

產品承認書

Product Approval Sheet

一.基本內容(INFORMATION)

客戶名稱(Customer Name) :

產品型號(Product Number) : BL-2835PCW12-34-PINK

料號信息(PN Information) :

客戶料號	參數要求				
	亮度 (mcd)	Φ V(lm)	色溫(CCT)	電壓 (V)	CRI (Ra)
	40000	Min:80	2500K ↑	Max:6.8	-

二.供應商確認欄(SUPPLIER)

核准(Approved/Date)	審核(Check/Date)	製作(Prepared/Date)
張孝巖 2015-11-21	張喜光 2015-11-21	熊燦芬 2015-11-21

三.客戶批准欄(CUSTOMER)

產品承認書批准處理：同意 拒絕 其它_____

核准(Approved/Date)	審核(Check/Date)	研發/工程(R&D Dept/Date)

說明：請將已簽副本回覆我司

Please return to us one copy "PRODUCT ACKNOWLEDGEMENT SHEET" with your approved signatures!

佰鴻工業股份有限公司

BRIGHT LED ELECTRONICS CORP.

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Revision History

Rev.	Date	History	Writer	Approved
1.0	2015-6-18	New SPEC	熊燦芬	张喜光
1.1	2015-9-11	Change The Luminous Flux	熊燦芬	張喜光
1.2	2015-9-14	Add mcd	熊燦芬	張喜光
1.3	2015-11-21	Change The VF BIN	熊燦芬	張喜光

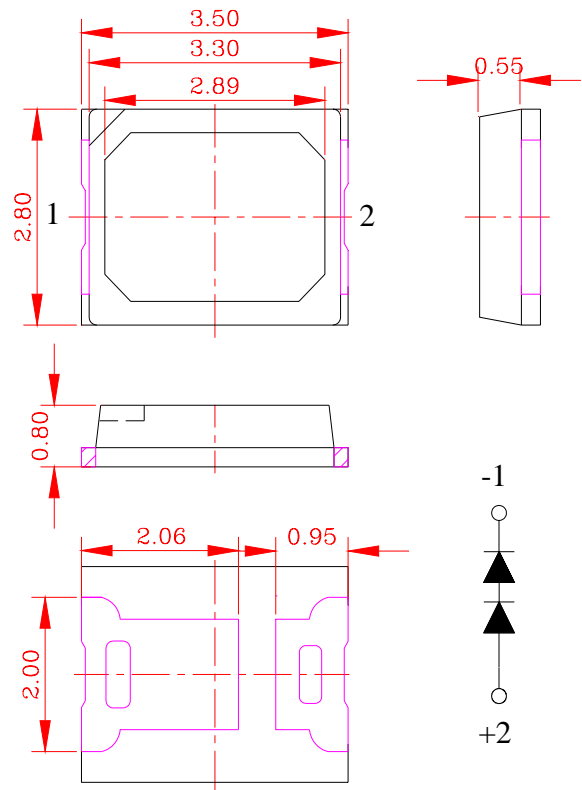
● Features:

1. Emitted Color: Warm White.
CCT: 2500K ↑
2. Lens Appearance: Yellow clear.
3. 3.5*2.8*0.8mm standard package.
4. Suitable for all SMT assembly methods.
5. Compatible with infrared and vapor phase reflow solder process.
6. Compatible with automatic placement equipment.
7. This product doesn't contain restriction Substance, comply ROHS standard.

● Applications:

1. Lighting
2. Automotive lighting.
3. Backlighting: LCDs
4. Status indicators: Consumer & industrial electronics.
5. General use.

● Package Dimensions:



Notes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.2 mm unless otherwise specified.
3. Specifications are subject to change without notice.

● Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	P _D	1260	mW
Forward Current	I _F	180	mA
Peak Forward Current*1	I _{FP}	270	mA
Reverse Voltage	V _R	5	V
Operating Temperature	T _{opr}	-40°C~85°C	-
Storage Temperature	T _{stg}	-40°C~100°C	-
Soldering Temperature	T _{sol}	See Page 10	-

Note : I_{FP} is pulse of 1/10 duty at 1KHz

● Electrical and optical characteristics(Ta=25°C)

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
*2Forward Voltage	V _F	I _F =150mA	5.8	-	6.8	V
Luminous Flux	Φ _v		80	-	-	lm
Chromaticity Coordinates	x		-	0.43	-	-
	y		-	0.40	-	-
Color Temperature	CCT		2500	-	-	K
Viewing Angle	2θ _{1/2}		-	120	-	deg
Color Rendering Index	CRI		-	-	-	-

● Typical Electro-Optical Characteristics Curves.

