

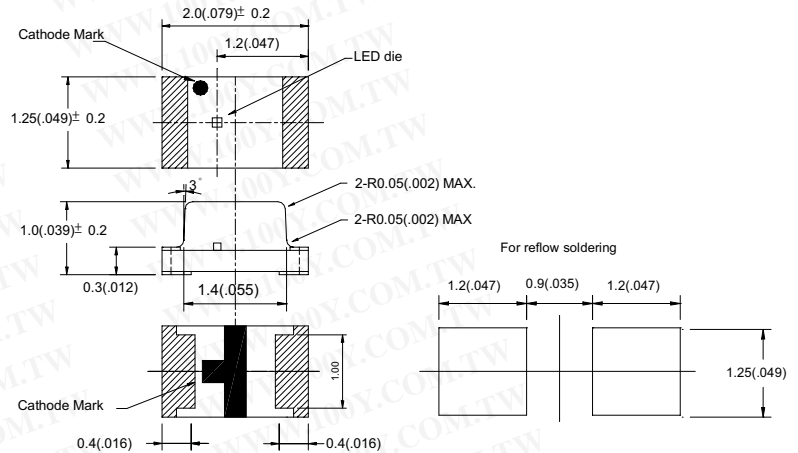
## ● Features:

1. Emitted Color : Super Blue
2. Lens Appearance : Water Clear.
3. Mono-color type.
4. 2.0x1.25x1.0mm(0805) standard package.
5. Suitable for all SMT assembly methods.
6. Compatible with infrared and vapor phase reflow solder process.
7. Compatible with automatic placement equipment.

## ● Applications:

1. Automotive : Dashboards, stop lamps, turn signals.
2. Backlighting : LCDs, Key pads advertising.
3. Status indicators : Consumer & industrial electronics.
4. General use.

## ● Package Dimensions:



### NOTES:

1. All dimensions are in millimeters (inches).
2. Tolerance is  $\pm 0.10\text{mm}$  (0.004") unless otherwise specified.
3. Specifications are subject to change without notice.

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## ● Absolute Maximum Ratings(Ta=25°C)

Parameter	Symbol	Rating	Unit
Power Dissipation	Pd	120	mW
Forward Current	I <sub>F</sub>	30	mA
Peak Forward Current * 1	I <sub>FP</sub>	100	mA
Reverse Volage	V <sub>R</sub>	5	V
Operating Temperature	Topr	-25°C~80°C	-
Storage Temperature	Tstg	-30°C~85°C	-
Soldering Temperature	Tsol	See Page6	-

\* 1 Condition for I<sub>FP</sub> is pulse of 1/10 duty and 0.1msec width.

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

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V <sub>f</sub>	I <sub>F</sub> =5mA I <sub>F</sub> =10mA	-	2.8 3.0	3.2 3.5	V
Luminous Intensity	I <sub>v</sub>	I <sub>F</sub> =5mA I <sub>F</sub> =10mA	8.2 28	20 40	-	mcd
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	-	-	100	μA
Peak Wave Length	λ <sub>p</sub>	I <sub>F</sub> =5mA I <sub>F</sub> =10mA	-	470	-	nm
Dominant Wave Length	λ <sub>d</sub>	I <sub>F</sub> =5mA I <sub>F</sub> =10mA	470 467	-	475 472	nm
Spectral Line Half-width	Δλ	I <sub>F</sub> =5mA I <sub>F</sub> =10mA	-	30	-	nm
Viewing Angle	2θ <sub>1/2</sub>	I <sub>F</sub> =5mA I <sub>F</sub> =10mA	-	120	-	deg

