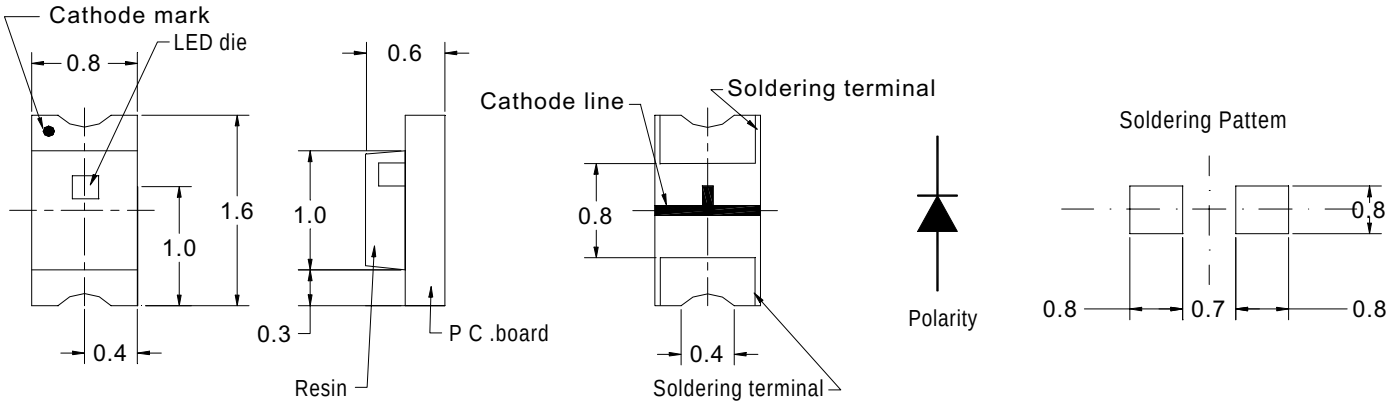
BRIGHT VIEW
ELECTRONICS CO.,LTD

ULTRA BRIGHTNESS SMD LED

BVS-166WT2

PACKAGE CONFIGURATION



DESCRIPTION

Tolerance ±0.1 ㎜

Dice Material : InGaN Blue
Light Color : White Color
Lens Color : Yellow Diffused

ABSOLUTE MAXIMUM RATINGS AT Ta = 25 ℃

PARAMETER	MAX.	UNIT
Power Dissipation	80	mW
Continuous Forward Current	20	mA
Peak Forward Current (1/10 Duty Cycle , 0.1ms Pulse Width)	80	mA
Reverse Voltage	5	V
Derating Linear From 25 ℃	0.35	mA/°C
Operating Temperature Range	−30 to + 80	°C
Storage Temperature Range	−40 to + 85	°C
Infrared Soldering Condition 260 ℃ for 5 seconds		
Reflow Soldering Condition 230 ℃ for 10 seconds		

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25 ℃

SYMBOL	PARAMETER	TEST COND.	MIN.	TYP.	MAX.	UNIT
V_F	Forward Voltage	I_F = 20 mA		3.2	4	V
I_R	Reverse Current	V_R = 5V			10	μA
2θ1/2	Viewing Angle	I_F = 20 mA		140		Deg

BIN GRADE LIMITS (I F = 20 mA) CHROMATICITY COORDINATES

WA	x	0.26	0.26	0.29	0.29	WC	x	0.32	0.32	0.35	0.35
	y	0.22	0.26	0.30	0.26		y	0.30	0.34	0.38	0.34
WB	x	0.29	0.29	0.32	0.32	WD	x	0.35	0.35	0.38	0.38
	y	0.26	0.30	0.34	0.30		y	0.34	0.38	0.42	0.38

One delivery will include three different ranks of products. Measurement Uncertainty of the color coordinates : ±0.02

BIN GRADE LIMITS (I F = 20 mA) LUMINOUS INTENSITY / mcd

Bin	D	E	F	G	H	I
Min.	218	280	360	465	600	780
Max.	280	360	465	600	780	1000

Measurement Uncertainty of the Luminous Intensity : ± 15 %

*Bright View reserves the rights to alter specifications and remove availability of products at any time without notice.

*These products are sensitive to static electricity. Caution must be taken strictly to avoid static electricity.

*Chromaticity Coordinates , x.y is according to CIE Chromaticity Diagram base on color of the device.

