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Blue Oval LED Lamp MC-LB346HIBE

1. SPECIFICATIONS

1.1 Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Absolute Maximum Rating	Unit
Forward Current	I_F	30	mA
Pulse Forward Current	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Operating Temperature	Topr	-30 to +85	℃
Storage Temperature	Tstg	-40 to +100	℃

1.2 Optical and Electrical Characteristics (Ta=25℃)

Item	Symbol	Condition	Bin	Min.	Max.	Unit
Forward Voltage	V_F	I_F=20mA	V_1	2.75	3.45	V
Reverse Current	I_R	V_R=5V	-	-	1	μA
Wavelength	λ_D	I_F=20mA	W_{24} W_{25}	466	469	nm
			W_{25} W_{26}	469	472	
Luminous Intensity	Iv	I_F=20mA	I_4 I_5	550	600	mcd
			I_5 I_6	600	650	

* Tolerance of measurements of the Forward Voltage is ±0.05V
* Tolerance of measurements of the Luminous Intensity is ±5%
* Tolerance of measurements of the Wavelength is ±0.5nm

2. RELIABILITY

2.1 Test Items and Results

Test Item	Standard Test Method	Test Conditions	Test Duration	Units Failed/Tested
Resistance to Soldering Heat	JEITA ED-4701 300 302	Tsld=260±5℃,10sec,1dip 3mm from the base of the lens		0/100
Temperature Cycle		-40℃～130℃ 30min. 30min. 60min./cycle	100cycles	0/100
Temperature Cycle	JEITA ED-4701 100 105	-40℃～25℃～100℃～25℃ 30min. 5min. 30min. 5min	100cycles	0/100
Moisture Resistance （Cyclic）	JEITA ED-4701 200 203	25℃～65℃～-10℃ 90%RH, 24hr per cycle	10cycles	0/100
Terminal Bend Strength	JEITA ED-4701 400 401	5N,0°～90°～0°bend, 2bending cycles	No noticeable damage	0/50
Terminal Pull Strength	JEITA ED-4701 400 401	10N,10±1sec	No noticeable damage	0/50
High Temperature Storage	JEITA ED-4701 200 201	Ta=100℃	1000hrs	0/100
Temperature Humidity Storage		Ta=85℃,RH=85%	1000hrs	0/100
Low Temperature Storage	JEITA ED-4701 200 202	Ta=-40℃	1000hrs	0/100
Room Temperature Operating Life		Ta=25℃,IF=30mA	1000hrs	0/10
Temperature Humidity Operating Life		85℃,RH=85%,IF=30mA	500hrs	0/10
Low Temperature Operating Life		Ta=-30℃,IF=30mA	1000hrs	0/10

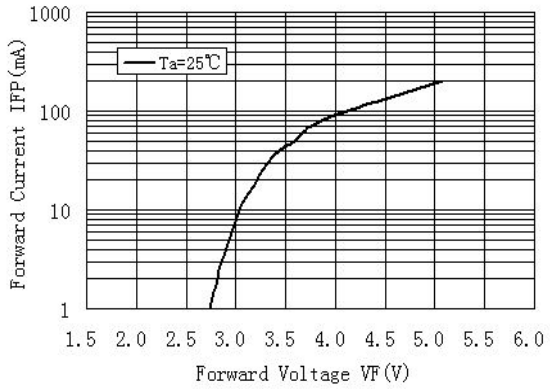
2.2 Criteria for Judging Damage

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	V_F	I_F=20mA	-	U.S.L. ×1.1
Reverse Current	I_R	V_R=5V	-	U.S.L. ×2.0
Luminous Intensity	I_V	I_F=20mA	L.S.L. ×0.9	-

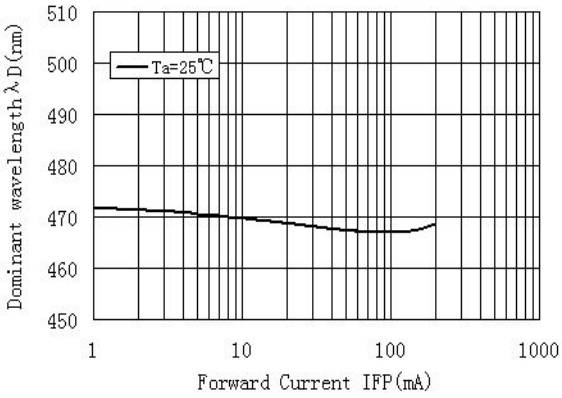
U.S.L.: Upper Standard Level L.S.L.: Lower Standard Level

