

DATA SHEET

● **DEVICE NUMBER : BWL-3A3F01-F1-LS2**

SHEET DATE	1	2	3	4	5	6					CONTENTS
2006.02.27	1.0	1.0	1.0	1.0							Preliminary
2007.02.07	1.1	1.1	1.1	1.1	1.1	1.1					P1~P6
2007.11.21	1.2	1.2	1.2	1.2	1.2	1.2					P1~P3

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APPROVED	DRAWER
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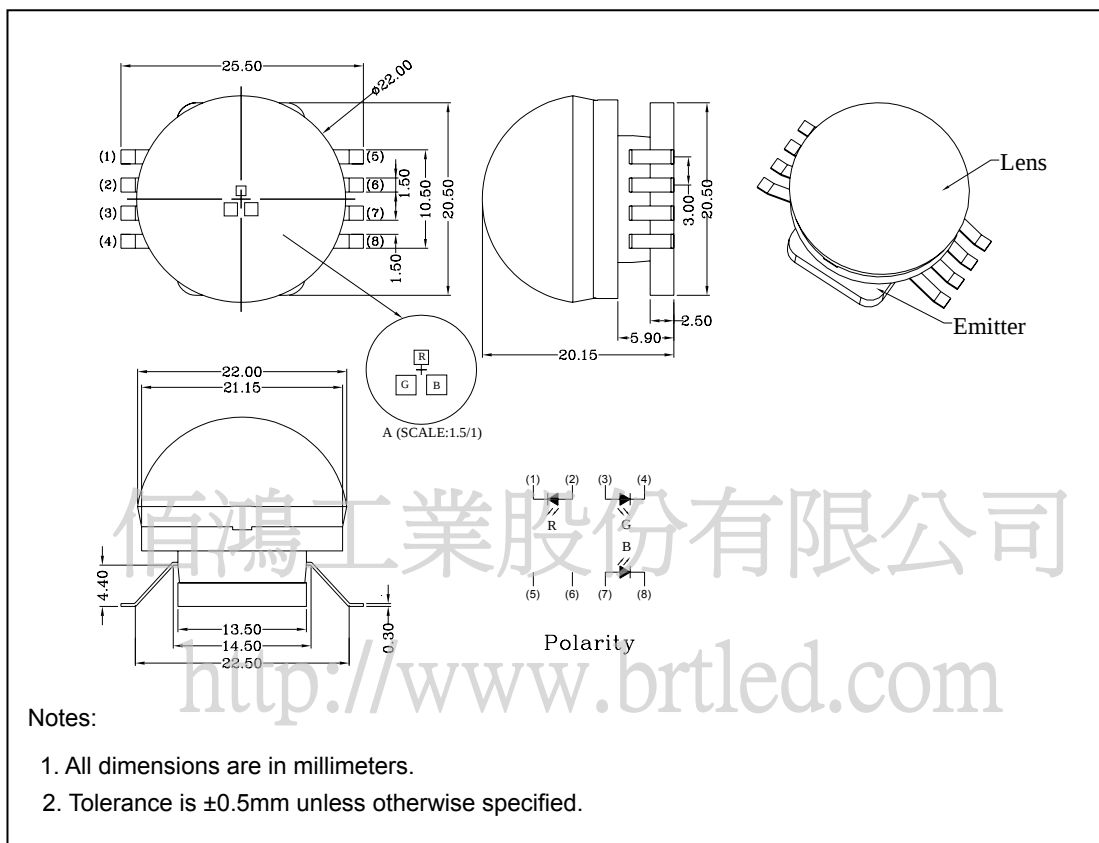
● Features:

1. Input power: 3W.
 2. Chip material: R : AlGaInP, Face up chip ;G : InGaN ;B : InGaN, Flip chip.
 3. Emitted color: Red ; Green ; Blue.
 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. Desk Light.
2. Architectural Lighting.
3. LCD Backlight.
4. Special Area Lighting.