* θ 1/2 is the off-axis angle where the luminous intensity is one half the on-axis intensity.

2005/7/22 – B

InGaN White LED

TYPICAL ELECTRICAL/OPTICAL CHARACTERISTIC CURVES

FIG. 1 Forward Current Vs. Forward Voltage

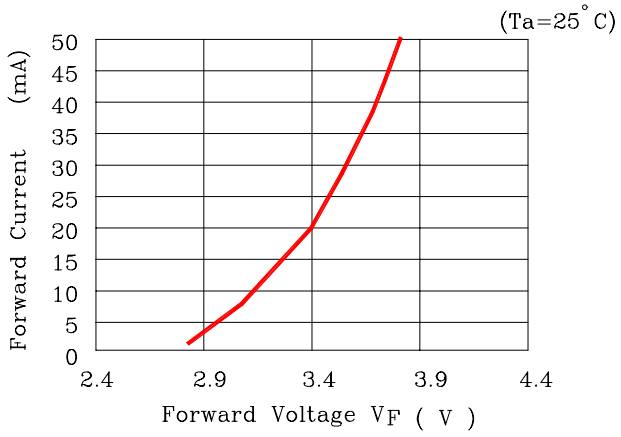


FIG. 2 Relative Intensity Vs. Forward Current

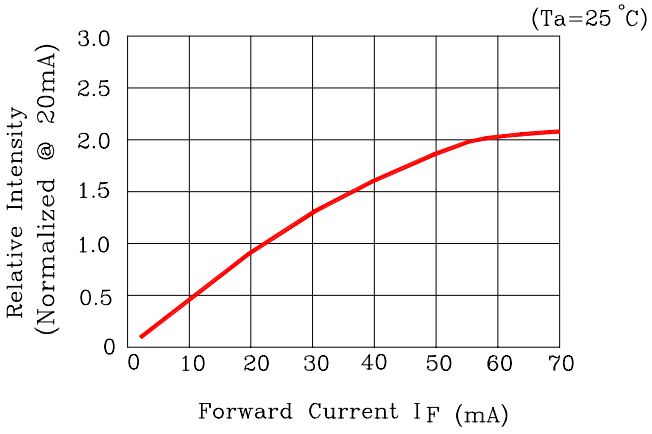


FIG. 3 Forward Voltage VS. Temperature

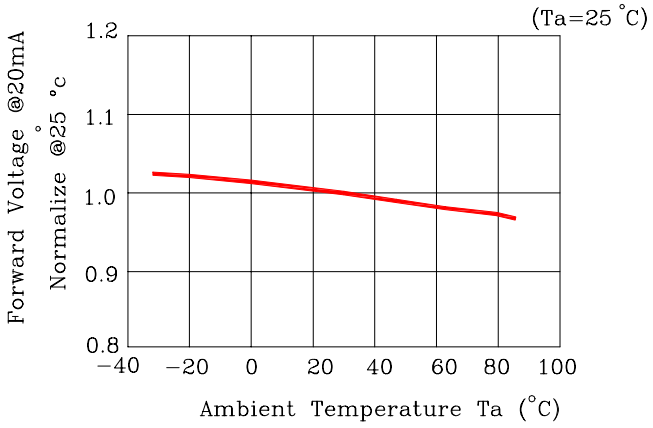


FIG. 4 Relative Intensity vs. Temperature

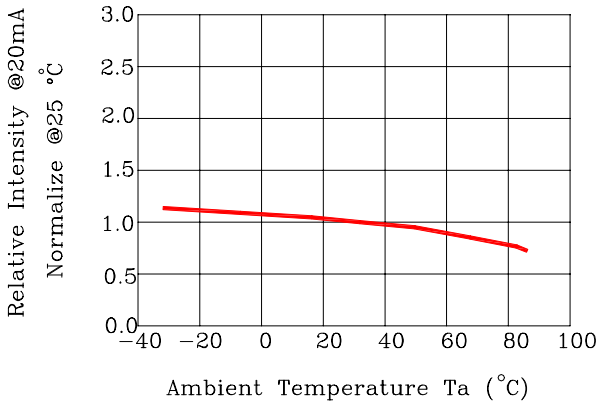


FIG. 5 Relative Intensity vs. Wavelength (λ p)

