlight.com>



Backlight

MODEL NO: BLB-5239

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■ **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



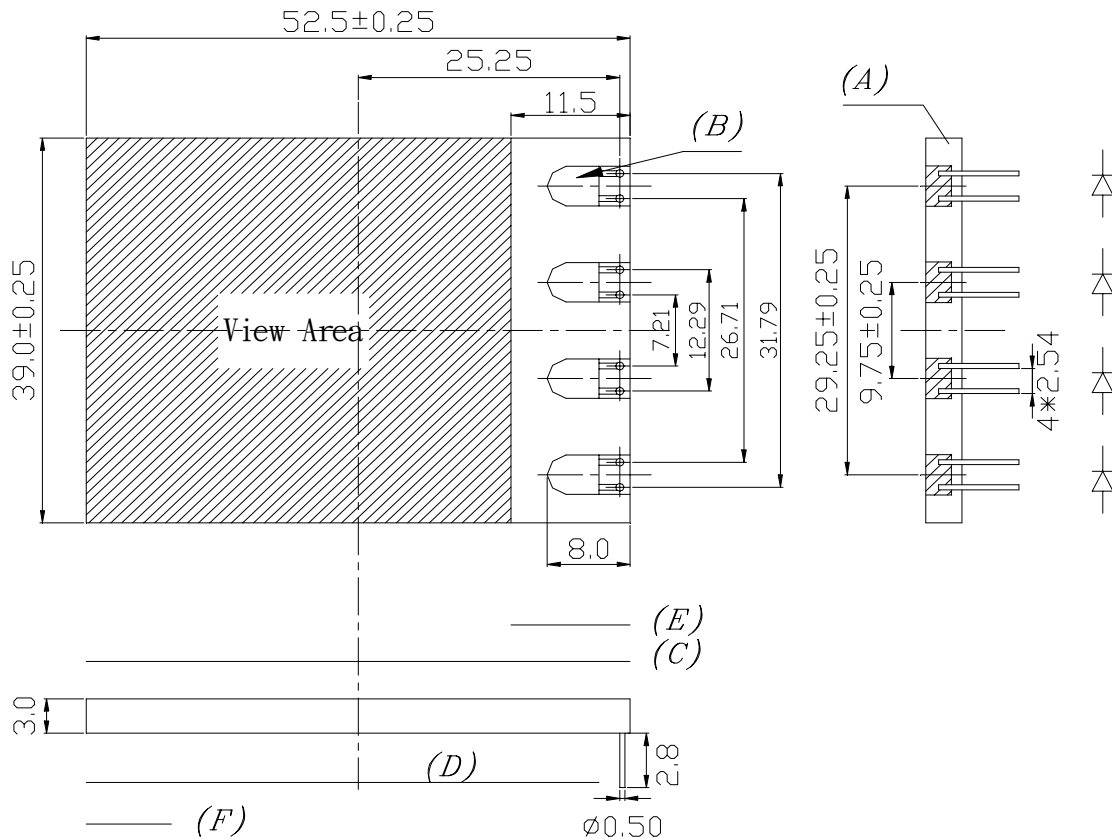
Backlight

Device Number: DEA-850-001 REV: 1.1

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■ Package Dimensions:



NO	PART	MATERIAL
A	Light Guide	PC
B	LED	6574UGC/F201
C	Diffusive Film	PE
D	Reflective Film	PE
E	Reflective Tape	PE

■ Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.2 mm unless otherwise noted.

**Backlight**Device Number: DEA-850-001 REV: 1.1**MODEL NO: BLB-5239**Page: 3/5 ECN: _____**■ Absolute Maximum Ratings(Ta=25°C)**

Parameter	Symbol	Rating	Unit
Forward Current	^{*2} I _F	25	mA
Reverse Voltage	^{*2} V _R	4	V
Power Dissipation	P _D	0.06	W
Operating Temperature	T _{opr}	-30 to + 70	°C
Storage Temperature	T _{stg}	-40 to + 80	°C
Soldering Temperature * ¹	^{*1} T _{sol}	260	°C

*1: Soldering time ≤ 5seconds.