## ● Typical Electro-Optical Characteristics Curves

Fig.1 Relative intensity vs. wavelength

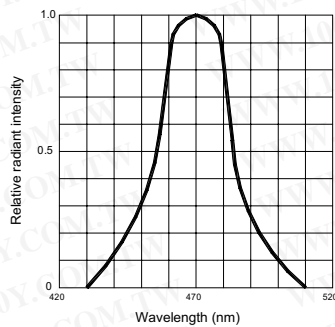


Fig.2 Forward current derating curve vs. ambient temperature

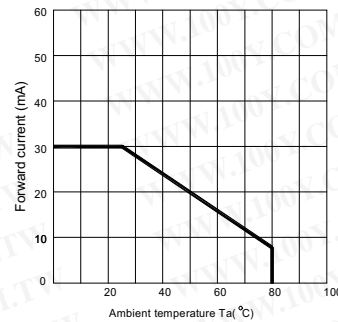


Fig.3 Forward current vs. forward voltage

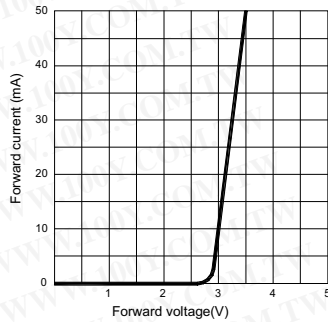


Fig.4 Relative luminous intensity vs. ambient temperature

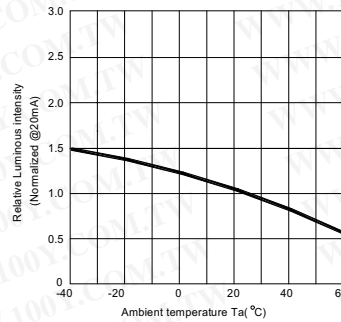


Fig.5 Relative luminous intensity vs. forward current

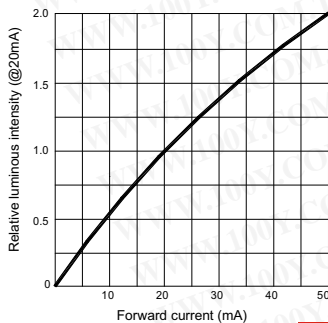
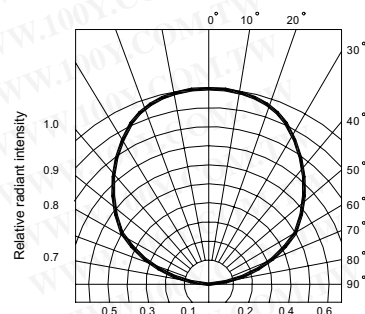
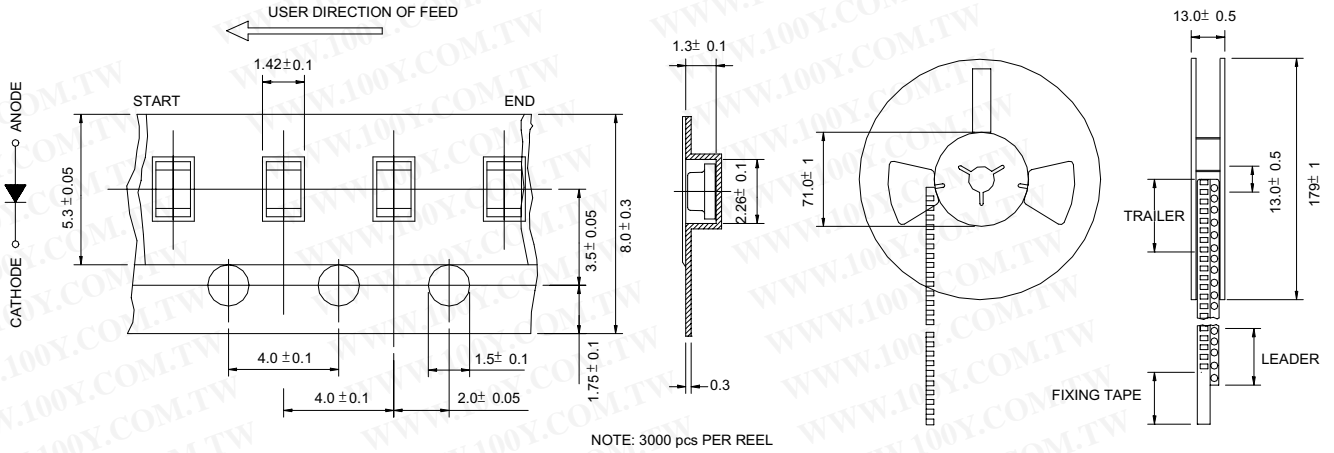


