

DATA SHEET

● DEVICE NUMBER : BWL-10C3W06

SHEET DATE	1	2	3	4	5	6					CONTENTS
2010.01.11	1.0	1.0	1.0	1.0	1.0	1.0					Preliminary
2010.03.22	1.1	1.1	1.1	1.1	1.1	1.1					P4-P6

佰鴻工業股份有限公司

BRIGHT LED ELECTRONICS CORP.



台北縣板橋市和平路 19 號 3 樓

3F., No. 19, Ho Ping Road, Pan Chiao City,
Taipei, Taiwan, R. O. C.

Tel: 886-2-29591090

Fax: 886-2-29547006/29558809

www.brtled.com

APPROVED	DRAWER
 趙 2010.03.22 海 燕	 劉 2010.03.22 秋 曉

● Features:

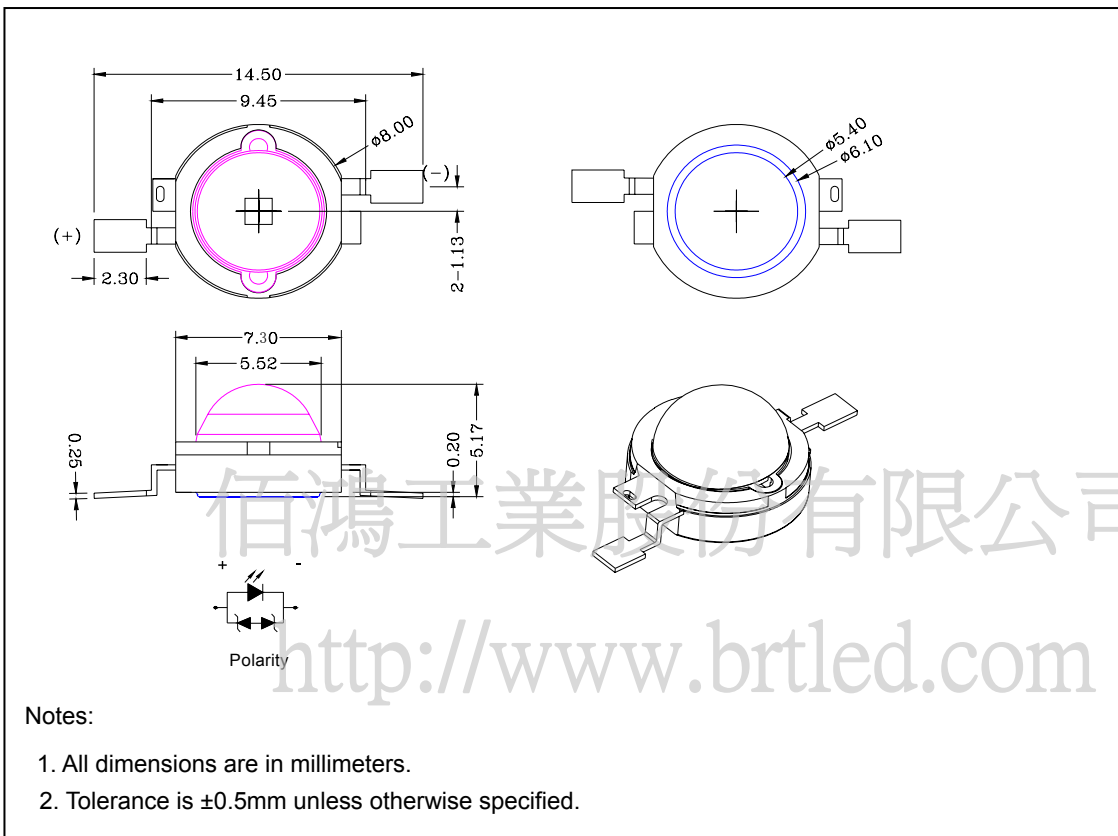
1. Input power: 3W.
 2. Chip material: InGaN.
 3. Emitted color: Warm white.
 4. High lumen output.
 5. High flux density.
 6. Low power consumption.
 7. Efficient heat transfer.
 8. Exterior lens is PC.
 9. Add extra heat sink is necessary.
- * Must increasing heatsink, let the unit temperature below 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	3.0	W
DC Forward Current ^{*1}	I_F	700	mA
Peak Pulsed Forward Current ^{*2}	I_{FP}	2.0	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 ± 5	$^{\circ}\text{C}$

^{*1}Proper current derating must be followed to keep LED junction temperature (T_J) below the maximum.