● Package dimensions :



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

Parameter	Symbol	Rating	Unit
Power Dissipation (3-die)	P_D	3.0	W
DC Forward Current* ¹ (1-die)	I_F	350	mA
Peak Pulsed Forward Current* ² (1-die)	I_{FP}	1.0	A
LED Junction Temperature	T_J	130	$^{\circ}\text{C}$
Operating Temperature	T_{opr}	-30~100	$^{\circ}\text{C}$
Storage Temperature	T_{stg}	-40~120	$^{\circ}\text{C}$
Reverse Voltage	V_R	5	V
Soldering Temperature (T=5 sec)	T_{sol}	300 ± 5	$^{\circ}\text{C}$

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

*²Condition 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	Color	Min.	Typ.	Max.	Unit
Forward Voltage* ¹	V_F	$I_F = 350\text{mA}$	Red	-	2.2	2.6	V
			Green	-	3.5	4.0	
			Blue	-	3.5	4.0	
Total Flux* ¹	Φ_v	$I_F = 350\text{mA}$	Red	20	25	-	lm
			Green	25	35	-	
			Blue	7	10	-	
Peak Wavelength* ¹	λ_p	$I_F = 350\text{mA}$	Red	-	635	-	nm
			Green	-	525	-	
			Blue	-	460	-	
Dominant Wavelength* ¹	λ_d	$I_F = 350\text{mA}$	Red	620	-	635	nm
			Green	520	-	540	
			Blue	460	-	475	
Spectral Line Half-width* ¹	$\Delta\lambda$	$I_F = 350\text{mA}$	Red	-	20	-	nm
			Green	-	35	-	
			Blue	-	25	-	
Reverse Current* ¹	I_R	$V_R = 5\text{V}$		-	-	50	μA
Thermal Resistance, Junction To Case* ²	$R_{\theta_{JC}}$	$I_F = 350\text{mA}$		-	3	-	$^{\circ}\text{C}/\text{W}$
Viewing Angle* ¹	$2\theta_{1/2}$	$I_F = 350\text{mA}$		-	60	-	degree

*¹ The values are based on 1-die performance.

*² The values are based on 3-die performance.