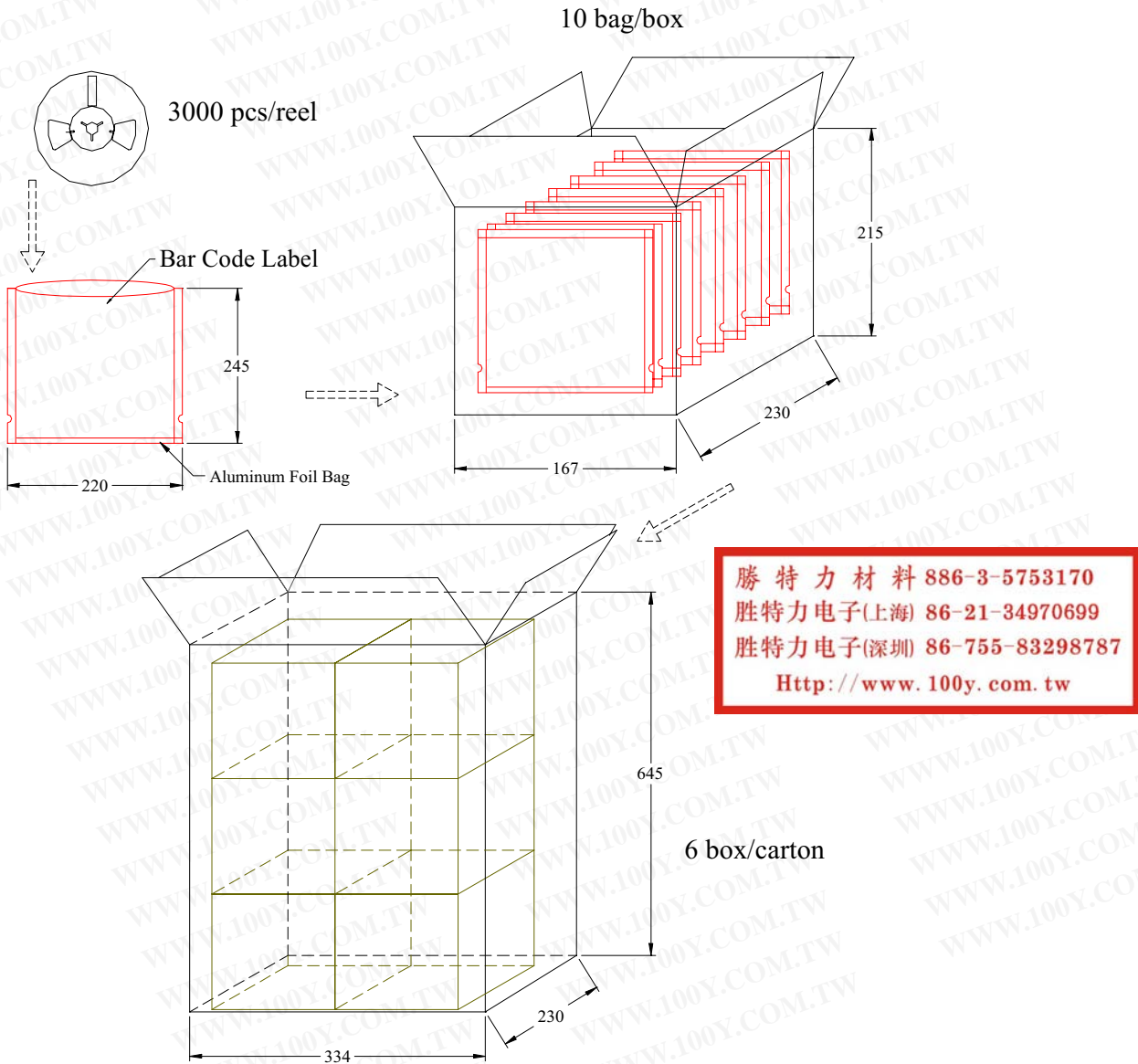
Fig.6 Radiation diagram



● Tapping and packaging specifications(Units: mm)



● Package Method:(unit:mm)



## ● Bin Limits

### Intensity Bin Limits (At 5mA)

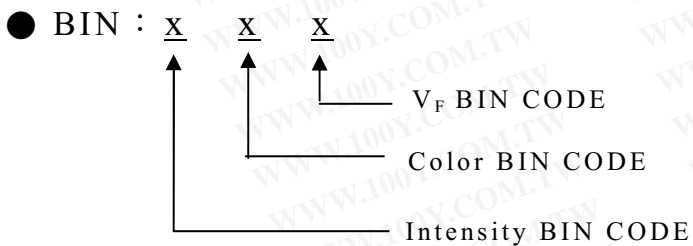
BIN CODE	Min. (mcd)	Max. (mcd)
J	7.0	14.0
K	11.0	21.0
L	16.0	32.0
M	24.0	48.0

