

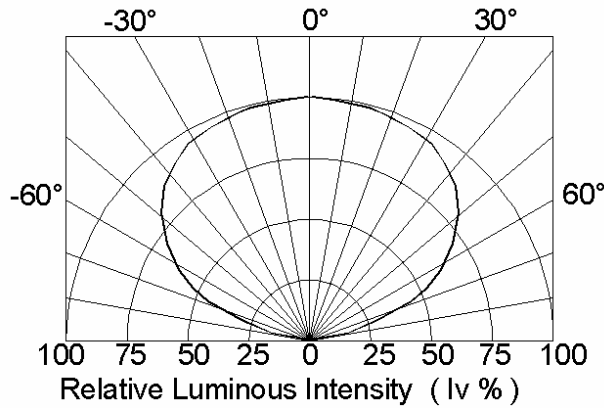


BVS-166FE2-H

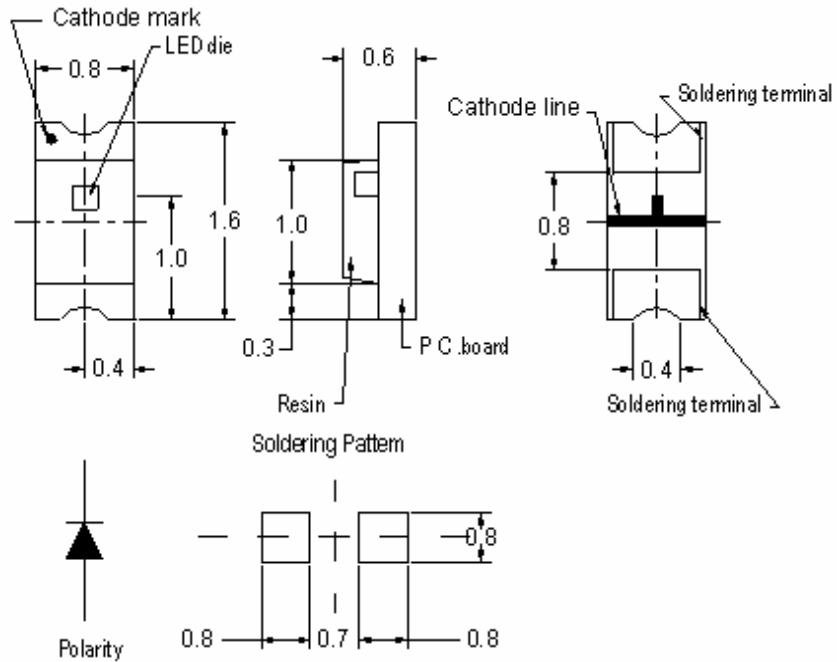
DESCRIPTION

Dice Material : AlGaInP/GaAs Yellow Green
Light Color : Yellow Green Color
Lens Color : Milky Diffused

RADIATION PATTERN



PACKAGE CONFIGURATION



Tolerance ± 0.1mm

ABSOLUTE MAXIMUM RATINGS AT Ta = 25 °C

| PARAMETER | MAX. | UNIT |
|--|-------------|-------|
| Power Dissipation | 55 | mW |
| Continuous Forward Current | 20 | mA |
| Peak Forward Current (1/10 Duty Cycle , 0.1ms Pulse Width) | 100 | mA |
| Reverse Voltage | 5 | V |
| Derating Linear From 25 °C | 0.35 | mA/°C |
| Operating Temperature Range | -30 to + 80 | °C |
| Storage Temperature Range | -40 to + 85 | °C |
| Reflow Soldering Condition 245 °C for 10 seconds | | |

ELECTRICAL / OPTICAL CHARACTERISTICS AT Ta = 25 °C

| SYMBOL | PARAMETER | TEST COND. | MIN. | TYP. | MAX. | UNIT |
|-------------------|--------------------------|------------------------|------|------|------|------|
| V _F | Forward Voltage | I _F = 20 mA | | 2.1 | 2.6 | V |
| I _R | Reverse Current | V _R = 5V | | | 100 | µA |
| λ _p | Peak Emission Wavelength | I _F = 20 mA | | 575 | | nm |
| λ _d | Dominant Wavelength | I _F = 20 mA | | 572 | | nm |
| 2θ _{1/2} | Viewing Angle | I _F = 20 mA | | 130 | | Deg |

