健 隆 投 資 有 限 公 司
STRONG BASE INVESTMENT LTD.
Unit 17, 11/F., Hewlett Centre, 52-54 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong.
Tel: (852) 2793 3293 Fax: (852) 2793 3096

ISO 9001 Registered
UKAS QUALITY MANAGEMENT 015

編 號 **Ref. No.**	
日 期 **Issued Date**	2015-10-27

Approval Sheet
(確 認 書)

公司名稱 **Company Name** :

產品編號 **Part No.** : SB-170HY-CT

產品種類 **Category** : LED-SMD

產品描述 **Description** : 0805， YELLOW ,WATER CLEAR

客戶產品編號 **Customer No.** :

備注 **Remarks** :

STRONG BASE			
ISSUER	**APPROVER**	**CHECKER**	**ENGINEER**
	朱美丽	叶楠	高雪

Authorized Signature 客 戶 簽 字				
部 門 **Department**				
簽 字 **Signature**				

工廠名稱:宇之亮電子(深圳)有限公司
工廠地址:廣東省深圳市龍崗區橫崗鎮荷坳村金源工業區
Company Name: Pretty Light (Shen Zhen) Limited
Factory Address:jin-Yuan,Industrial Zone He-Ao Cun,Heng-Gang
Zhen Long-Gang Area,Shen-Zhen City,
TEL: (755) 8976 7303 2869 6588 FAX: (755) 89767754 89767566

Surface Mounted Chip LED

SB-170HY-CT

◆Features：

- Compatible with automatic placement equipment
- Compatible with reflow solder process

◆Applications：

- Automotive_Telecommunication
- Indicators
- LCD Back-lights
- Illuminations

Dice Material	Light Color	Lens Color
GaAsP	Yellow	Water Clear

◆Absolute Maximum Ratings (Ta=25℃)

Item	Symbol	Maximum	Unit
Power Dissipation	P_D	65	mW
Continuous Forward Current	I_{Fmax}	25	mA
Peak Forward Current (1/10 Duty Cycle 0.1ms Pulse Width)	I_{FP}	100	mA
Reverse Voltage	V_R	5	V
Derating Linear From 25℃		0.4	mA/℃
Operating Temperature Range	Topr	-40 to +85	℃
Storage Temperature Range	Tstg	-40 to +85	℃

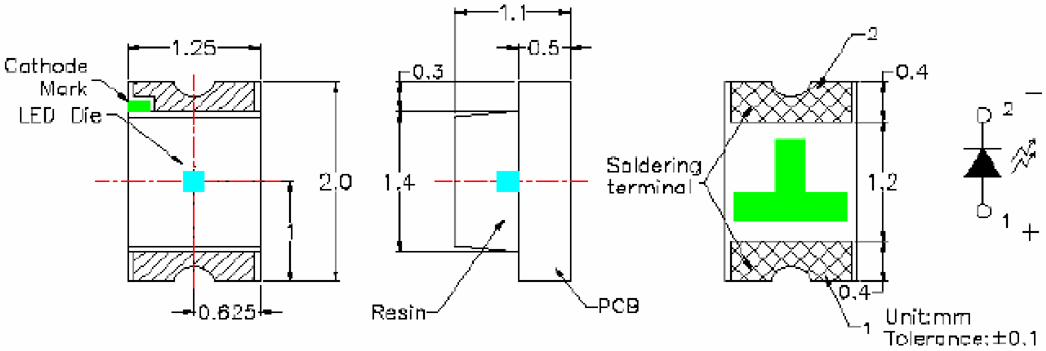
◆Electrical / Optical Characteristics (Ta=25℃)