### Color Bin Limits (At 5mA)

BIN CODE	Min. (nm)	Max. (nm)
5	469	476

### $V_F$ Bin Limits (At 5mA)

BIN CODE	Min.(v)	Max.(v)
E	2.35	2.65
F	2.55	2.85
G	2.75	3.05
H	2.95	3.25



勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## ● 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	Connect with a power $I_F=20\text{mA}$ $T_a$ =Under room temperature Test time=1,000hrs	0/20
	High Temperature High Humidity Storage	MIL-STD-202:103B JIS-C-7021 :B-11	$T_a=+65^\circ\text{C}\pm 5^\circ\text{C}$ RH=90%-95% Test time=240hrs	0/20
	High Temperature Storage	MIL-STD-883:1008 JIS-C-7021 :B-10	High $T_a=+85^\circ\text{C}\pm 5^\circ\text{C}$ Test time=1,000hrs	0/20
	Low Temperature Storage	JIS-C-7021 :B-12	Low $T_a=-35^\circ\text{C}\pm 5^\circ\text{C}$ 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	$-35^\circ\text{C} \sim +25^\circ\text{C} \sim +85^\circ\text{C} \sim +25^\circ\text{C}$ 60min 20min 60min 20min Test Time=5cycle	0/20
	Thermal Shock	MIL-STD-202:107D MIL-STD-750:1051 MIL-STD-883:1011	$-35^\circ\text{C}\pm 5^\circ\text{C} \sim +85^\circ\text{C}\pm 5^\circ\text{C}$ 20min 20min Test Time=10cycle	0/20
	Solder Resistance	MIL-STD-202:201A MIL-STD-750:2031 JIS-C-7021 :A-1	Preheating : $140^\circ\text{C}-160^\circ\text{C}$ , within 2 minutes. Operation heating : $235^\circ\text{C}$ (Max.), within 10seconds. (Max.)	0/20

勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

## ● Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgement criteria for failure
Forward voltage	$V_F$ (V)	$I_F=20\text{mA}$	Over $U_x1.2$
Reverse current	$I_R$ ( $\mu\text{A}$ )	$V_R=5\text{V}$	Over $U_x2$
Luminous intensity	$I_v$ (mcd)	$I_F=20\text{mA}$	Below $SX0.5$

Note: 1.U means the upper limit of specified characteristics. S means initial value.

2.Measurment shall be taken between 2 hours and after the test pieces have been returned to normal ambient conditions after completion of each test.

## ● Soldering :

### 1. Manual Of Soldering

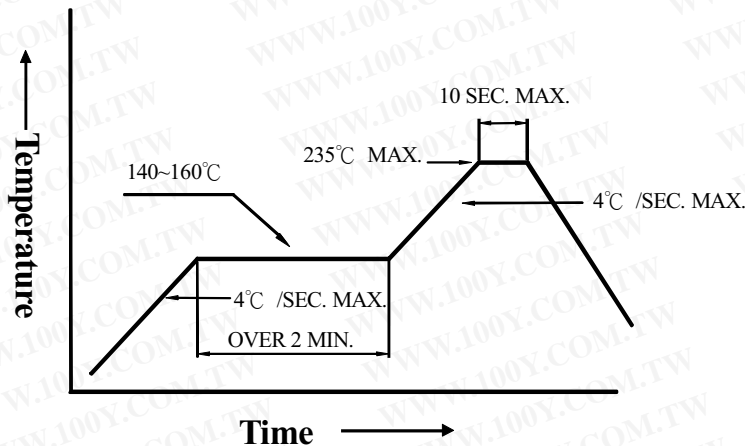
The temperature of the iron tip should not be higher than  $300^{\circ}\text{C}$  ( $572^{\circ}\text{F}$ ) and Soldering within 3 seconds per solder-land is to be observed.

### 2. Reflow Soldering

Preheating :  $140^{\circ}\text{C} \sim 160^{\circ}\text{C} \pm 5^{\circ}\text{C}$ , within 2 minutes.

Operation heating :  $235^{\circ}\text{C}$  (Max.) within 10 seconds.(Max)

Gradual Cooling (Avoid quenching).

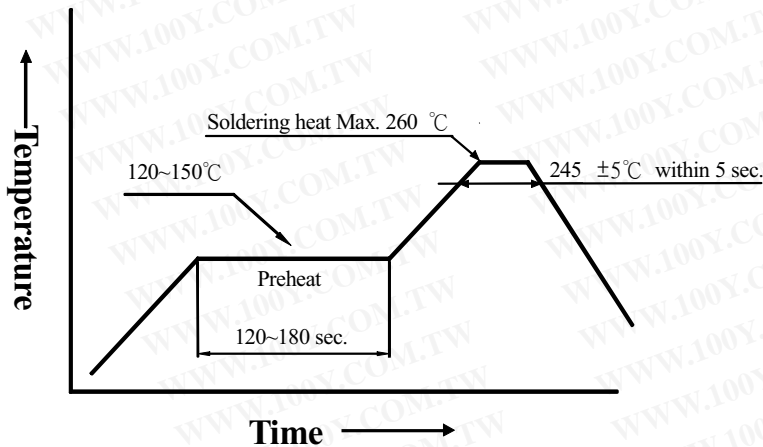


### 3. DIP soldering (Wave Soldering) :

Preheating :  $120^{\circ}\text{C} \sim 150^{\circ}\text{C}$ , within 120~180 sec.

Operation heating :  $245^{\circ}\text{C} \pm 5^{\circ}\text{C}$  within 5 sec.  $260^{\circ}\text{C}$  (Max)

Gradual Cooling (Avoid quenching).



勝特力材料 886-3-5753170  
 勝特力电子(上海) 86-21-34970699  
 勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)