^{*2}Condition for I_{FP} is pulsed with 1/10 duty and 0.1msec width.

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	$I_F = 700\text{mA}$	-	3.9	4.5	V
Total Flux	Φ_v	$I_F = 700\text{mA}$	100	105	-	lm
Color Temperature	CCT	$I_F = 700\text{mA}$	2580	-	3710	K
Reverse Current	I_R	$V_R = 5\text{V}$	-	-	10	μA
Thermal Resistance, Junction To Case	$R_{\theta J-C}$	$I_F = 700\text{mA}$	-	9	-	$^{\circ}\text{C}/\text{W}$
Viewing Angle	$2\theta_{1/2}$	$I_F = 700\text{mA}$	-	120	-	degree

<http://www.brtled.com>

Typical electro-optical characteristics curves

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

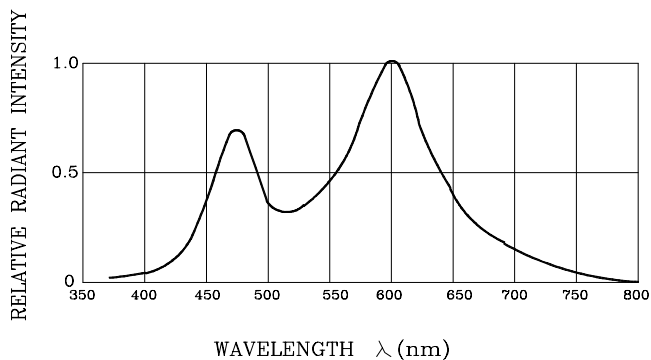


Fig.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

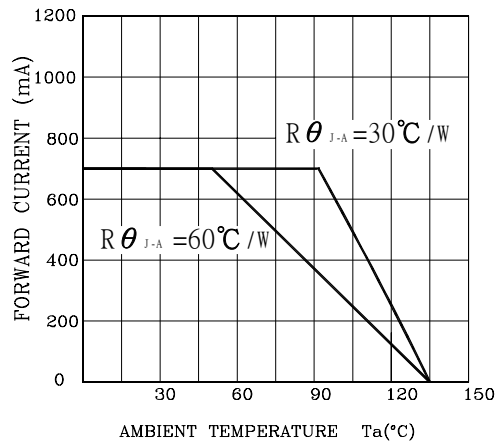


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

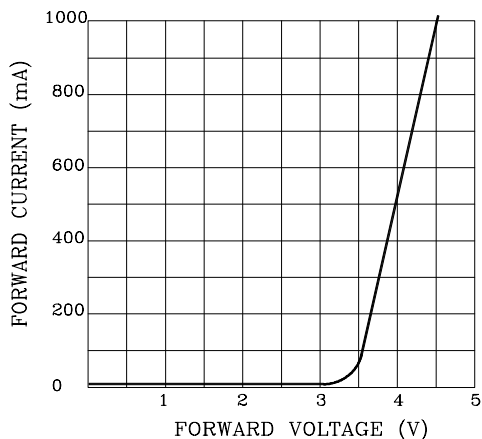


Fig.4 RELATIVE LUMINOUS INTENSITY VS. JUNCTION TEMPERATURE

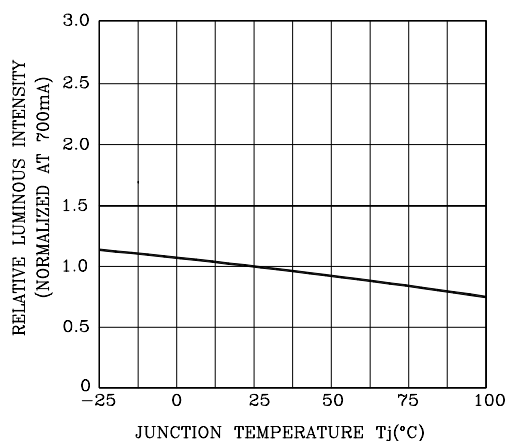


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

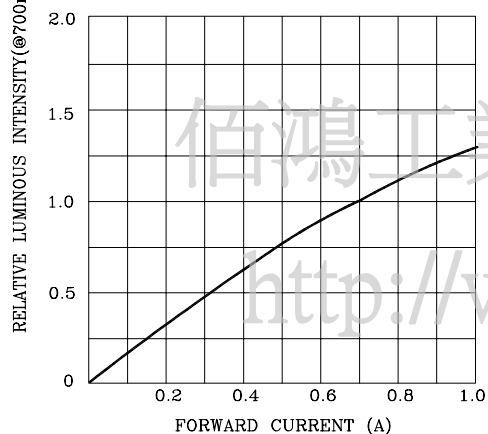
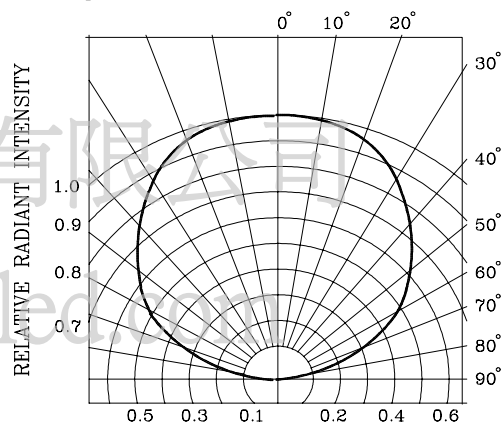