3. Typical Electrical Characteristics Curves:

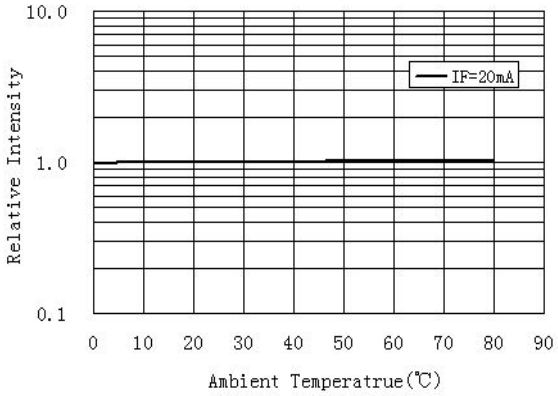
Forward Voltage vs.
Forward Current



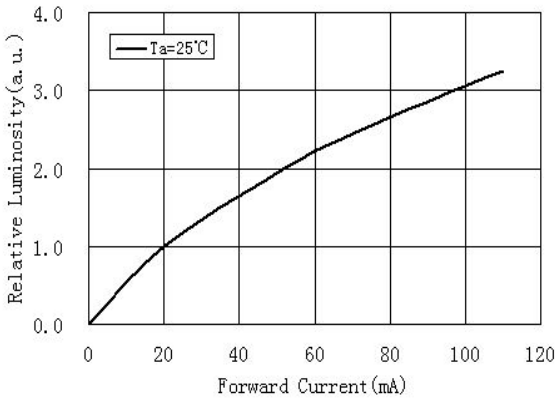
Forward Current vs.
Dominant wavelength



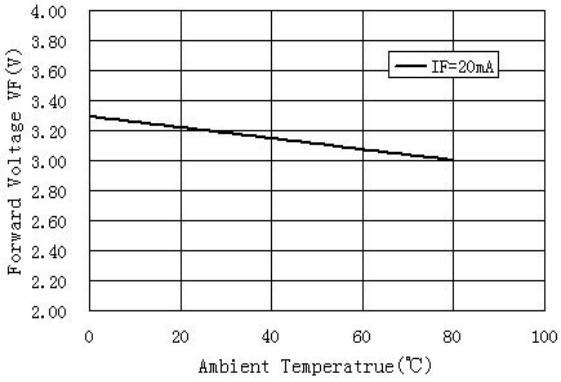
Ambient Temperatrue vs.
Relative Intensity