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

| Bin | v1 | v2 | w1 | w2 | x1 | x2 | y1 | y2 | z1 | z2 | A1 | A2 |
|------|----|----|------|------|------|------|----|----|----|-----|-----|-----|
| Min. | 28 | 32 | 36 | 41.5 | 47 | 53.5 | 60 | 69 | 78 | 89 | 100 | 115 |
| Max. | 32 | 36 | 41.5 | 47 | 53.5 | 60 | 69 | 78 | 89 | 100 | 115 | 130 |

Tolerance ± 15% mcd

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

*Dominant Wavelength, λ_d is according to CIE Chromaticity Diagram base on color of lamps.

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

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



BVS-166FE2-H

AlGaInP GaAs Yellow Green LED

TYPICAL ELECTRICAL / OPTICAL CHARACTERISTIC CURVES

FIG. 1 Forward Current vs. Forward Voltage
($T_a = 25^\circ\text{C}$)

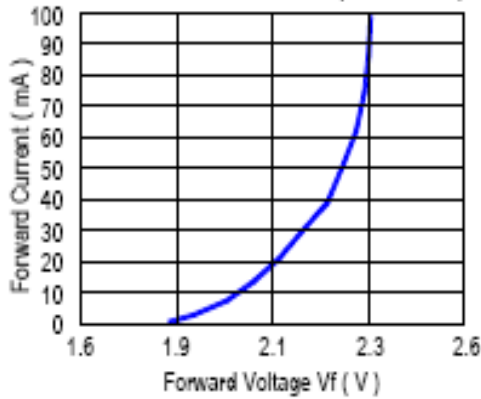


FIG. 2 Relative Intensity vs. Forward Current
($T_a = 25^\circ\text{C}$)

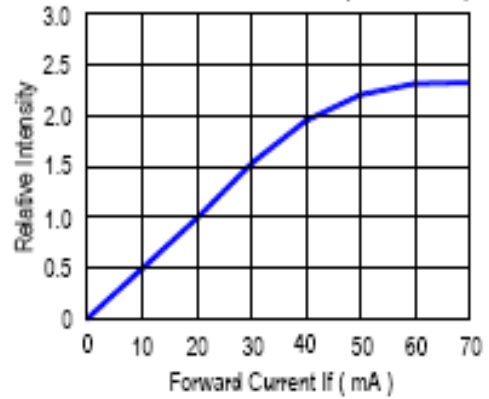


FIG. 3 Forward Voltage vs. Temperature

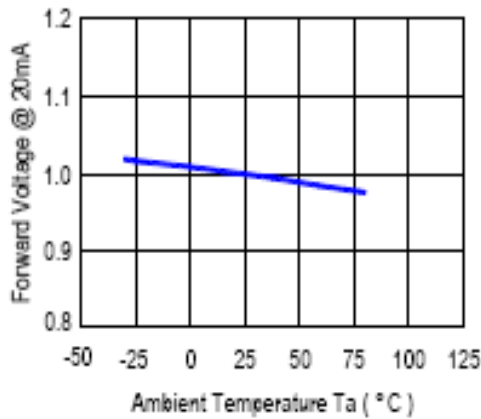


FIG. 4 Relative Intensity vs. Temperature

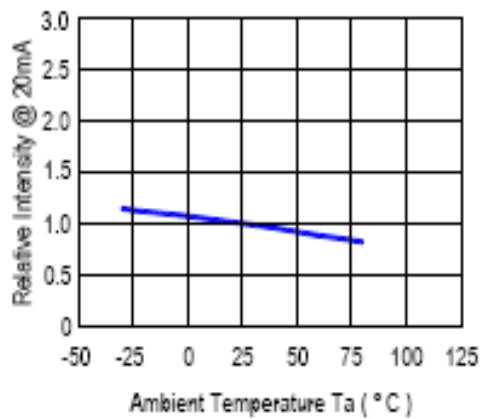


FIG. 5 Relative Intensity vs. Wavelength (λ_p)
($T_a = 25^\circ\text{C}$)

