

## DATA SHEET

● **DEVICE NUMBER : BWL-6C1A01**

| SHEET<br>DATE | 1   | 2   | 3   | 4   | 5   |  |  |  |  |  | CONTENTS           |
|---------------|-----|-----|-----|-----|-----|--|--|--|--|--|--------------------|
| 2005.03.02    | 1.0 | 1.0 | 1.0 | -   | -   |  |  |  |  |  | Preliminary        |
| 2005.04.20    | 1.1 | 1.1 | 1.1 | 1.1 | -   |  |  |  |  |  | $\Phi_v$ , Add P4  |
| 2005.07.22    | 1.2 | 1.2 | 1.2 | 1.2 | 1.2 |  |  |  |  |  | Dimensions, Add P5 |
| 2005.09.09    | 1.3 | 1.3 | 1.3 | 1.3 | 1.3 |  |  |  |  |  | P2 & P3            |
|               |     |     |     |     |     |  |  |  |  |  |                    |
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| APPROVED                                                                                                  | DRAWER                                                                                                     |
|-----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <br>曾慶霖<br>2005.09.09 | <br>謝碧霞<br>2005.09.09 |

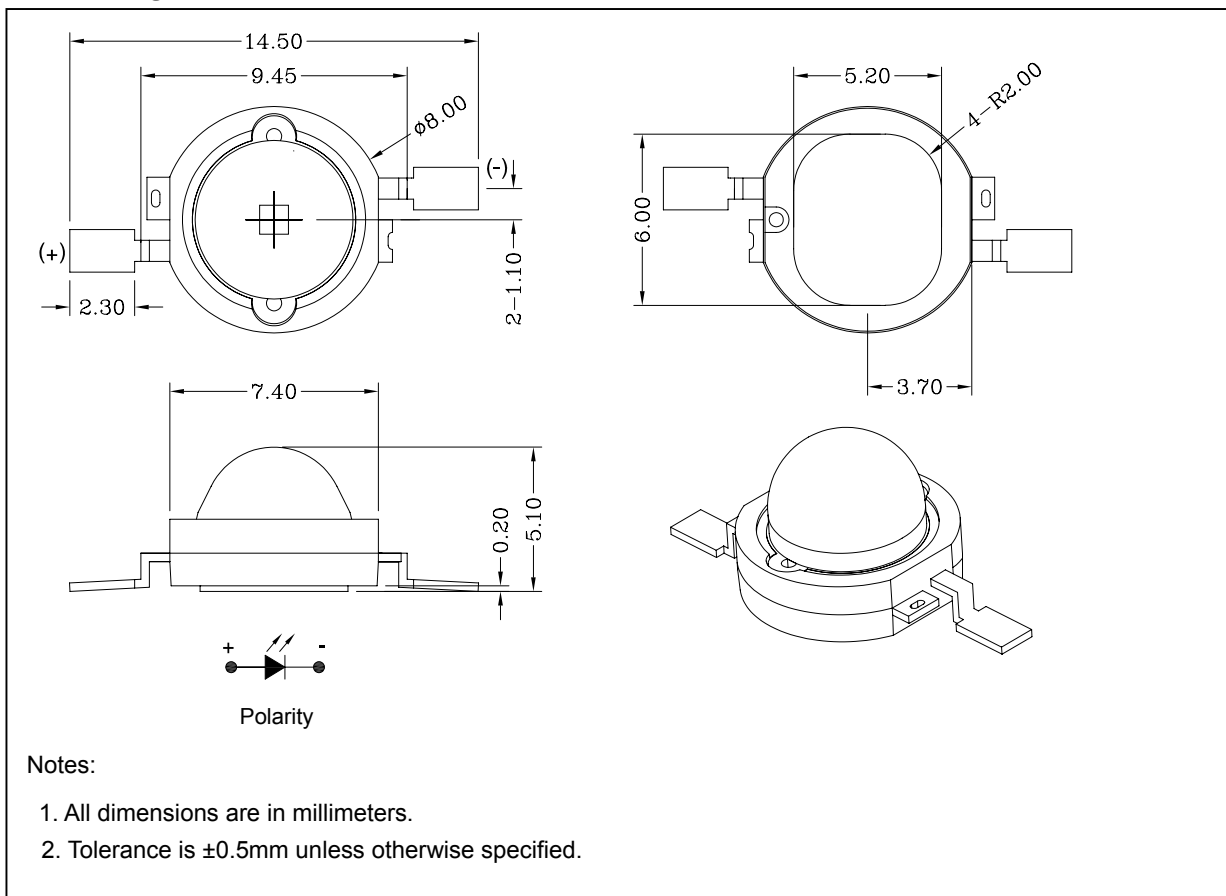
### ● Features:

1. Input power: 1W.
  2. Chip material: InGaN, Flip chip.
  3. Emitted color: White.
  4. High lumen output.
  5. High flux density.
  6. Low power consumption.
  7. Efficient heat transfer.
  8. Add extra heat sink is necessary.
- \* Must increasing heatsink, let the unit temperature below 60 °C.

### ● Applications:

1. Torch.
2. Head Light.
3. Architectural Lighting.
4. LCD Backlight.

### ● Package dimensions :



### ● Absolute maximum ratings ( $T_J=25^{\circ}\text{C}$ )

| Parameter                                 | Symbol    | Rating      | Unit               |
|-------------------------------------------|-----------|-------------|--------------------|
| Power Dissipation                         | $P_D$     | 1.0         | W                  |
| DC Forward Current* <sup>1</sup>          | $I_F$     | 350         | mA                 |
| Peak Pulsed Forward Current* <sup>2</sup> | $I_{FP}$  | 1.0         | A                  |
| LED Junction Temperature                  | $T_J$     | 130         | $^{\circ}\text{C}$ |
| Operating Temperature                     | $T_{opr}$ | -30~120     | $^{\circ}\text{C}$ |
| Storage Temperature                       | $T_{stg}$ | -40~120     | $^{\circ}\text{C}$ |
| Reverse Voltage                           | $V_R$     | 5           | V                  |
| Soldering Temperature (T=5 sec)           | $T_{sol}$ | $300 \pm 5$ | $^{\circ}\text{C}$ |

\*<sup>1</sup>Proper current derating must be followed to keep LED junction temperature ( $T_J$ ) below the maximum.

\*<sup>2</sup>Condition for  $I_{FP}$  is pulsed with 1/10 duty and 0.1msec width.

### ● Electrical & Optical Characteristics LED ( $T_J=25^{\circ}\text{C}$ )

| Parameter                               | Symbol           | Condition            | Min. | Typ. | Max. | Unit                        |
|-----------------------------------------|------------------|----------------------|------|------|------|-----------------------------|
| Forward Voltage                         | $V_F$            | $I_F = 350\text{mA}$ | -    | 3.5  | 4.0  | V                           |
| Total Flux                              | $\Phi_v$         | $I_F = 350\text{mA}$ | 25   | 35   | -    | lm                          |
| Color Temperature                       | CCT              | $I_F = 350\text{mA}$ | 5000 | 6500 | 8000 | K                           |
| Reverse Current                         | $I_R$            | $V_R=5\text{V}$      | -    | -    | 50   | $\mu\text{A}$               |
| Thermal Resistance,<br>Junction To Case | $R \theta_{J-C}$ | $I_F = 350\text{mA}$ | -    | 15   | -    | $^{\circ}\text{C}/\text{W}$ |
| Viewing Angle                           | $2\theta_{1/2}$  | $I_F = 350\text{mA}$ | -    | 140  | -    | degree                      |
| Chromaticity<br>Coordinates             | x                | $I_F = 350\text{mA}$ | -    | 0.32 | -    |                             |
|                                         | y                | $I_F = 350\text{mA}$ | -    | 0.31 | -    |                             |