Fig.1 RELATIVE INTENSITY VS. WAVELENGTH

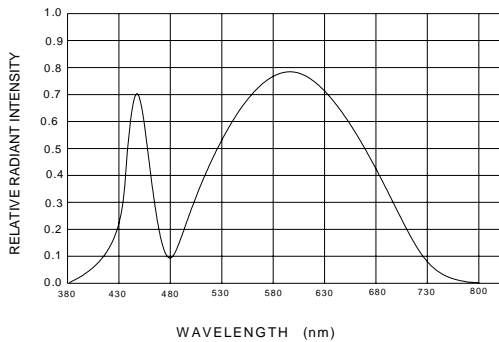


Fig.2 FORWARD CURRENT VS. AMBIENT TEMPERATURE

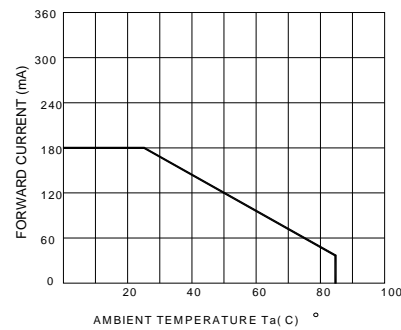


Fig.3 FORWARD CURRENT VS. FORWARD VOLTAGE

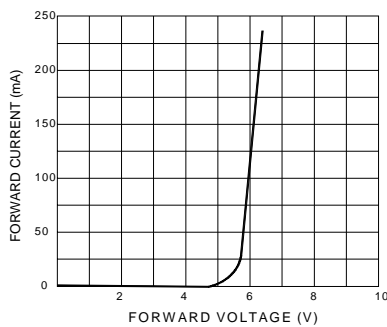


Fig.4 RELATIVE LUMINOUS INTENSITY VS. AMBIENT TEMPERATURE