Typical electro-optical characteristics curves

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

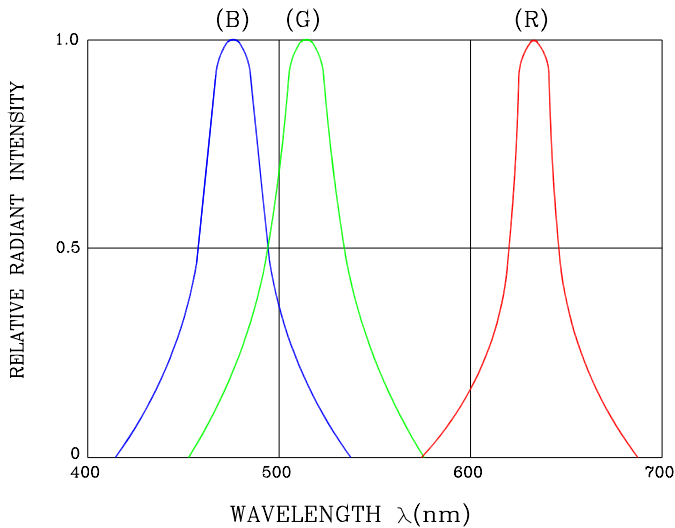


Fig.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

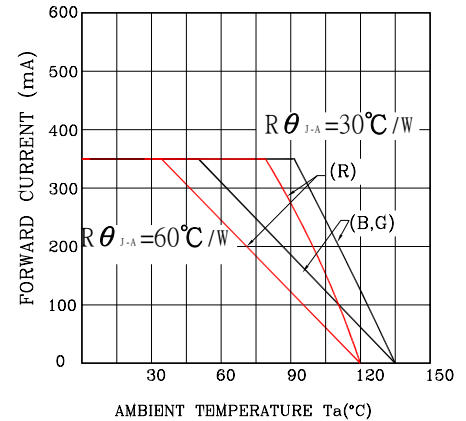


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

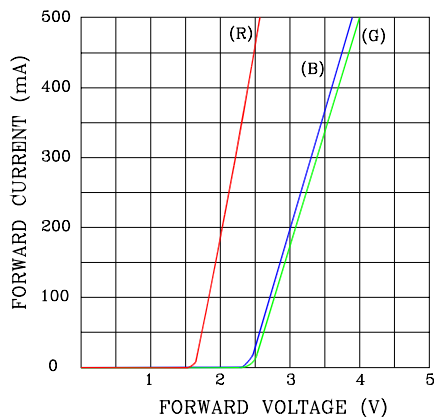


Fig.4 RELATIVE LUMINOUS INTENSITY VS. JUNCTION TEMPERATURE

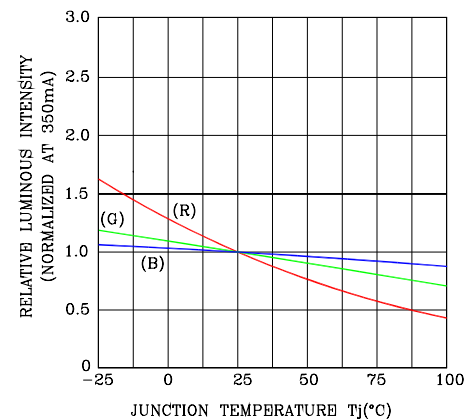


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT (at Tj=25°C)

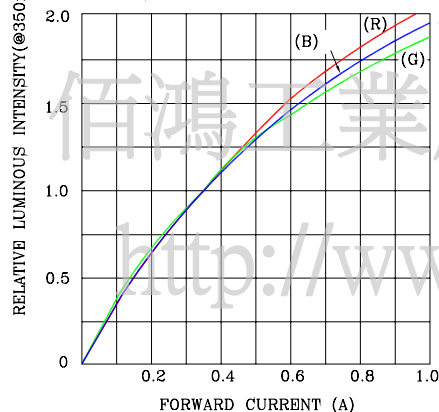
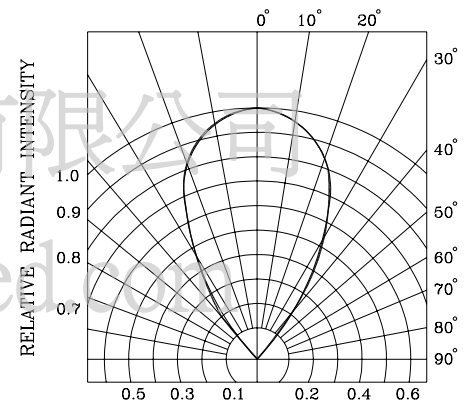
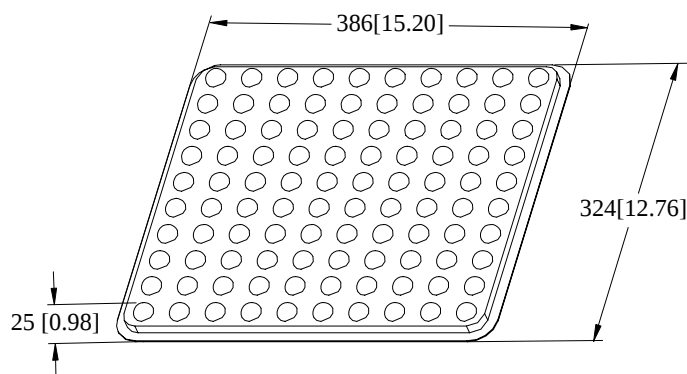
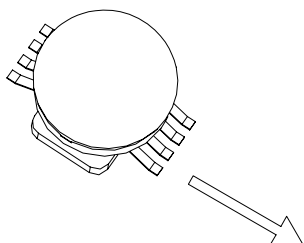