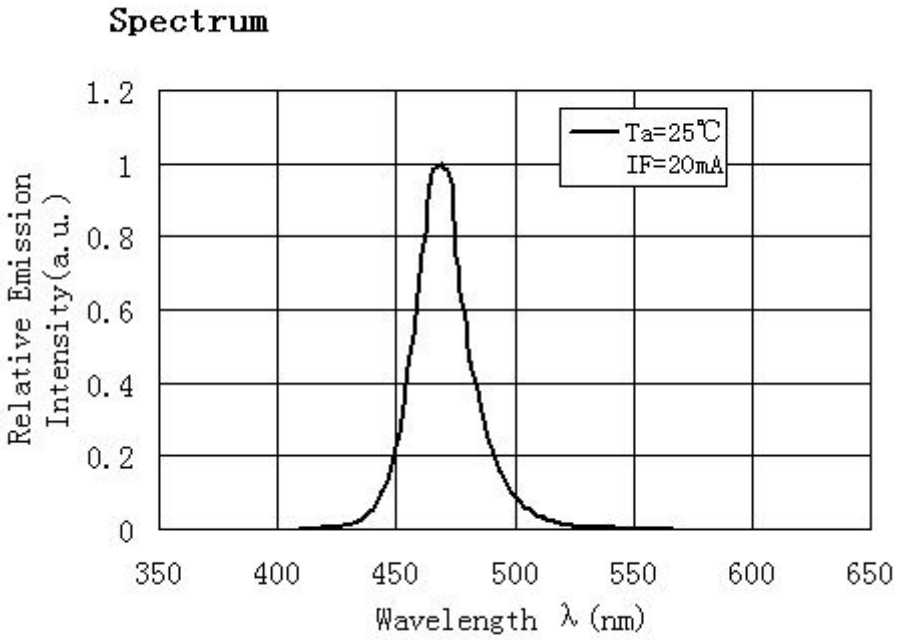
Forward Current vs.
Relative Luminosity

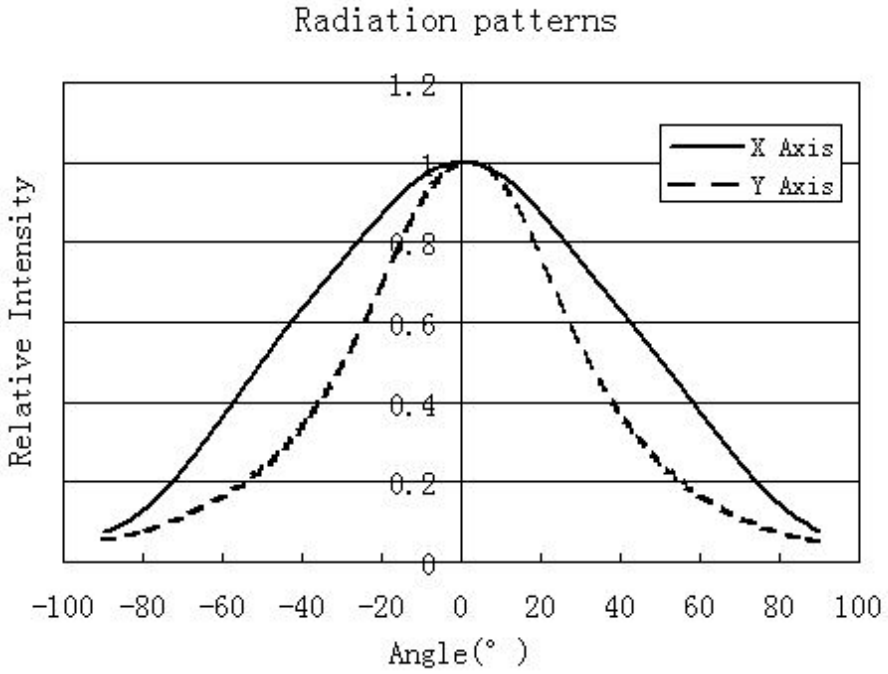


Ambient Temperatrue vs.
Forward Voltage



4. Typical Optical Characteristics Curves





5. Outline Dimensions and Materials

This product complies with RoHS Directive.