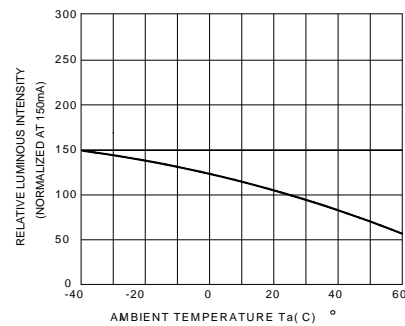


Fig.5 RELATIVE LUMINOUS INTENSITY VS. FORWARD CURRENT

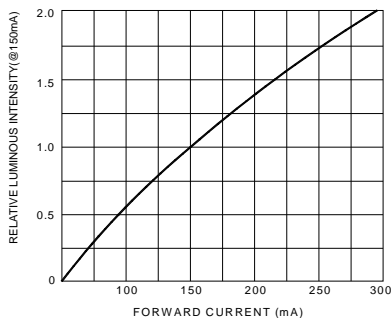
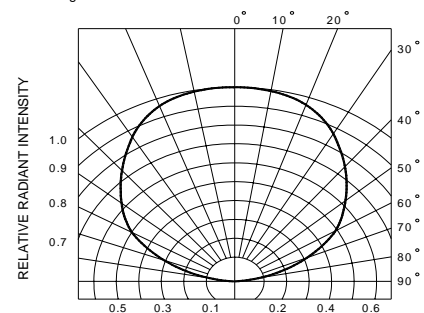
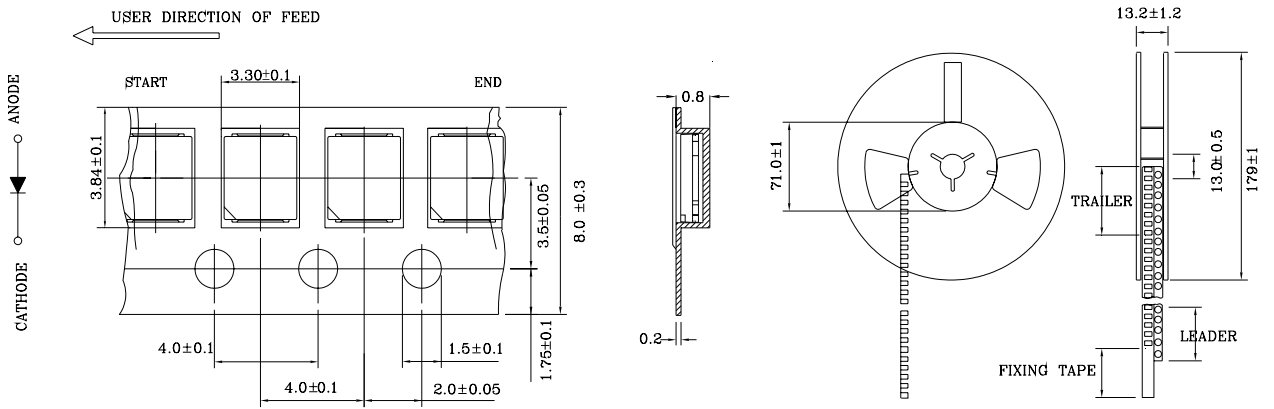


Fig.6 RADIATION DIAGRAM

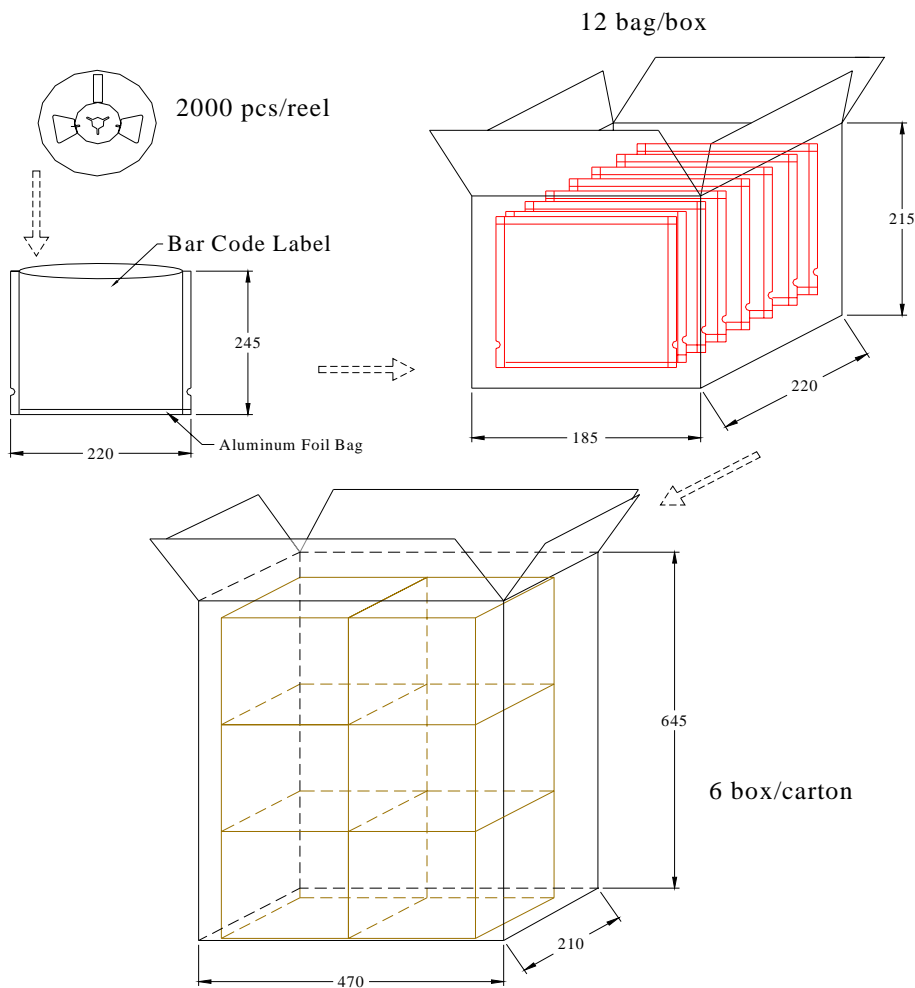


● Tapping and packaging specifications(Units: mm)