### Typical electro-optical characteristics curves

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

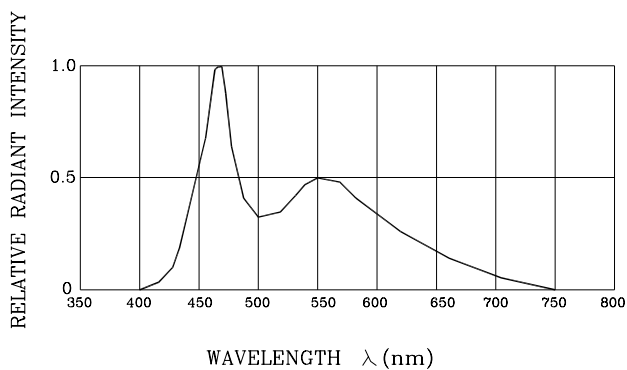


Fig.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

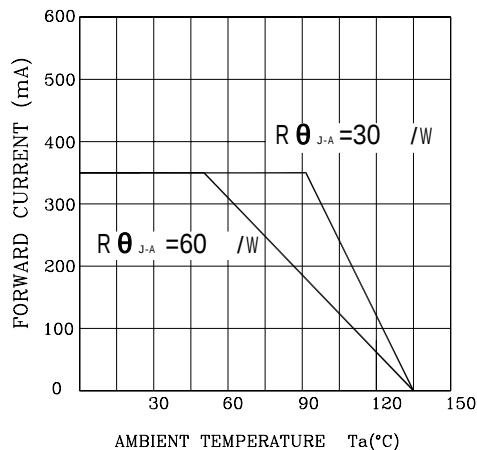


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