The Outline-Dimensions please refer to Fig.MC-LB346HIBE-01

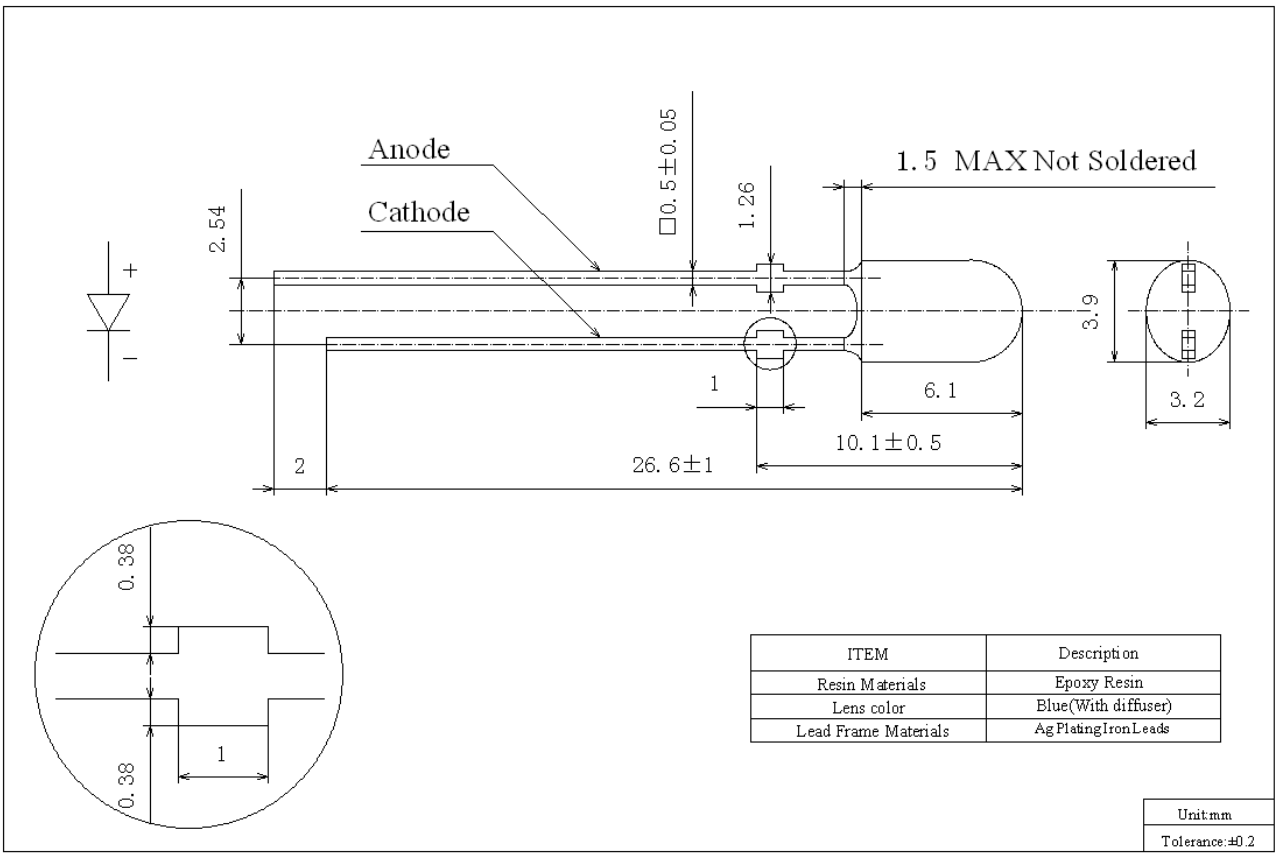


Fig.MC-LB346HIBE-01

6. Packing

Please refer to Fig.MC-LB346HIBE-02 & Fig.MC-LB346HIBE-03

The Label on the minimum packing unit shows: Vf, Iv, λd, Qty.

The LEDs may be damaged if the boxes are dropped or receive a strong impact against them, so precautions must be taken to prevent any damage.