NOTE:2000 PCS PER REEL

● Package Method:(unit:mm)



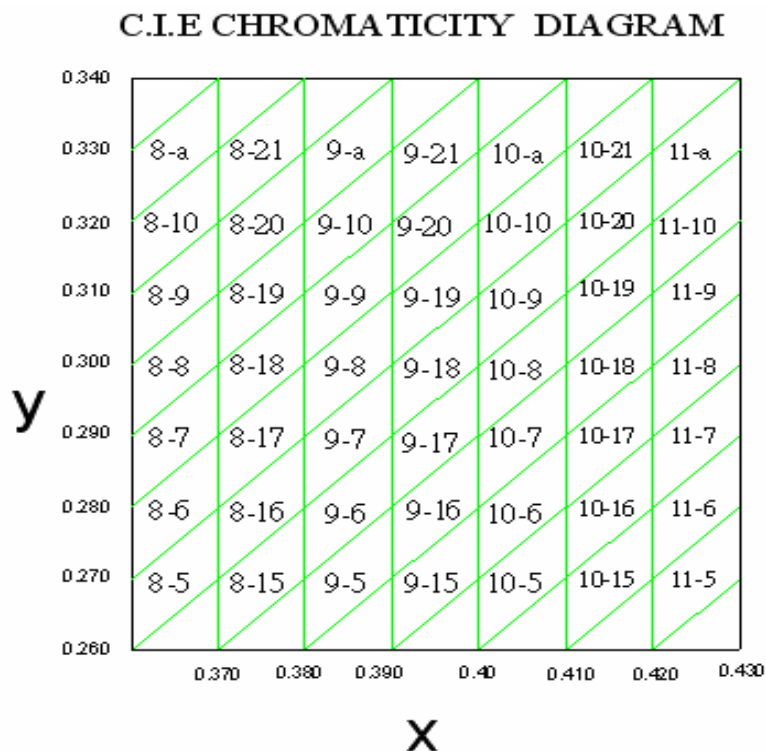
Bin of Luminous Flux (at 150mA)

BIN CODE	Min. (mcd)	Max. (mcd)	Min. (Lm)	Max. (Lm)
L	40000	42500	80	85
M	42500	45000	85	90
N	45000	47500	90	95
P	47500	50000	95	100

Bin of Forward Voltage (at 150 mA)

BIN CODE	Min. (v)	Max. (v)
Z	5.8	6.0
A	6.0	6.2
B	6.2	6.4
C	6.4	6.6
D	6.6	6.8

Chromaticity Diagram (at 150 mA)



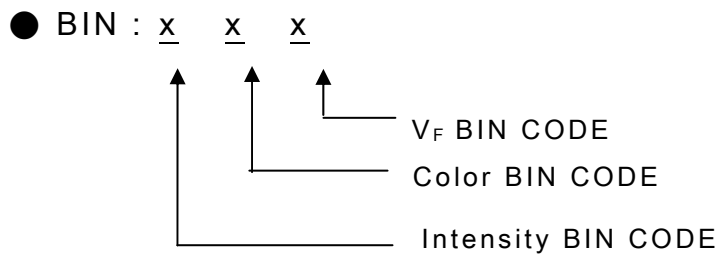
Color Bin Limits (at 150mA)