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	I_F= 5mA	1.7	1.9	2.0	V
		I_F=20mA		2.1	2.4	
Reverse Current	I_R	V_R=5V			10	uA
Peak Emission Wavelength	λ_P	I_F=20mA		583		nm
Dominant Wavelength	λ_D	I_F=5mA	582	588	594	nm
		I_F=20mA	585	590	596	
Viewing Angle	$2\theta 1/2$	I_F=20mA		140		Deg
Luminous Intensity	I_V	I_F=5mA	0.4	0.7		mcd
		I_F=20mA	3.6	7.2		

※The measuring tolerance → Luminous intensity ±15%
Wavelength (λ_D) ±2nm

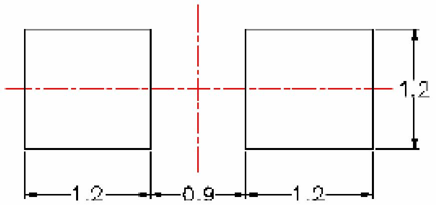
◆Dimensions / Taping and Package Spec.

● Package Dimensions of Device (SB-170 Series)



1. Soldering terminal may shift in x, y direction.

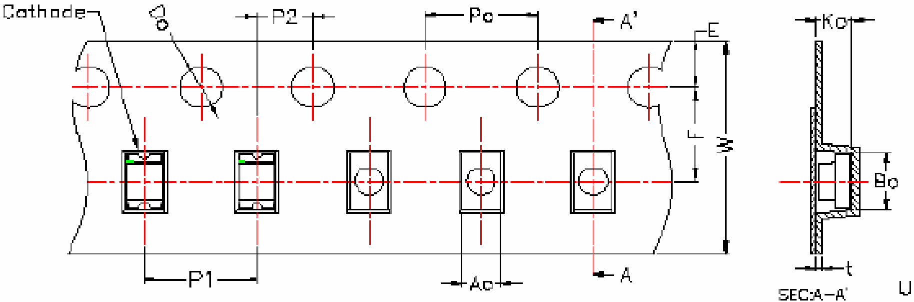
● Recommended Soldering Pad Dimensions



Unit:mm

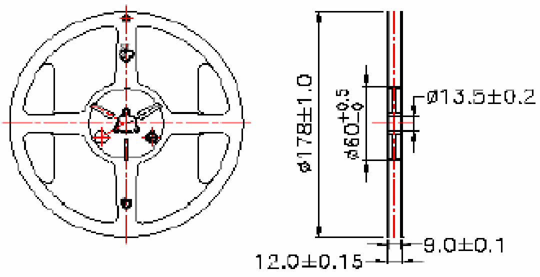
● Tape Specification : 3000pcs Per Reel

Packing Size													
Item	W	P1	E	F	Do	D1	Po	10Po	P2	Ao	Bo	Ko	t
Spec.	8.00	4.00	1.75	3.50	1.50	1.00	4.00	40.00	2.00	1.40	2.25	1.35	0.23
Tolerance	±0.20	±0.10	±0.10	±0.05	$^{+0.10}_{-0.00}$	±0.05	±0.05	±0.20	±0.05	±0.10	±0.10	±0.10	±0.05