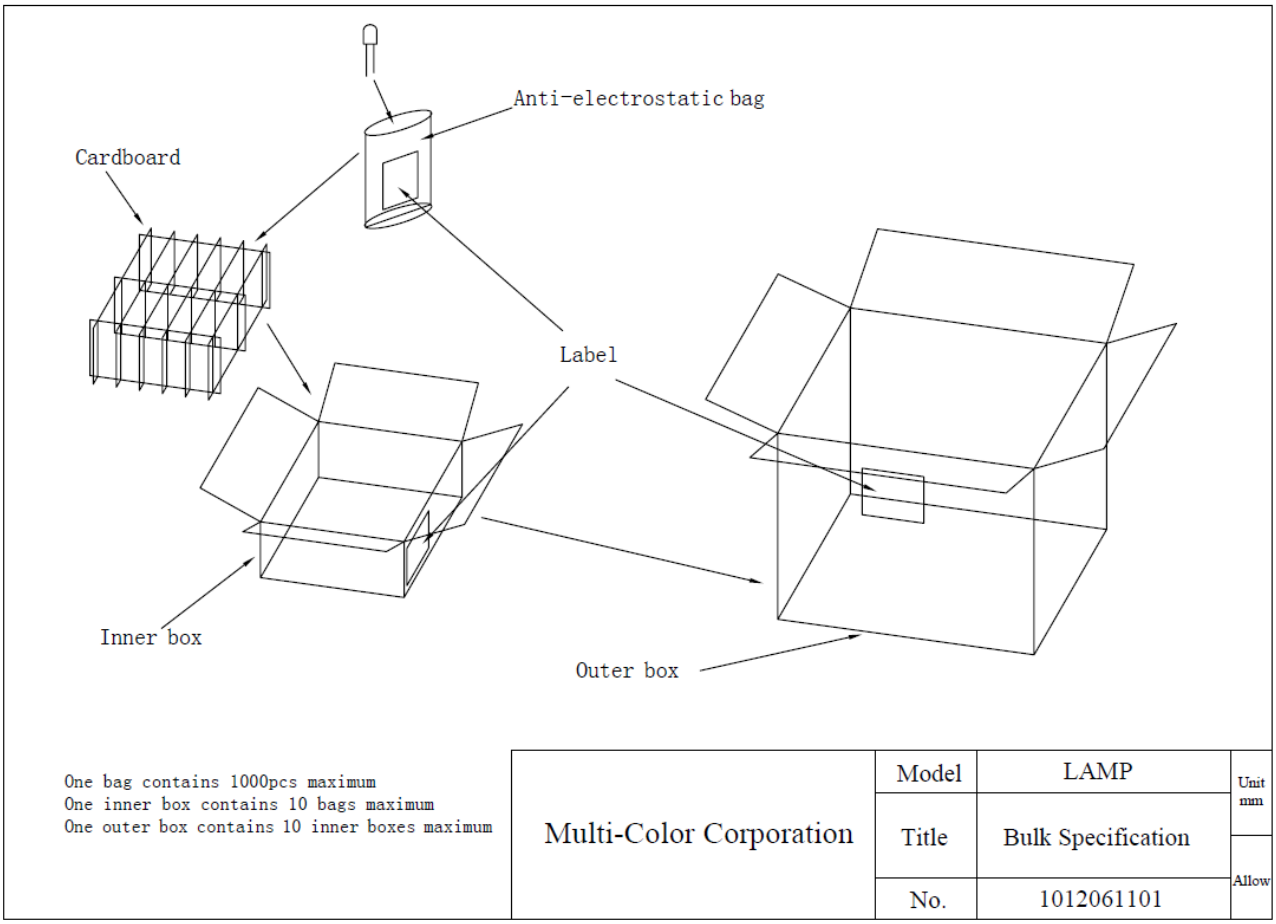
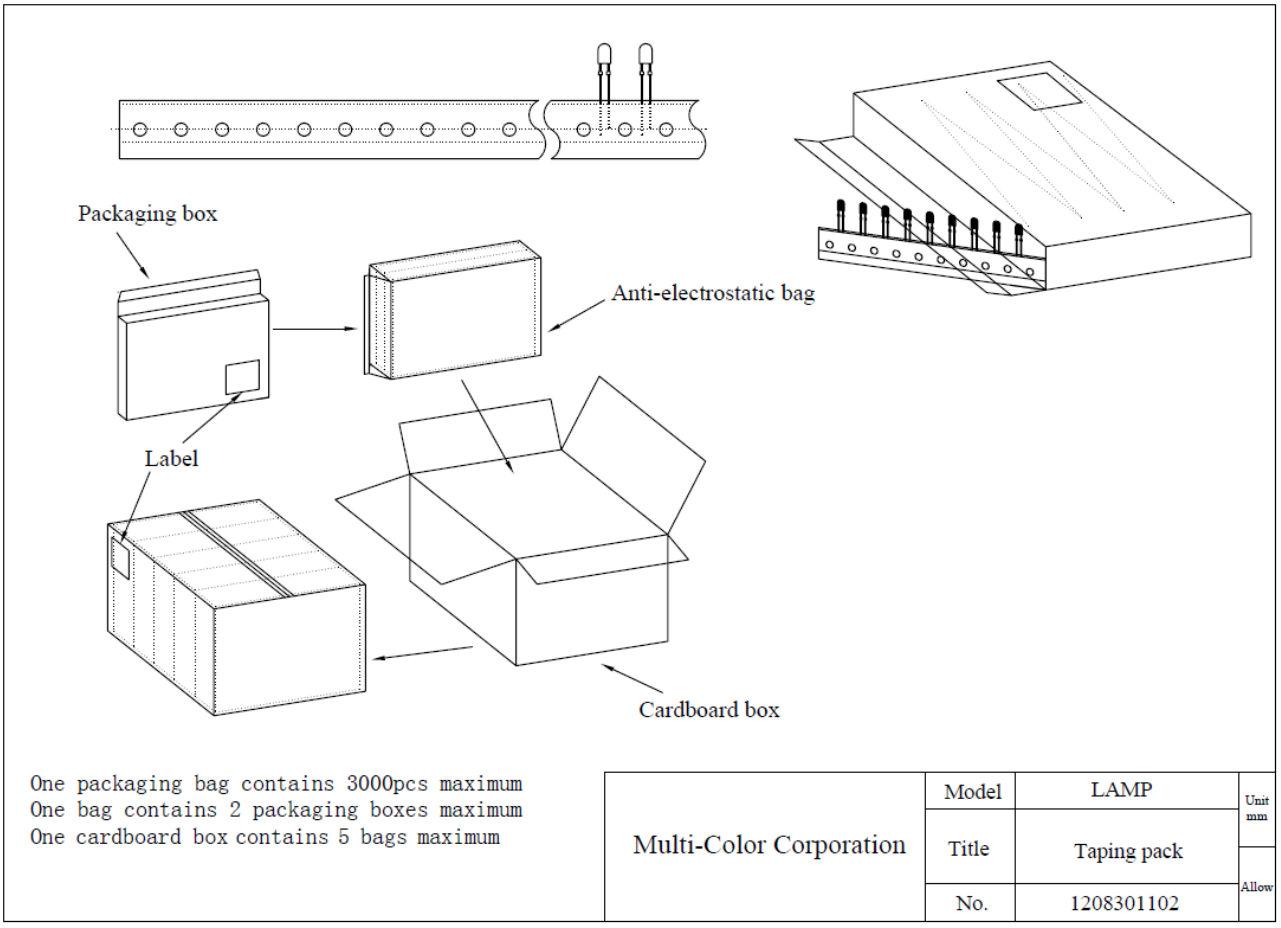