CCT	BIN	Chromaticity Coordinates				
		x	y	z	w	
2500K 以上	8-5	x	0.36	0.37	0.37	0.36
		y	0.26	0.27	0.28	0.27
	8-6	x	0.36	0.37	0.37	0.36
		y	0.27	0.28	0.29	0.28
	8-7	x	0.36	0.37	0.37	0.36
		y	0.28	0.29	0.30	0.29
	8-8	x	0.36	0.37	0.37	0.36
		y	0.29	0.30	0.31	0.30
	8-9	x	0.36	0.37	0.37	0.36
		y	0.30	0.31	0.32	0.31
	8-10	x	0.36	0.37	0.37	0.36
		y	0.31	0.32	0.33	0.32
	8-a	x	0.36	0.37	0.37	0.36
		y	0.32	0.33	0.34	0.33
	8-15	x	0.37	0.38	0.38	0.37
		y	0.26	0.27	0.28	0.27
	8-16	x	0.37	0.38	0.38	0.37
		y	0.27	0.28	0.29	0.28
	8-17	x	0.37	0.38	0.38	0.37
		y	0.28	0.29	0.30	0.29
	8-18	x	0.37	0.38	0.38	0.37
		y	0.29	0.30	0.31	0.30
	8-19	x	0.37	0.38	0.38	0.37
		y	0.30	0.31	0.32	0.31
	8-20	x	0.37	0.38	0.38	0.37
		y	0.31	0.32	0.33	0.32
	8-21	x	0.37	0.38	0.38	0.37
		y	0.32	0.33	0.34	0.33
	9-5	x	0.38	0.39	0.39	0.38
		y	0.26	0.27	0.28	0.27
	9-6	x	0.38	0.39	0.39	0.38
		y	0.27	0.28	0.29	0.28
9-7	x	0.38	0.39	0.39	0.38	
	y	0.28	0.29	0.30	0.29	
9-8	x	0.38	0.39	0.39	0.38	
	y	0.29	0.30	0.31	0.30	
9-9	x	0.38	0.39	0.39	0.38	
	y	0.30	0.31	0.32	0.31	
9-10	x	0.38	0.39	0.39	0.38	
	y	0.31	0.32	0.33	0.32	
9-a	x	0.38	0.39	0.39	0.38	

	y	0.32	0.33	0.34	0.33
9-15	x	0.39	0.40	0.40	0.39
	y	0.26	0.27	0.28	0.27
9-16	x	0.39	0.40	0.40	0.39
	y	0.27	0.28	0.29	0.28
9-17	x	0.39	0.40	0.40	0.39
	y	0.28	0.29	0.30	0.29
9-18	x	0.39	0.40	0.40	0.39
	y	0.29	0.30	0.31	0.30
9-19	x	0.39	0.40	0.40	0.39
	y	0.30	0.31	0.32	0.31
9-20	x	0.39	0.40	0.40	0.39
	y	0.31	0.32	0.33	0.32
9-21	x	0.39	0.40	0.40	0.39
	y	0.32	0.33	0.34	0.33
10-5	x	0.40	0.41	0.41	0.40
	y	0.26	0.27	0.28	0.27
10-6	x	0.40	0.41	0.41	0.40
	y	0.27	0.28	0.29	0.28
10-7	x	0.40	0.41	0.41	0.40
	y	0.28	0.29	0.30	0.29
10-8	x	0.40	0.41	0.41	0.40
	y	0.29	0.30	0.31	0.30
10-9	x	0.40	0.41	0.41	0.40
	y	0.30	0.31	0.32	0.31
10-10	x	0.40	0.41	0.41	0.40
	y	0.31	0.32	0.33	0.32
10-a	x	0.40	0.41	0.41	0.40
	y	0.32	0.33	0.34	0.33
10-15	x	0.41	0.42	0.42	0.41
	y	0.26	0.27	0.28	0.27
10-16	x	0.41	0.42	0.42	0.41
	y	0.27	0.28	0.29	0.28
10-17	x	0.41	0.42	0.42	0.41
	y	0.28	0.29	0.30	0.29
10-18	x	0.41	0.42	0.42	0.41
	y	0.29	0.30	0.31	0.30
10-19	x	0.41	0.42	0.42	0.41
	y	0.30	0.31	0.32	0.31
10-20	x	0.41	0.42	0.42	0.41
	y	0.31	0.32	0.33	0.32
10-21	x	0.41	0.42	0.42	0.41
	y	0.32	0.33	0.34	0.33
11-5	x	0.42	0.43	0.43	0.42
	y	0.26	0.27	0.28	0.27