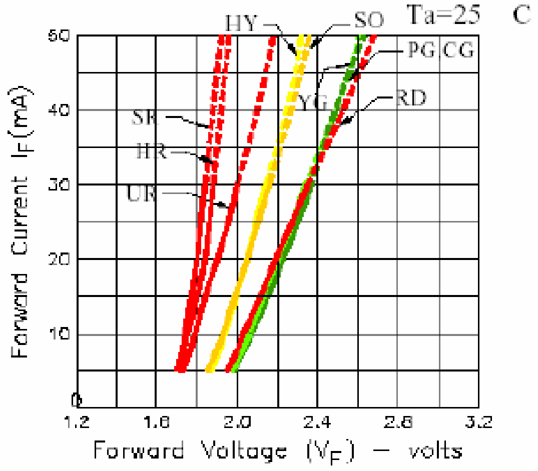
Unit:mm

● Package Dimensions of Reel

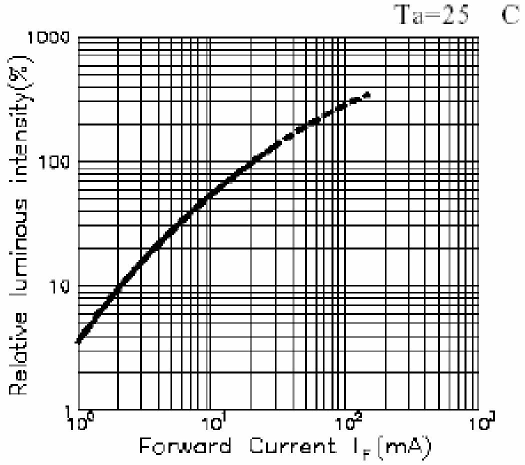


Unit:mm

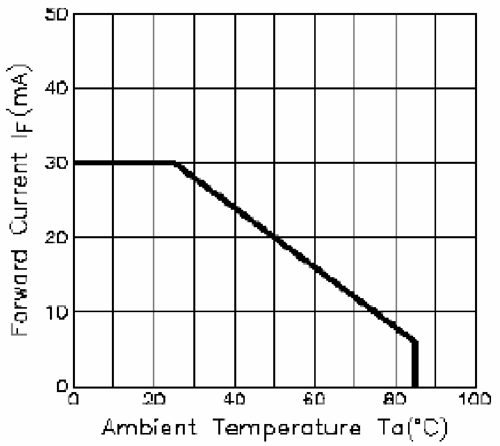
Forward Current Vs. Forward Voltage



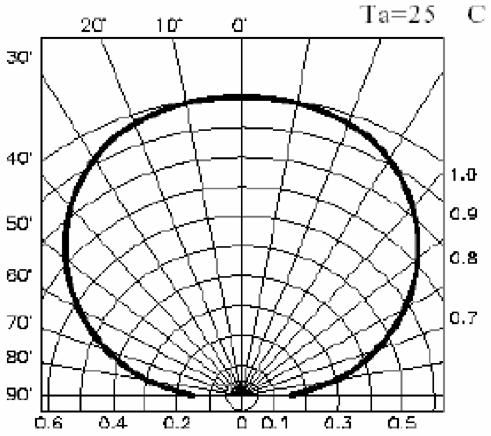
Luminous Intensity Vs. Forward Current



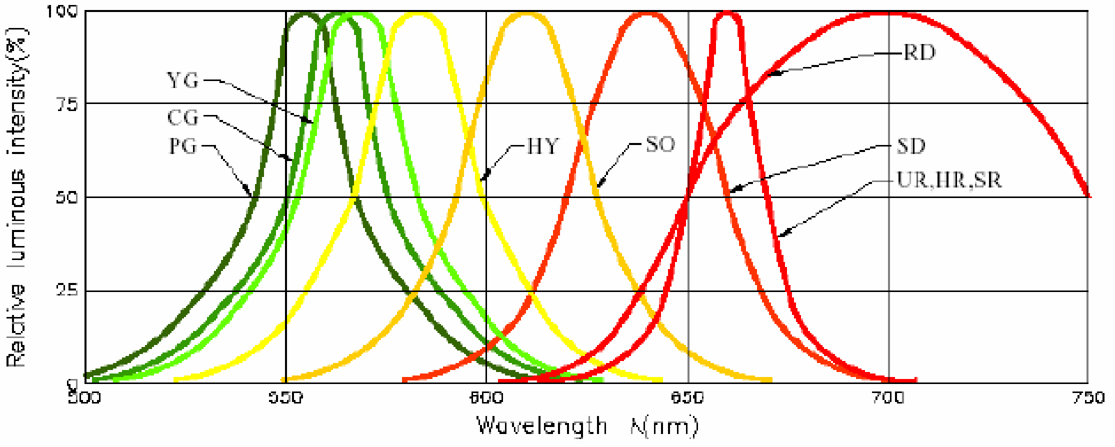
Forward Current Derating Curve



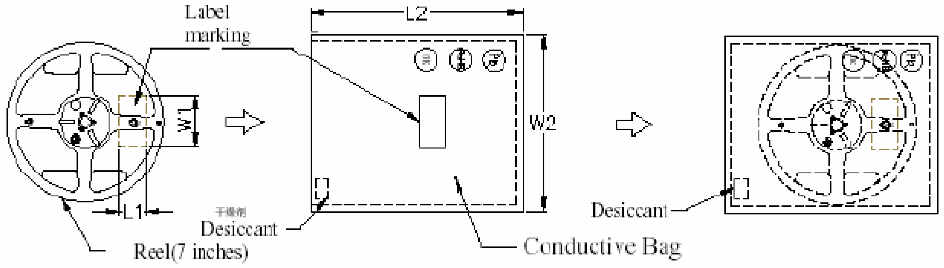
Radiation Diagram



Spectrum Distribution

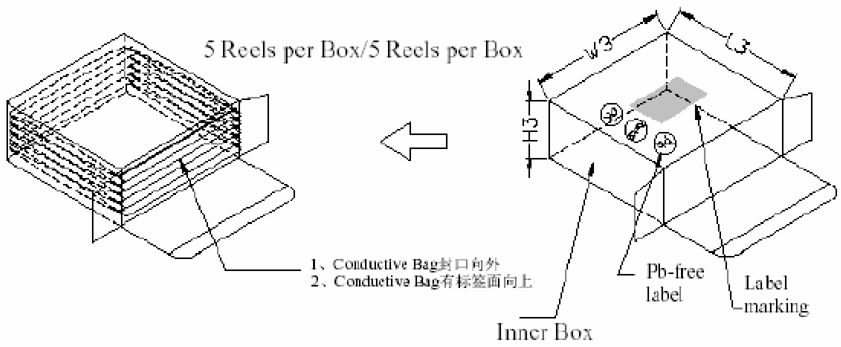


◆ Packing and Shipping Instruction



Dimension	L1	W1	L2	W2
Spec.	30.0	60.0	260.0	230.0