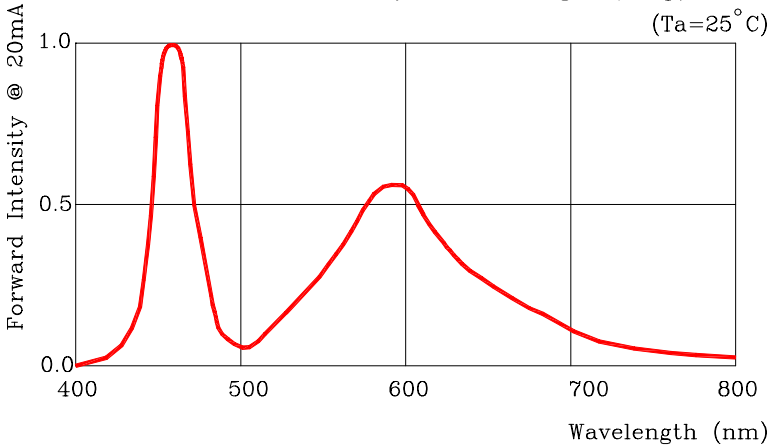
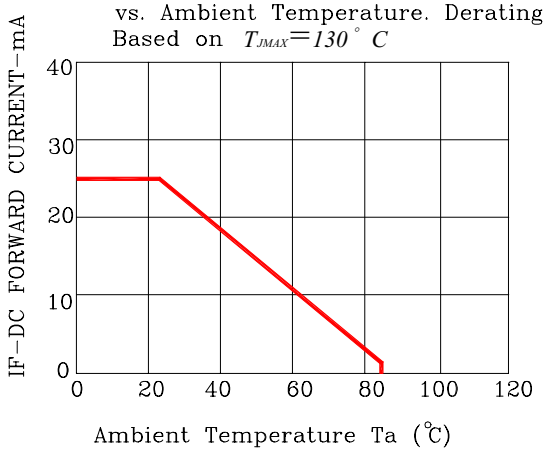


FIG. 6 Maximum Forward Current vs. Ambient Temperature. Derating Based on $T_{JMAX}=130^{\circ}C$



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CAUTION FOR STATIC ELECTRICITY

靜電防治

These products are Gallium Nitride(GaN) or Indium Gallium Nitride(InGaN) light emitting diodes(LEDs). There are extremely sensitive to static electricity ESD damage. The user must take absolutely secure countermeasures against static electricity and surge when handling products.
顯明 LED 晶片材質為 Gallium Nitride(GaN)或 Indium Gallium Nitride(InGaN)，此材質對於靜電極為敏感，十分容易受靜電衝擊而產生破壞，使用者接觸產品時必需做好對靜電衝擊之防護措施。

Bright View Blue, Green, White are GaN or InGaN materials are ESD classified, any manufacturing or workstations where GaN or InGaN devices are handled should be rated at ＂Class1＂ 50V maximum.
顯明之藍、綠、白光晶片材質為 GaN 或 InGaN ，此材質屬 ESD 規範，任何 GaN 或 InGaN 產品所會被接觸的製造或工作站必須控制在 50V 以下。

Proper grounding of products (via 1MΩ), use of conductive mat, semiconductive working uniform and shoes, and semiconductive containers are considered to be effective as countermeters against static electricity and surge.
適當的產品接地（1MΩ）與使用導電桌墊，並評估考慮穿著防靜電工作服、防靜電鞋與防靜電盒來有效地防制靜電之衝擊。

An ionizer is recommended to be used in the facility or environment where static electricity may be generated easily, and soldering iron with a grounded tip is also recommended.
建議對於工廠設施與環境中容易產生靜電的地點使用離子風扇吹拂，且也建議使用有接地功能的烙鐵進行焊接。

To install a protection device, in the LED driving circuit, which does not exceed the max rating for surge current during on/off switching.
在驅動 LED 的電路上設置保護裝置，使其當開閉時的瞬間電流不會超出最大電壓值。

SMD APPLICATION (PB FREE SOLDERING)

Apply to BVS-3XX、1XX series.