Fig.6 RADIATION DIAGRAM

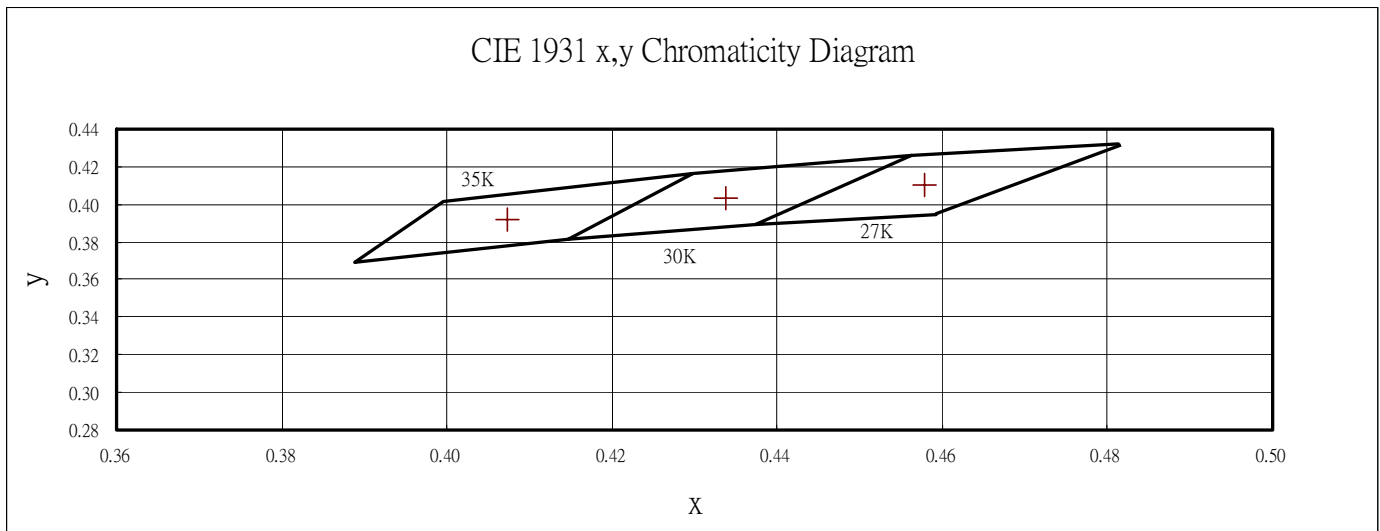


● Total Flux Bin Limits (At 700mA)

BIN CODE	Min. (lm)	Max. (lm)
Q	100	121

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

● Color Temperature Bin Limits(At 700mA)



BIN CODE	Nominal CCT	CCT Range	Chromaticity Coordinates			
			x	y	z	w
K27	2700K	2580-2870	x	0.4578	0.4813	0.4562
			y	0.4101	0.4319	0.4260
K30	3000K	2870-3220	x	0.4338	0.4562	0.4299
			y	0.4030	0.4260	0.4165
K35	3500K	3220-3710	x	0.4073	0.4299	0.3996
			y	0.3917	0.4165	0.4015

● BIN : $\frac{x}{x+y+z+w}$



Color Temperature BIN CODE

Total Flux BIN CODE

Notes:

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