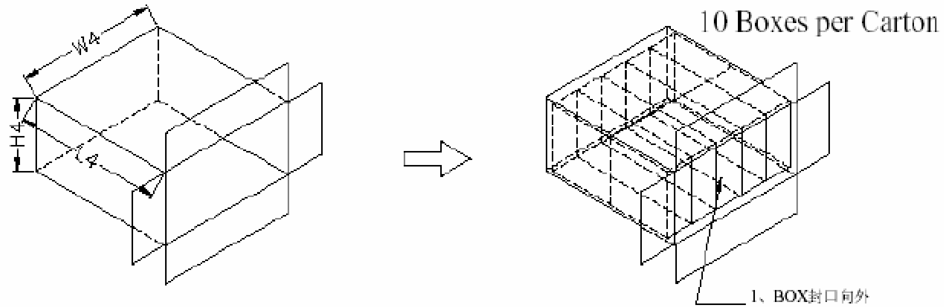
Unit ： mm



1、Conductive Bag封口向外
2、Conductive Bag有标签面向上

Dimension	L3	W3	H3
Outside	278	238	77
Inside	277.7	237.4	76.4

Unit ： mm



1、BOX封口向外
2、BOX有标签面向左立放

Dimension	L4	W4	H4
Outside	571	400	248
Inside	570.3	398.6	246.6

Unit ： mm

◆ Descriptions：

- The Chip-LED Taping is much smaller than lead frame type components, thus enable smaller board size, higher packing density, reduced storage space and finally smaller equipment to be obtained.
- Besides, lightweight makes them ideal for miniature application, etc.