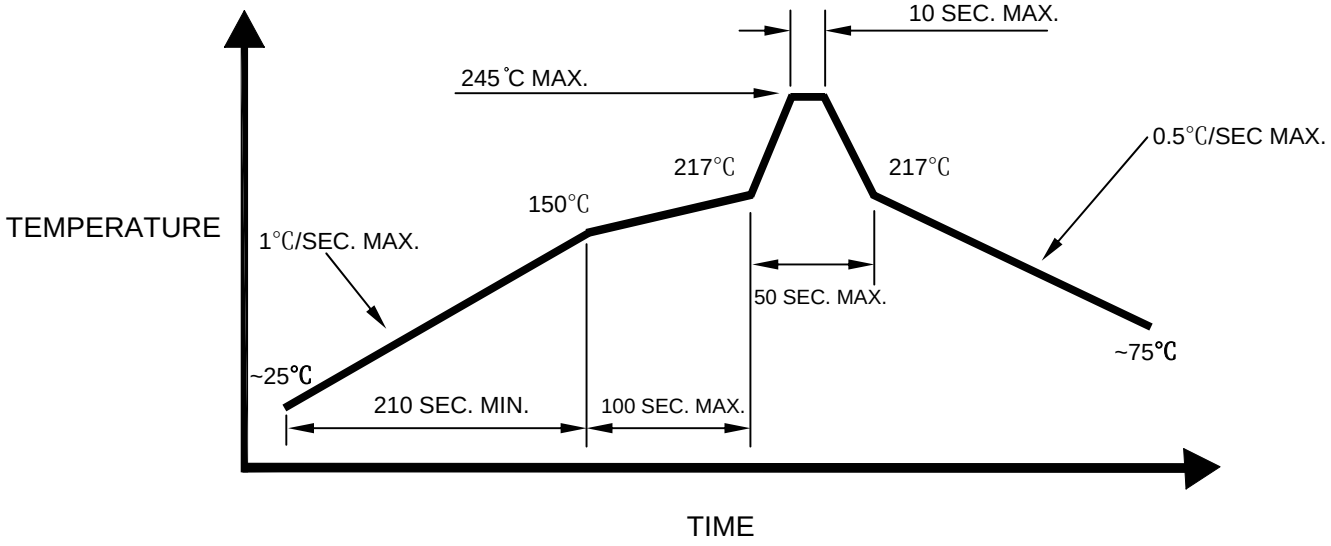
Description:

(1) Manual soldering (We do not recommend this method strongly.)

(1.1) To prevent cracking,please bake (65℃,24hrs)before soldering.
(1.2) Temperature at tip of iron: 250℃ Max.(25W)
(1.3) It's banned to load any stress on the resin during soldering.
(1.4) Soldering time: 3 sec. Max.(one time only)

(2) Reflow Soldering

(2.1) To prevent cracking,please bake (65℃,24hrs)before soldering.
(2.2) When soldering,do not put stress on the LEDs during heating.
(2.3) Never take next process until the component is cooled down to room temperature after reflow.
(2.4) After soldering,do not warp the circuit board.
(2.5) The recommended reflow soldering profile(measuring on the surface of the LED resin)is following:



The reflow temperature 240℃~245℃ is recommended and the soldering temperature should be not higher than 245℃(one time only)

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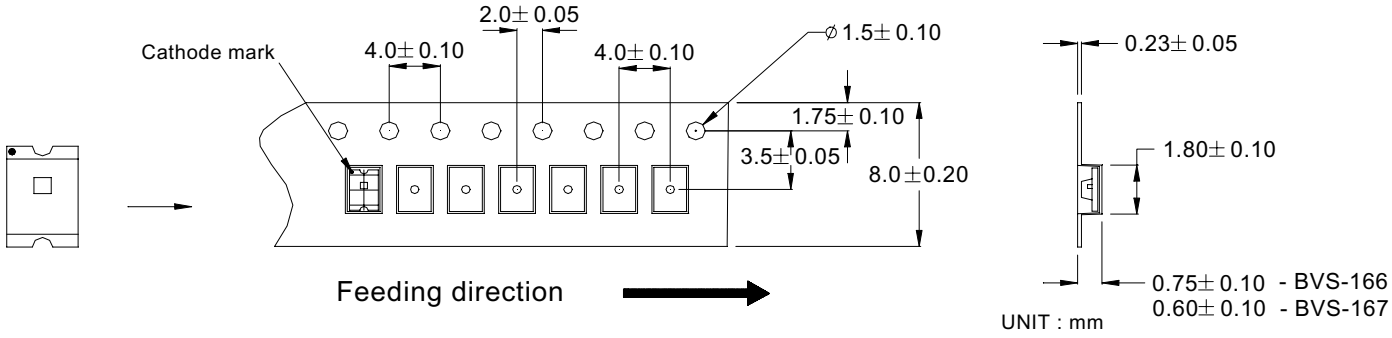
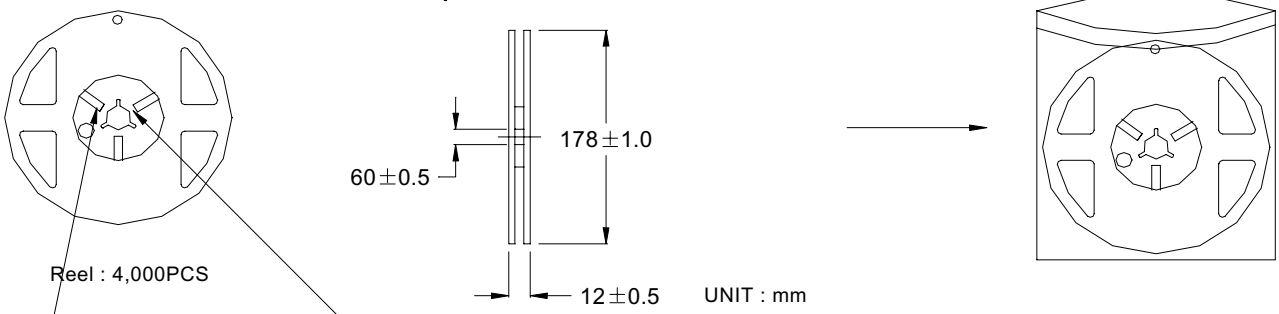
CHIP LEDS PACKING