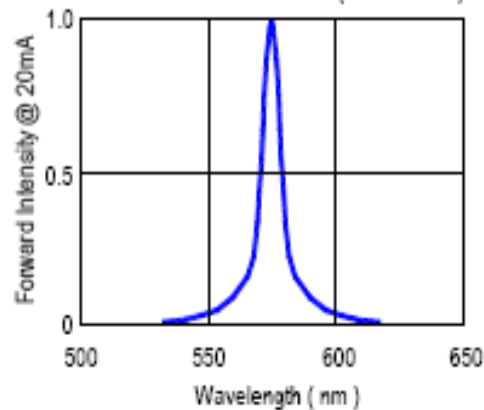
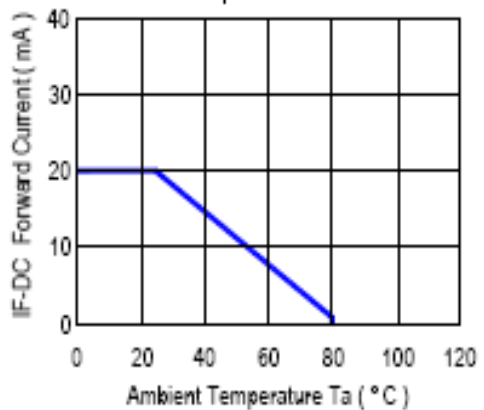


FIG. 6 Maximum Forward Current vs. Temperature





SMD APPLICATION (PB FREE SOLDERING)

Apply to BVS-3XX 、 1XX series.

Description:

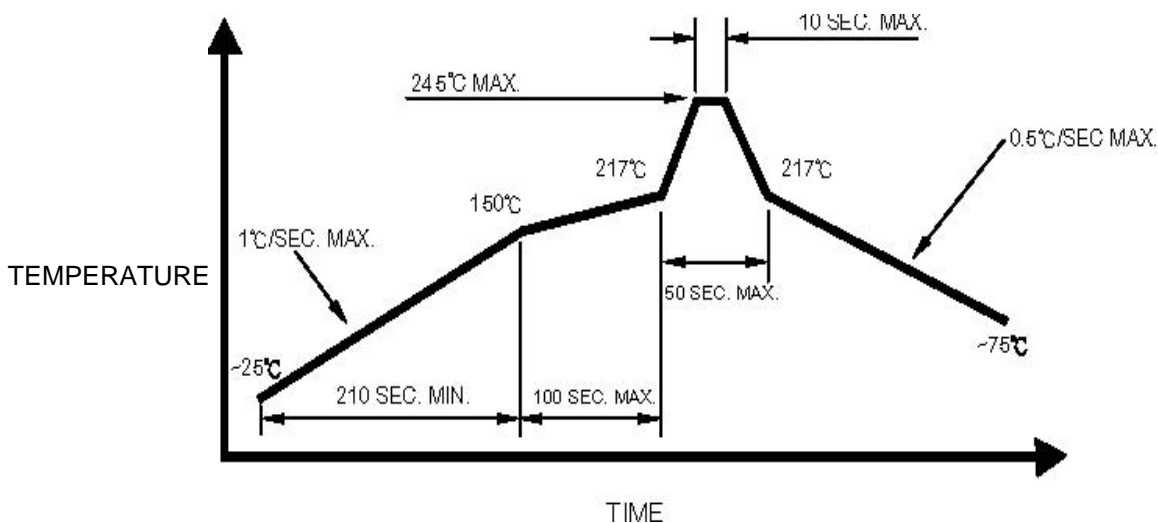
(1) Manual soldering (We do not recommend this method strongly.)