*2: One LED operated

■ Electro-Optical Characteristics (Ta=25°C)**Emitting Color : Yellow Green**

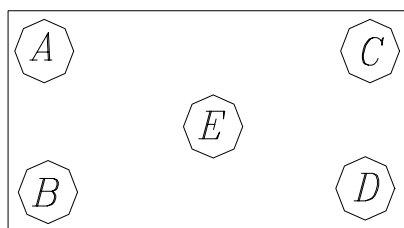
Parameter	Symbol	Condition	Min	Typ	Max	Unit	Remark
Forward Voltage	V _F	I _F =20mA	--	2.10	2.40	V	* 4
Reverse Current	I _R	V _R =4V	--	--	10	μ A	* 4
Luminous Intensity	I _V	I _F =20mA	15	--	--	cd/m ²	* 1,2,4
Emission Wavelength	λ _D	I _F =20mA	570	--	576	nm	* 2,4
Spectral Line Half Width	Δ λ	I _F =20mA	--	30	--	nm	* 4
Illuminance Power Deviation	Δ EH	I _F =20mA	--	--	25	%	* 3,4

1. The test position of luminous intensity is shown in Fig1.

2. The test equipment is Photo Research PR650.

3. The definition of luminous intensity is deviation.

4. One LED operated.



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

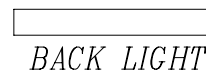
Measuring Method: (Ta=25°C, 65%RH)
(Measured by our equipment)

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



Backlight

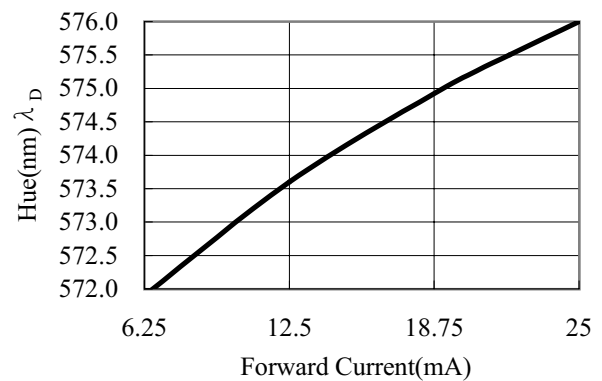
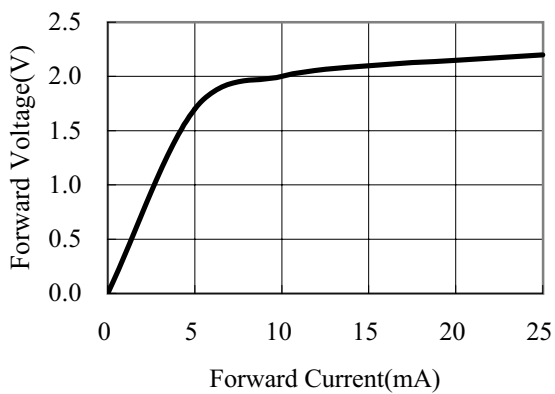
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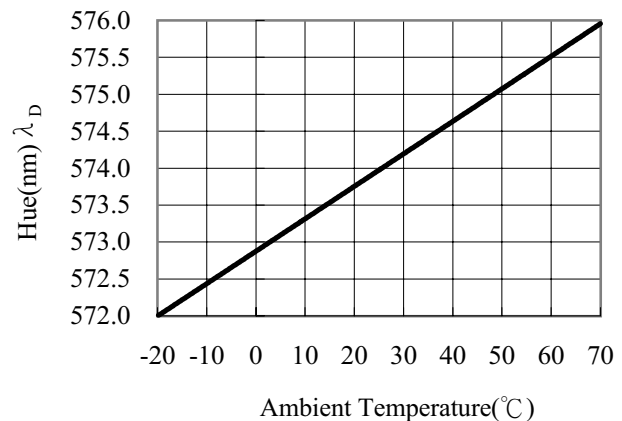
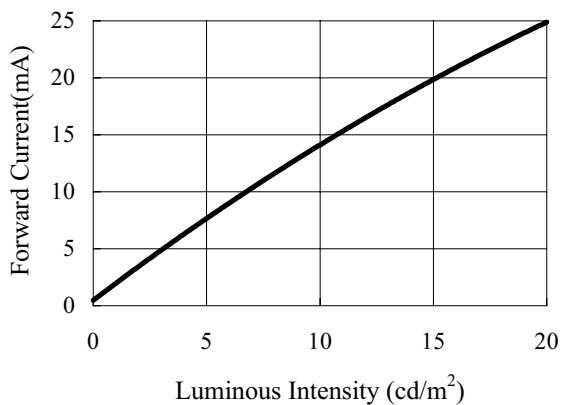
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■ Typical Electro-Optical Characteristics Curves:

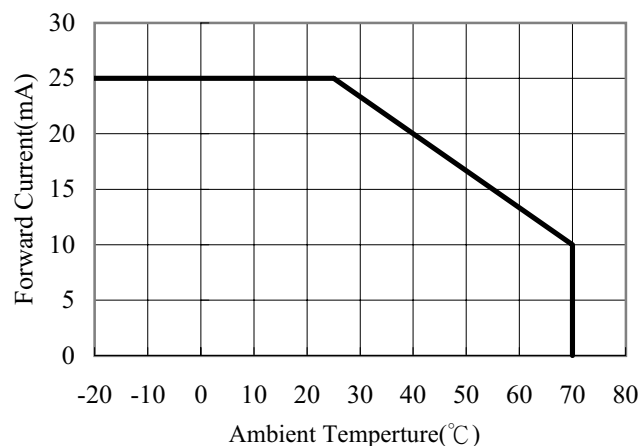
● Forward Voltage vs. Forward Current ($T_a=25^{\circ}\text{C}$) ● Emission Wavelength vs. Forward Current ($T_a=25^{\circ}\text{C}$)



● Forward Current vs. Luminous Intensity ($T_a=25^{\circ}\text{C}$) ● Wavelength vs. Ambient Temperature ($I_f=20\text{mA}$)



● Forward Current vs. Ambient Temperature





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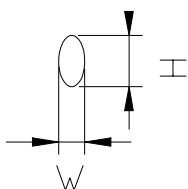
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■ Specification for Bin Grading:

Rank	Emission Wavelength λ_D (nm)
2	570~572
3	572~574
4	574~576
* Tolerance	± 1.0

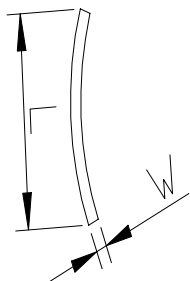
a. Contamination , Dark Particle



$$D = (\text{Length} + \text{Width}) / 2$$

	Specification	Quantity(MAX)	
View Area	$D \leq 0.10 \text{ mm}$	Not restrict	Secondary fault
	$0.10 < D \leq 0.20 \text{ mm}$	2	
	$0.20 < D \leq 0.30 \text{ mm}$	2	
	$0.30 < D \leq 0.40 \text{ mm}$	0	
	$D > 0.40 \text{ mm}$	0	
Not View Area	Not restrict		

b. Dark Line Specification:



	Specification			
View Area	Length	Width	Quantity(MAX)	Secondary fault
	Not restrict	≤ 0.05	Not restrict	
	≤ 2.0	≤ 0.1	Not restrict	
	≤ 1.5	≤ 0.15	2	
	≤ 1.5	≤ 0.20	2	
	≤ 1.0	≤ 0.25	0	
Not View Area	-----	> 0.30	0	

■ Reliability Test:

Items	Conditions	Jusification Criteria	Quantity
High Temperature/ High Humidity Test	70°C, 85%RH, 1000hr	A,B,C	4(LED)*20PCS =80 LED
High Temperature Storage	70°C, 1000hr	A,B,C	4(LED)*20PCS =80 LED
Low Temperature Storage	-30°C, 1000hr	A,B,C	4(LED)*20PCS =80 LED
Room Temperature DC Operating Life	25°C, 60±10%RH, 1000hr/20mA(one LED)	A,B,C	4(LED)*20PCS =80 LED

* 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.