BVS-166/167 Series





Label 1

Bright View Electronics Co.,Ltd.
PART NO.: BVS-16XXXX
LOT NO.:
GRADE: X- △ - ■
Q'ty _____ pcs QA

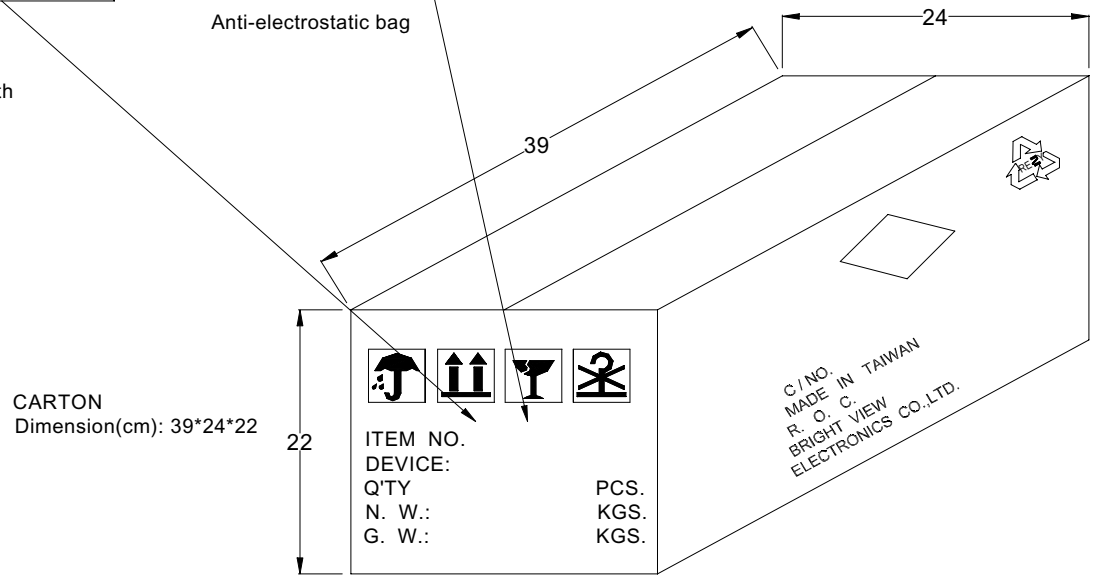
Normal

X: Bin grade
△: Wavelength
■: Vf

Label 2

Bright View Electronics Co.,Ltd.
PART NO.:
LOT NO.:
GRADE:
Q'ty _____ pcs QA
CAUTION
ELECTROSTATIC SENSITIVE DEVICES
DO NOT OPEN OR HANDLE EXCEPT
AT A STATIC-FREE WORKSTATION

Anti-electrostatic bag



CARTON
Dimension(cm): 39*24*22

Carton : 30 Reels
Total : 120,000PCS

2003 / 11 / 12 - A