Fig.6 RADIATION DIAGRAM

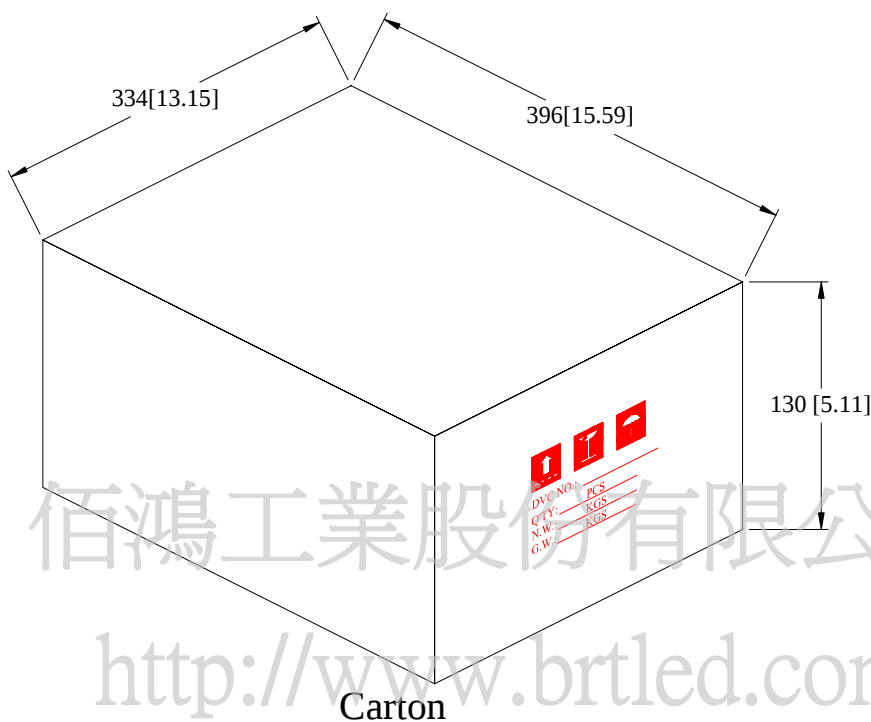


● Package Method : (unit:mm)



Tray

100 pcs/tray



Carton

5 tray / carton

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

Carton : Tolerance is ± 10 mm unless otherwise noted.

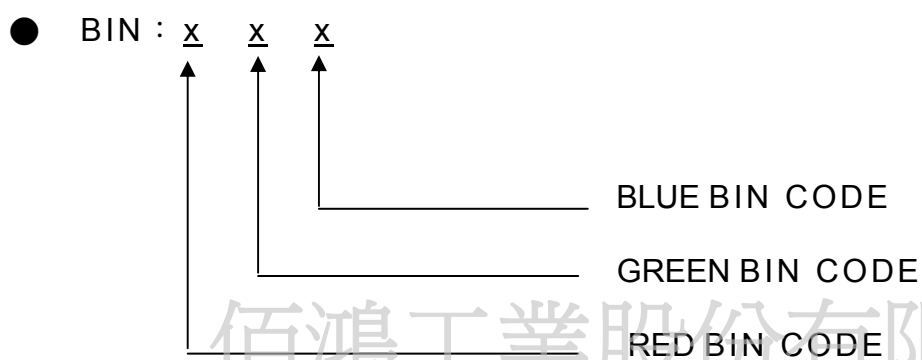
● Bin Limits (At 350mA)

COLOR	RED			
ITEM	Φ_v (lm)		λ_d (nm)	
Spec	20-42		620-635	
BIN	MIN	MAX	MIN	MAX
R1	20	25	620	625
R2			625	630
R3			630	635
R4	25	33	620	625
R5			625	630
R6			630	635
R7	33	42	620	625
R8			625	630
R9			630	635

COLOR	GREEN			
ITEM	Φ_v (lm)		λ_d (nm)	
Spec	25-55		520-540	
BIN	MIN	MAX	MIN	MAX
G1	25	33	520	525
G2			525	530
G3			530	535
G4	33	42	535	540
G5			520	525
G6			525	530
G7			530	535
G8			535	540

G9	42	55	520	525
G10			525	530
G11			530	535
G12			535	540

COLOR	BLUE			
ITEM	Φ_v (lm)		λ_d (nm)	
Spec	7-15		460-475	
BIN	MIN	MAX	MIN	MAX
B1	7	11	460	465
B2			465	470
B3			470	475
B4	11	15	460	465
B5			465	470
B6			470	475



Notes:

1. Φ_v : Tolerance for each Bin limit is $\pm 15\%$
2. λ_d : Tolerance for each Bin limit is $\pm 1\text{nm}$
3. Bin categories are established for classification of products.
Products may not be available in all bin categories.