- (1.1) To prevent cracking, please bake (65°C, 24hrs) before soldering.
- (1.2) Temperature at tip of iron: 250°C 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)

Soldering :

(2) Reflow Soldering

- (2.1) To prevent cracking, please bake (65°C, 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°C~245°C is recommended and the soldering temperature should be not higher than 245°C (one time only)



■ Reliability Test Items and Conditions

(1)TEST ITEMS AND RESULTS

| Test Item | Standard Test Method | Test Conditions | Note | Number of Damaged |
|---|--------------------------------------|---|-----------|-------------------|
| Thermal Shock | MIL-STD-883:1011 | 85°C ~ -30°C 30min. 30min. | 10 cycles | 0/22 |
| Temperature Cycle | MIL-STD-750:1051 MIL-STD-883:1010 | 85°C ~ 25°C ~ -30°C ~ 25°C 60min. 10min. 60min. 10min. | 20 cycles | 0/22 |
| High Temperature Storage | MIL-STD-883:1008 | Ta=100°C | 500 hrs. | 0/22 |
| Low Temperature Storage | JIS C 7021:B-12 | Ta=-40°C | 500 hrs. | 0/22 |
| Steady State Operating Life | MIL-STD-750:1026 MIL-STD-883:1005 | Ta=25°C, I _F =30mA, DC | 1000 hrs. | 0/22 |
| Steady State Operating Life of High Humidity Heat | MIL-STD-202:103B | 60°C, RH=90%, I _F =20mA, DC | 240 hrs. | 0/22 |

(2)CRITERIA FOR JUDGING DAMAGE

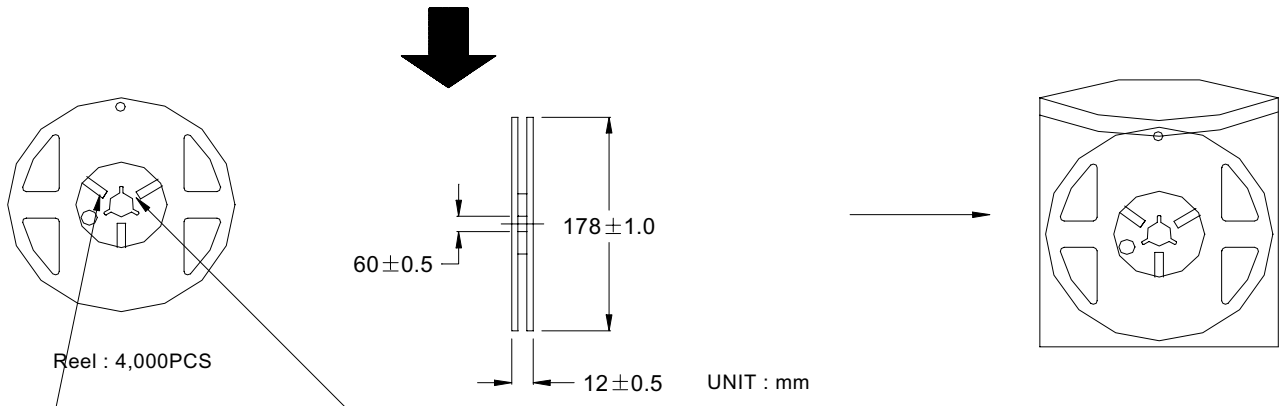
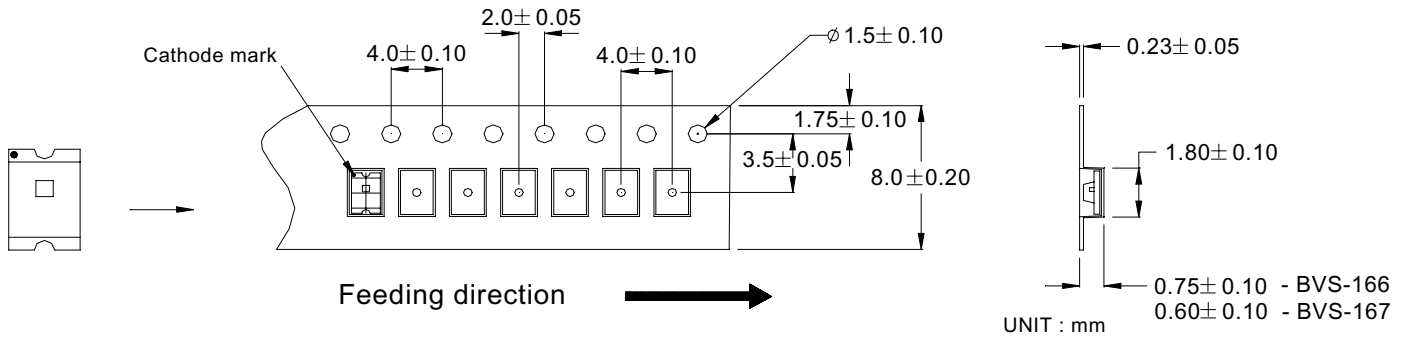
| Item | Symbol | Test Conditions | Criteria For Judgement | |
|--------------------|----------------|----------------------|------------------------|----------------|
| | | | Min | Max |
| Forward Voltage | V _F | I _F =20mA | — | U.S.L.*) x 1.2 |
| Reverse Current | I _R | V _R =5V | — | 10μA |
| Luminous Intensity | I _V | I _F =20mA | L.S.L.***) x 0.7 | — |