	11-6	x	0.42	0.43	0.43	0.42
		y	0.27	0.28	0.29	0.28
	11-7	x	0.42	0.43	0.43	0.42
		y	0.28	0.29	0.30	0.29
	11-8	x	0.42	0.43	0.43	0.42
		y	0.29	0.30	0.31	0.30
	11-9	x	0.42	0.43	0.43	0.42
		y	0.30	0.31	0.32	0.31
	11-10	x	0.42	0.43	0.43	0.42
		y	0.31	0.32	0.33	0.32
	11-a	x	0.42	0.43	0.43	0.42
		y	0.32	0.33	0.34	0.33

Note : CCT tolerance for each Bin limit is $\pm 100K$



Notes:

1. I_v : Tolerance for each Bin limit is $\pm 10 \%$
2. Color : Tolerance for each Bin limit is ± 0.005
3. Bin categories are established for classification of products.
Products may not be available in all bin categories

● Reliability Test

Classification	Test Item	Reference Standard	Test Conditions	Result
Endurance Test	Operation Life	MIL-STD-750:1026 MIL-STD-883:1005 JIS-C-7021 :B-1	I _F =150mA T _a =Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	T _a =+65°C ±5°C RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High T _a =+85°C ±5°C Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low T _a =-35°C ±5°C Test time=1,000hrs	0/20
Environmental Test	Temperature Cycling	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1010 JIS-C-7021 :A-4	-35°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	-35°C ±5°C ~ +85°C ±5°C 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : 140°C -160°C , within 2 minutes. Operation heating : 260°C (Max.), within 10seconds. (Max.)	0/20

● Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V _F (V)	I _F =150mA	Over U ¹ x1.2
Reverse current	I _R (uA)	V _R =5V	Over U ¹ x2
Luminous intensity	I _v (mcd)	I _F =150mA	Below S ¹ X0.5

● Soldering :

1. Manual Soldering

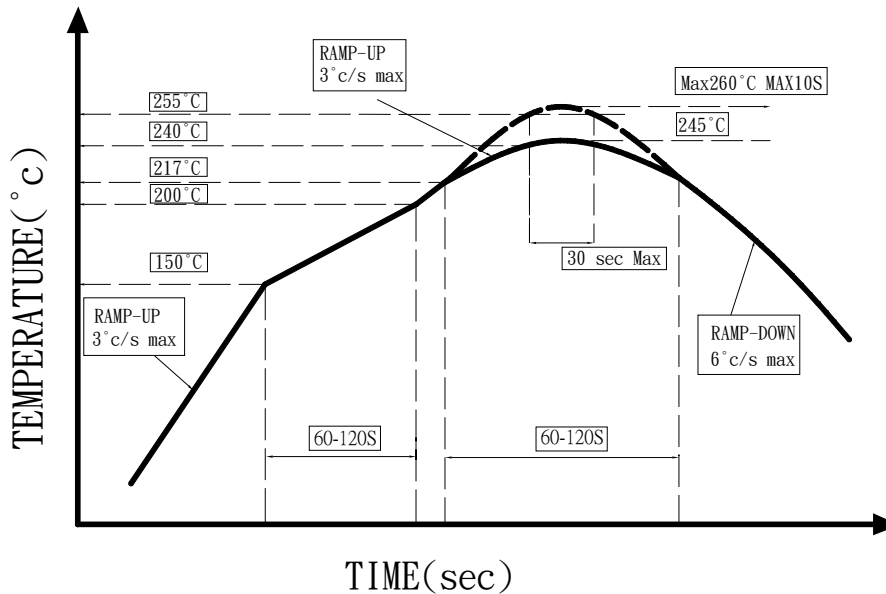
The temperature of the iron tip should not be higher than 350°C and Soldering time to be within 3 seconds per solder-pad.

2. Reflow Soldering

Preheating : 140°C ~ 160°C ± 5°C, within 2 minutes.

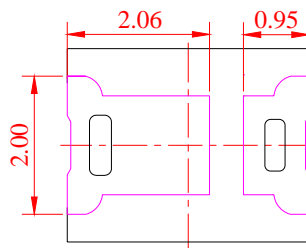
Operation heating : 260°C (Max.) within 10 seconds. (Max)

Gradual Cooling (Avoid quenching).