● Notes for designing:

Current limiting resistor or a constant current power supply must be used in the circuit to drive BRIGHT LEDs within the rated figures and not to overload BRIGHT LEDs with instantaneous voltage at the turning ON and OFF cycles.

When using pulse driving, the average current must be within the rated figures. And the circuit should be designed to avoid reverse voltage when turning off the BRIGHT LEDs.

Cautions: This product is not available for re-flow process.

● Storage:

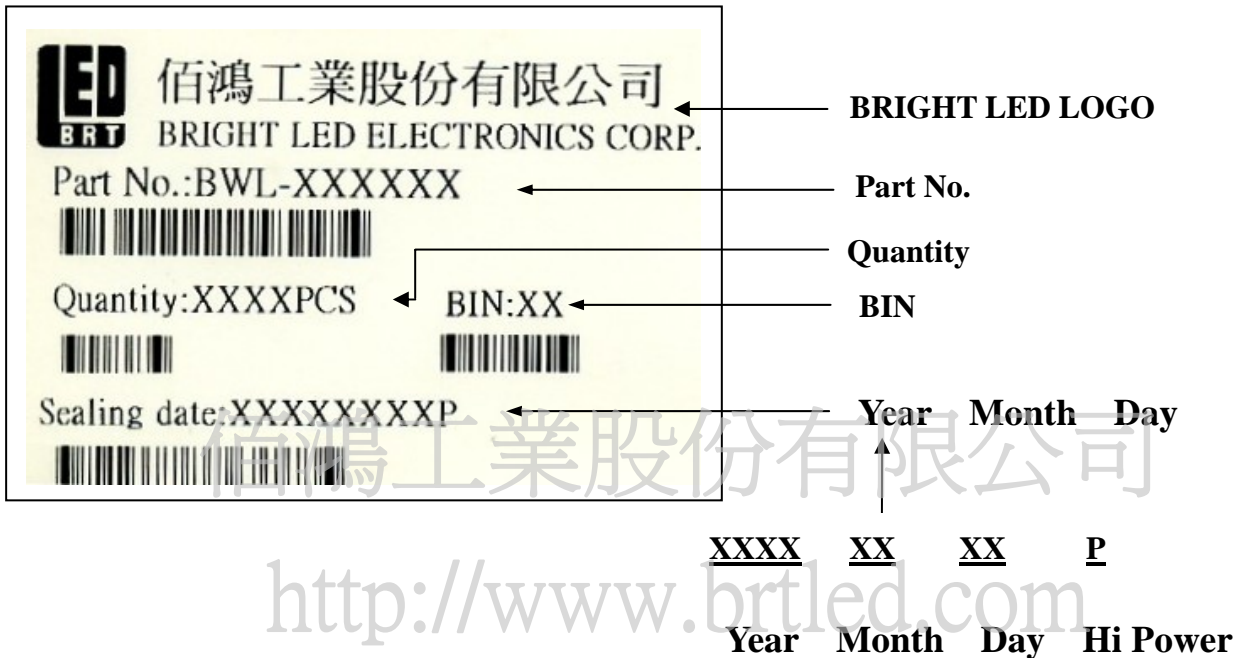
In order to avoid the absorption of moisture, it is recommended to solder BRIGHT LEDs as soon as possible after unpacking the sealed envelope.