*)U.S.L.:Upper Standard Level

**)L.S.L.:Lower Standard Level



BVS-166/167 Series



Label 1

Bright View Electronics Co.,Ltd.

PART NO.: BVS-16XXXX

LOT NO.: _____

GRADE: X - △ - ■

Q'ty _____ pcs QA

Label 2

Bright View Electronics Co.,Ltd.

PART NO.: _____

LOT NO.: _____

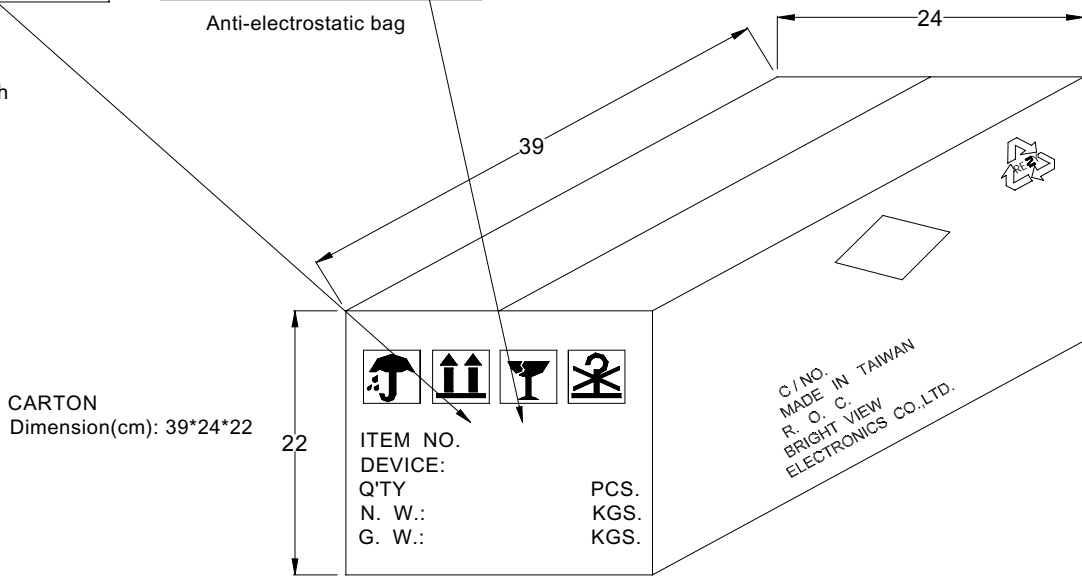
GRADE: _____

Q'ty _____ pcs QA

CAUTION

ELECTROSTATIC SENSITIVE DEVICES
DO NOT OPEN OR HANDLE EXCEPT
AT A STATIC-FREE WORKSTATION

Normal
X: Bin grade
△: Wavelength
■: Vf



Carton : 30 Reels
Total : 120,000PCS