◆Reliability Test Items And Conditions：

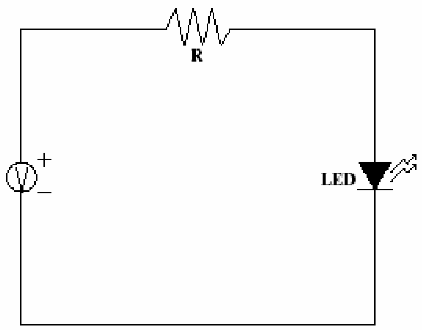
No.	Item	Test Conditions	Test hr/cycle/time	Sample Q'ty	Ac / Re
1	Solder Heat	TEMP：260℃±5℃；10±1 sec	2 times	30 pcs	0 / 1
2	Solderbility Test ※	TEMP：235℃±5℃；3±1 sec	1 time	5 pcs	0 / 1
3	Temperature Cycle	H：+85℃ 30min. ∫ 5min. L：-40℃ 30min.	100 cycles	20 pcs	0 / 1
4	Thermal Shock	H：+85℃ 5min. ∫ L：-40℃ 5min.	50 cycles	20 pcs	0 / 1
5	High Temperature Storage	TEMP：85℃	1000 hrs	20 pcs	0 / 1
6	Low Temperature Storage	TEMP：-40℃	1000 hrs	20 pcs	0 / 1
7	DC Operating Life	$I_F = I_{Fmax}$	1000 hrs	20 pcs	0 / 1
8	High Temperature High Humidity	85℃ / 90～95%R.H.	1000 hrs	20 pcs	0 / 1
9	Shocking test	100～2000Hz ；$98.1 m/s^2$ X,Y,Z direction	2 hrs	20 pcs	0 / 1
10	Dropping test	Put on pallet ；height：75cm	3 times	20 pcs	0 / 1

Judgment Criteria	
Forward Voltage V_F	V_F Max-Increase < 1.1x
Reverse Current I_R	I_R Max-Increase < I_{Rmax}
Luminous Intensity I_V	I_V Decay < 40%

※Solderbility test criteria：coverage is not less than 95%

Note：Measurement shall be taken after the tested samples have been returned to normal ambient conditions (generally after two hours)

◆Test Circuit



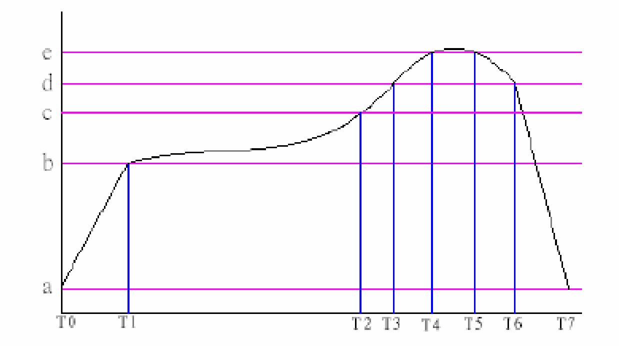
◆Precautions For Use：

- Overdrive current proof
  Customer must apply resistors for protection, otherwise slight voltage shift will cause current change with great deal. （Burn out will happen）
- Storage

1. The operation of temperature and R.H. are：5℃～30℃, 60%R.H. Max..
2. Once the package is opened, the products should be used within a week. Otherwise, they should be kept in a damp-proof box with desiccant. Considering the tape life, we suggest our customers to use our products within 1.5 year（from production date）.
3. It's recommended to bake before soldering when the package is unsealed more than 72 hrs. The condition is：60℃±5℃ for 15hrs.

◆Reflow Temp. / Time：

TEMP (℃)		TIME (sec)	
a	25	T0~T1	5℃/sec max
b	150	T1~T2	90～130
c	200	T2~T3	5℃/sec max
d	230	T3~T6	60～90
e	260	T4~T5	10±1
		T6~T7	-6℃/sec max
MSL level		**Level 1**	



◆Hand Soldering Iron：

- Temperature at tip of iron：400℃ Max.（35W Max.）
- Soldering time：3 ±1sec.