If the envelope is still packed, to store it in the environment as following:

- (1) Temperature : 5°C-30°C (41°F) Humidity : RH 60% Max.
- (2) After this bag is opened:
 - a. Completed within 168 hours.
 - b. Stored at less than 30% RH.
- (3) Devices require baking before mounting, if:
 - (2) a or (2) b is not met.
- (4) If baking is required, devices must be baked under below conditions:
 - 48 hours at 60°C±3°C.

● Package and Label of Products:

- (1) Package: Products are packed in one bag of 1000 pcs (one taping reel) and a label is attached to each bag.
- (2) Label:

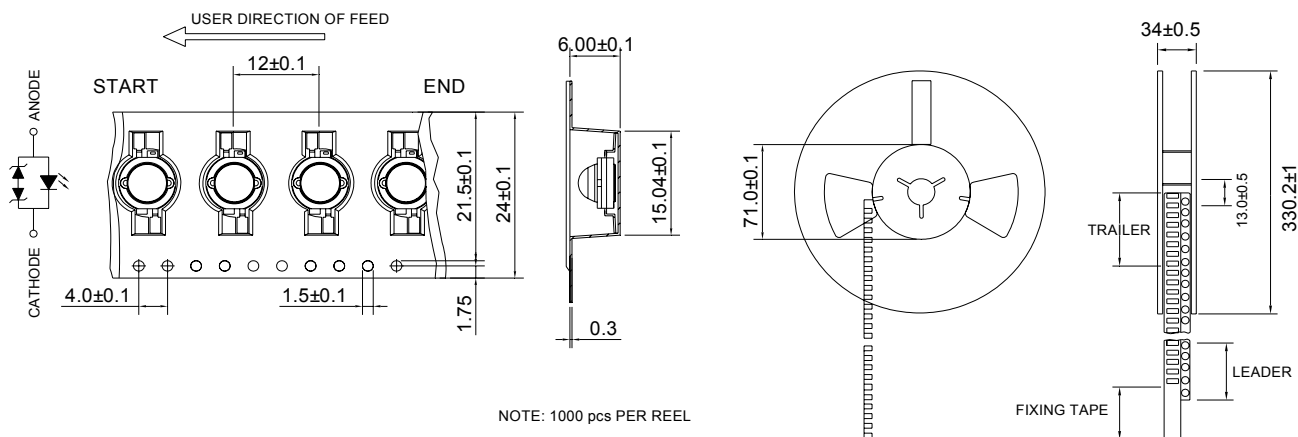


The diagram shows a label for BRIGHT LED ELECTRONICS CORP. with the following fields and callouts:

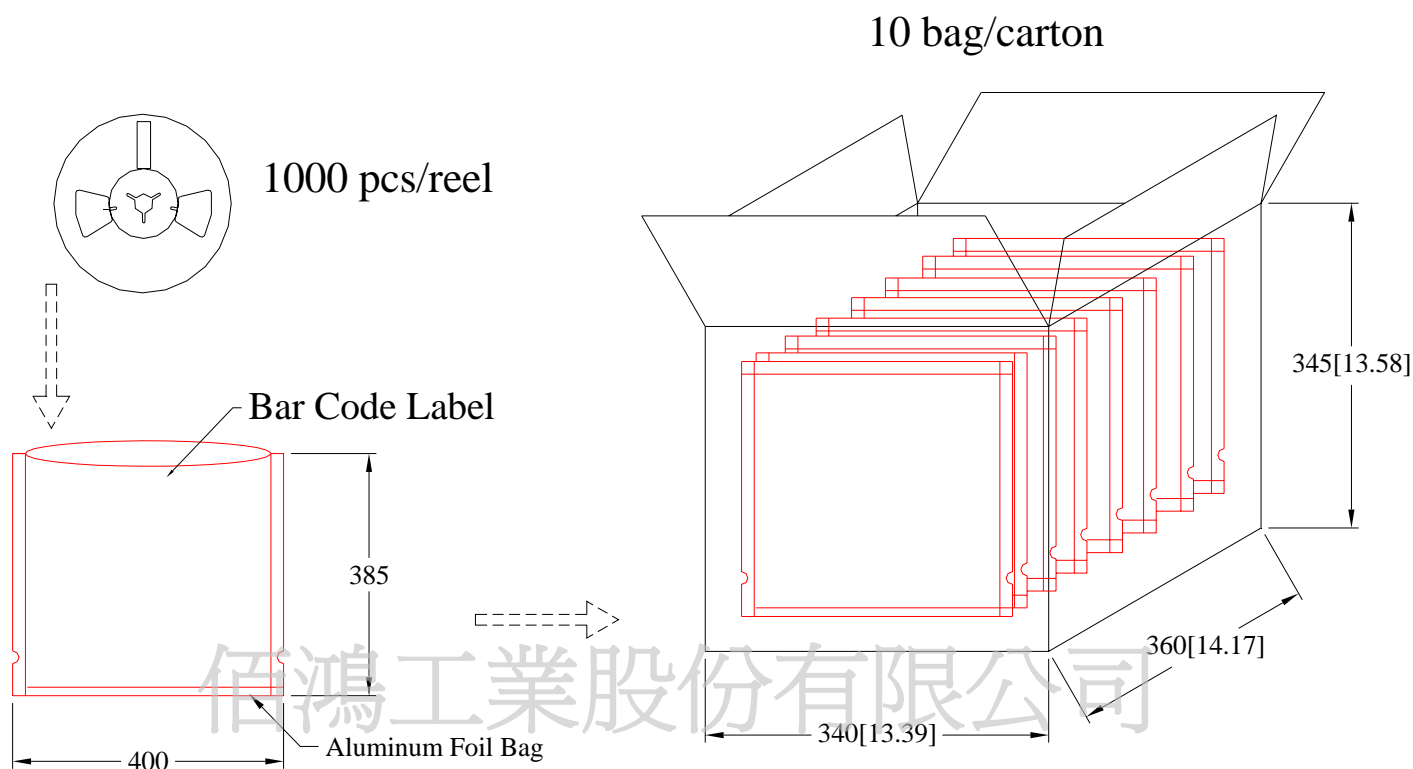
- BRIGHT LED LOGO**: Points to the BRT logo.
- Part No.**: Points to the Part No.:BWL-XXXXXX field.
- Quantity**: Points to the Quantity:XXXXPCS field.
- BIN**: Points to the BIN:XX field.
- Year Month Day**: Points to the Sealing date:XXXXXXXXXP field.
- Year**: Points to the first four digits of the Year field (XXXX).
- Month**: Points to the next two digits of the Year field (XX).
- Day**: Points to the next two digits of the Year field (XX).
- Hi Power**: Points to the P field.

The label also includes the company name in Chinese (佰鴻工業股份有限公司) and English (BRIGHT LED ELECTRONICS CORP.), and a barcode.

● Tapping and packaging specifications(Units: mm)



● **Package Method : (unit:mm)**



NOTES : Bag : Tolerance is ± 5 mm unless otherwise noted.

Carton : Tolerance is ± 10 mm unless otherwise noted.