Fig.MC-LB346HIBE-02



One packaging bag contains 3000pcs maximum
One bag contains 2 packaging boxes maximum
One cardboard box contains 5 bags maximum

Multi-Color Corporation	Model	LAMP	Unit mm
	Title	Taping pack	
	No.	1208301102	Allow

Fig.MC-LB346HIBE-03

7. Lead Forming

- When forming leads, the leads should be bent at a point at least 3mm from the base of the epoxy bulb. Do not use the base of the lead frame as a fulcrum during lead forming.
- Lead forming should be done before soldering.
- DO not apply any bending stress to the base of the lead. The stress to the base may damage the LED's characteristics or it may break the LEDs.
- When mounting the LEDs onto a printed circuit board. The holes on the circuit board should be exactly aligned with the leads of the LEDs. If the LEDs are mounted with stress at the leads, it causes deterioration of the epoxy resin and this will degrade the LEDs.

8. Storage

- The LEDs should be stored at 30 ıG shipped from Multi-Colors and the storage life limits are 3 months. If the LEDs are stored for 3 months or more, they can be stored for a year in a sealed container with a nitrogen atmosphere and moisture absorbent material (silica gel desiccants).
- The lead part may be affected by environments which contain corrosive substances . Please avoid conditions which may cause the LED to corrode, tarnish or discolor. This corrosion or discoloration may cause difficulty during soldering operations. It is recommended that the LEDs be used as soon as possible.
- Please avoid rapid transitions in ambient temperature, especially in high humidity environments where condensation can occur.

9. Static Electricity

- Static electricity or surge voltage damages the LEDs.
  It is recommended that a wrist band or an anti-electrostatic glove be used when handing the LEDs.
- All devices equipment and machinery must be properly grounded. It is recommended that precautions be taken against surge voltage to the equipment that mounts the LEDs.