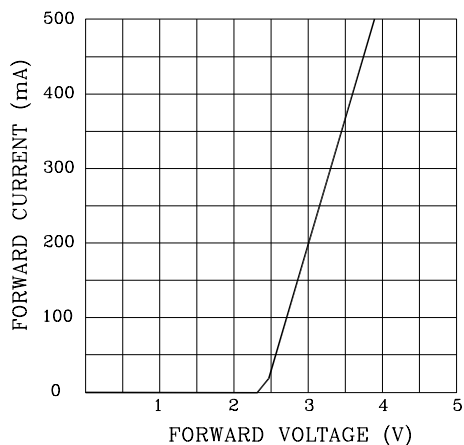


Fig.4 RELATIVE LUMINOUS INTENSITY VS. JUNCTION TEMPERATURE

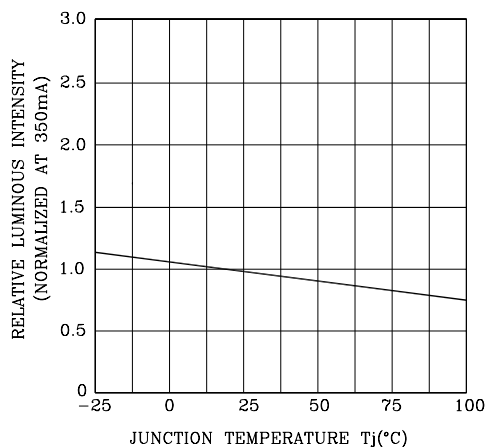


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

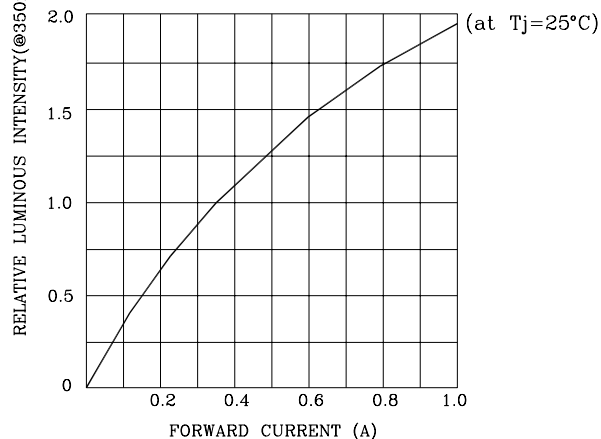
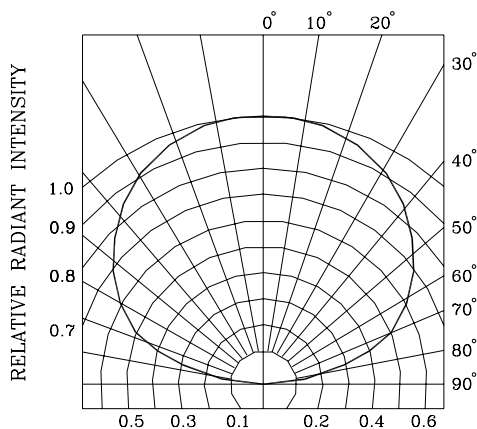
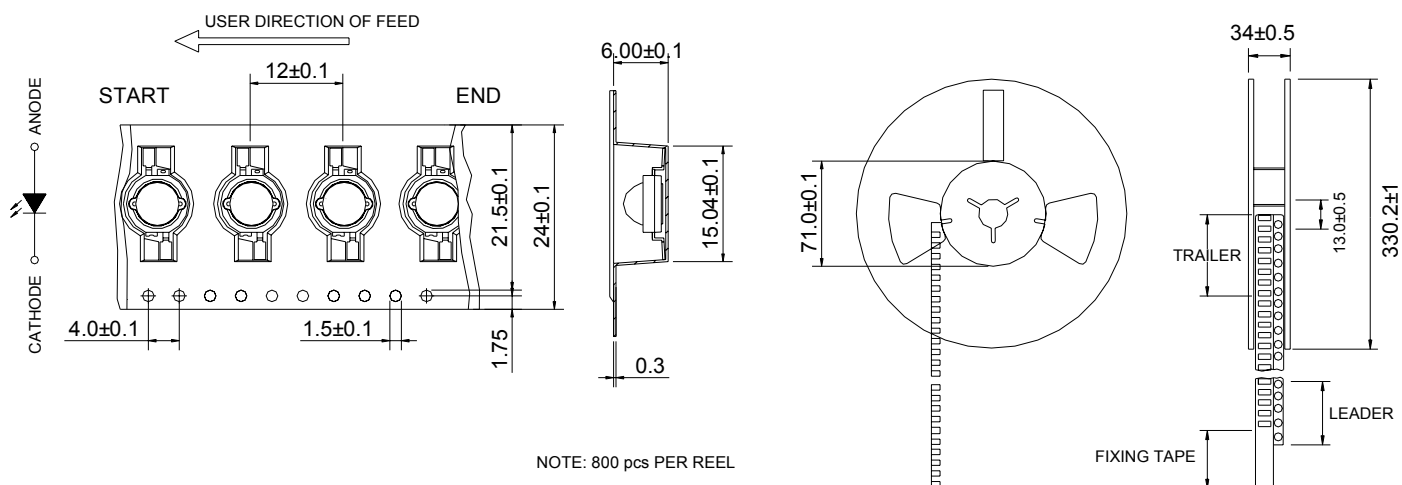


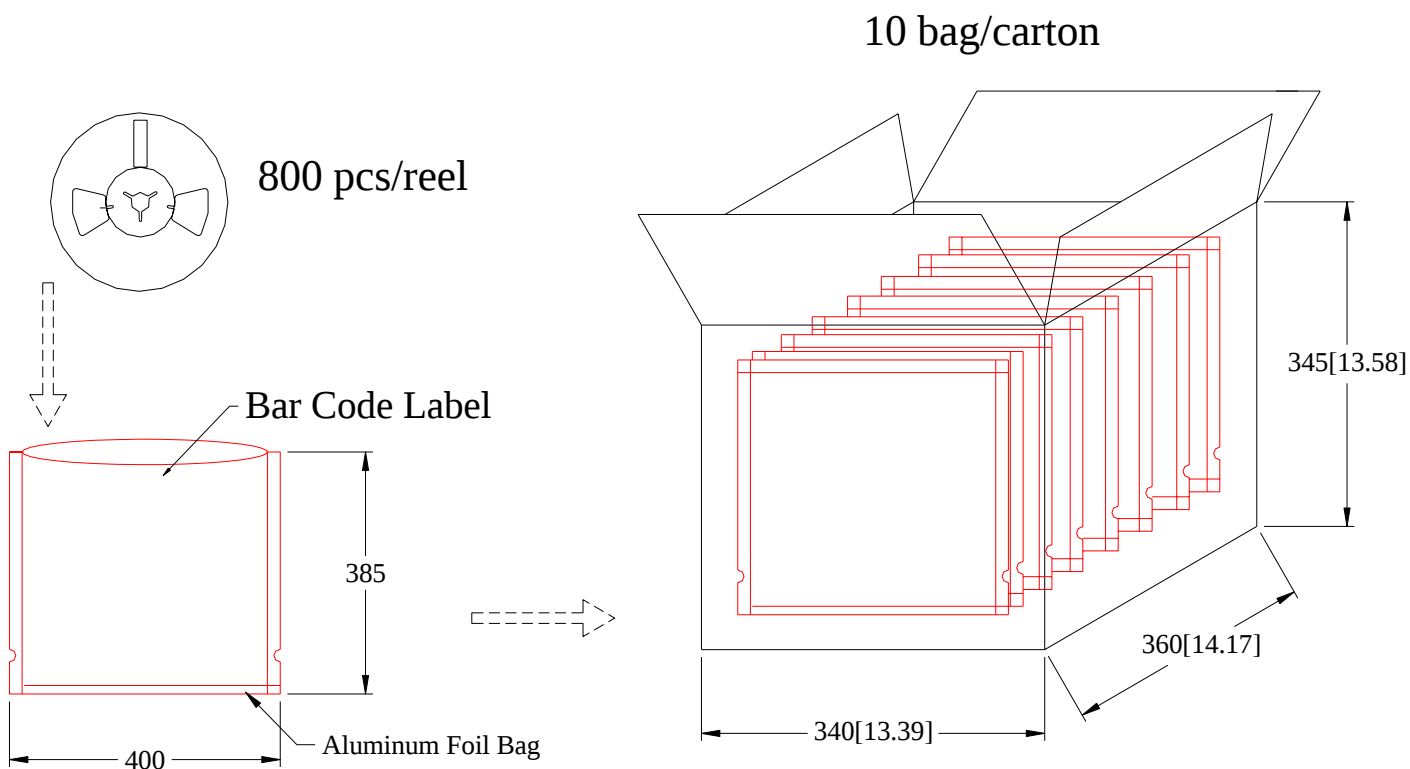
Fig.6 RADIATION DIAGRAM



### ● Tapping and packaging specifications(Units: mm)



### ● Package Method : (unit:mm)



NOTES : Bag : Tolerance is  $\pm 5$  mm unless otherwise noted.  
Carton : Tolerance is  $\pm 10$  mm unless otherwise noted.

● Total Flux Bin Limits (At 350mA)

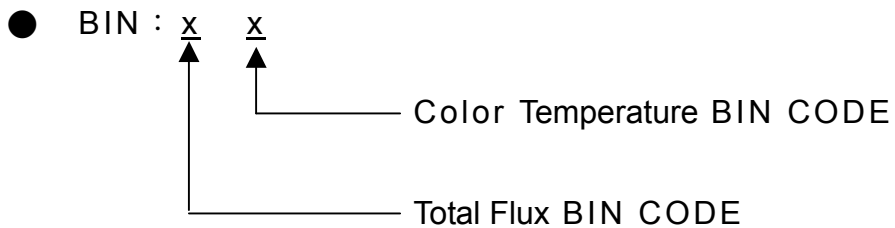
| BIN CODE | Min. (lm) | Max. (lm) |
|----------|-----------|-----------|
| K        | 25        | 33        |
| L        | 33        | 42        |
| M        | 42        | 55        |

Tolerance for each Bin limit is  $\pm 15\%$

● Color Temperature Bin Limits(At 350mA)

| BIN CODE | Min. (K) | Max. (K) |
|----------|----------|----------|
| 4        | 5000     | 6000     |
| 5        | 6000     | 7000     |
| 6        | 7000     | 8000     |

Tolerance for each Bin limit is  $\pm 500\text{ K}$



Notes:

1. Bin categories are established for classification of products.  
Products may not be available in all bin categories.