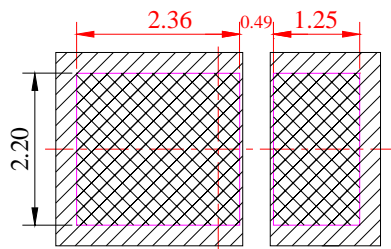


● Recommended Soldering Pattern (Unit:mm)

Front View



Solder Pad



● Handling :

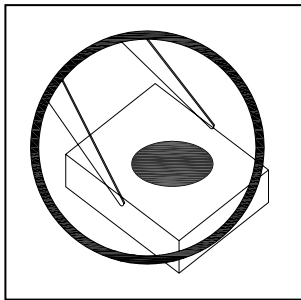
Care must be taken not to damage LED's epoxy resin while exposing to high temperature or contact LED's epoxy resin with hard or sharp objects, such as metal hook, tweezers or sand blasting.

Handling Precautions

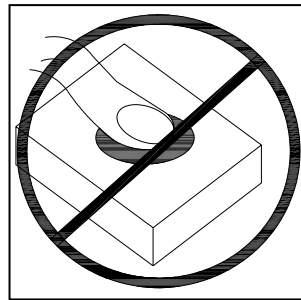
Compare to epoxy encapsulant that is hard and brittle, silicone is softer and flexible. Although its characteristic significantly reduces thermal stress, it is more susceptible to damage by external mechanical force.

As a result, special handling precautions need to be observed during assembly using silicone encapsulated LED products. Failure to comply might lead to damage and premature failure of the LED.

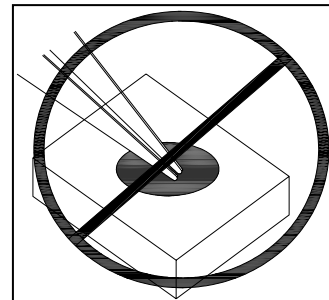
1. Handle the component along the side surfaces by using forceps or appropriate tools.(pic.1)
2. Do not directly touch or handle the silicone lens surface. It may damage the internal circuitry. (pic.2,pic.3)
3. Do not stack together assembled PCBs, containing exposed LEDs. Impact may scratch the silicone lens or damage the internal circuitry. (pic.4)
4. The outer diameter of the SMD pickup nozzle should not exceed the size of the LED to prevent air leaks. The inner diameter of the nozzle should be as large as possible. (pic.5)
5. A pliable material is suggested for the nozzle tip to avoid scratching or damaging the LED surface during pickup. (pic.5)
6. The dimensions of the component must be accurately programmed in the pick-and-place machine to insure precise pickup and avoid damage during production. (pic.5)



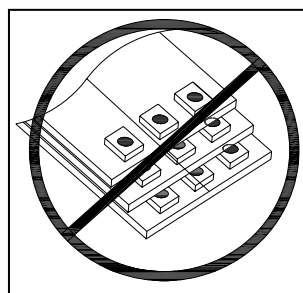
Pic.1



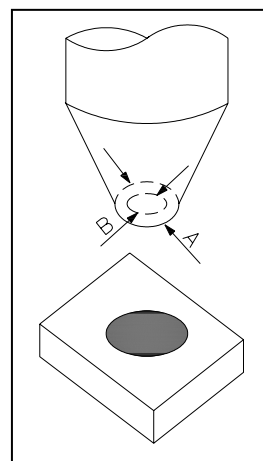
Pic.2



Pic.3



Pic.4



Pic.5

● **Notes for designing:**

Care must be taken to provide the current limiting resistor in the circuit so as to drive the LEDs within the rated figures. Also, caution should be taken not to overload LEDs with instantaneous voltage at the turning ON and OFF of the circuit.

When using the pulse drive care must be taken to keep the average current within the rated figures. Also, the circuit should be designed so as to be subjected to reverse voltage when turning off the LEDs.

● **Storage:**

In order to avoid the absorption of moisture, it is recommended to solder 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, devices that will be applied to infrared reflow, vapor-phase reflow, or equivalent soldering process must be:
 - a. Completed within 168 hours.
 - b. Stored at less than 30% RH.
- (3) Devices require baking before mounting, if:
 - 2a or 2b 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 2000 pcs (one taping reel) and a label is attached to each bag.
- (2) Label:

