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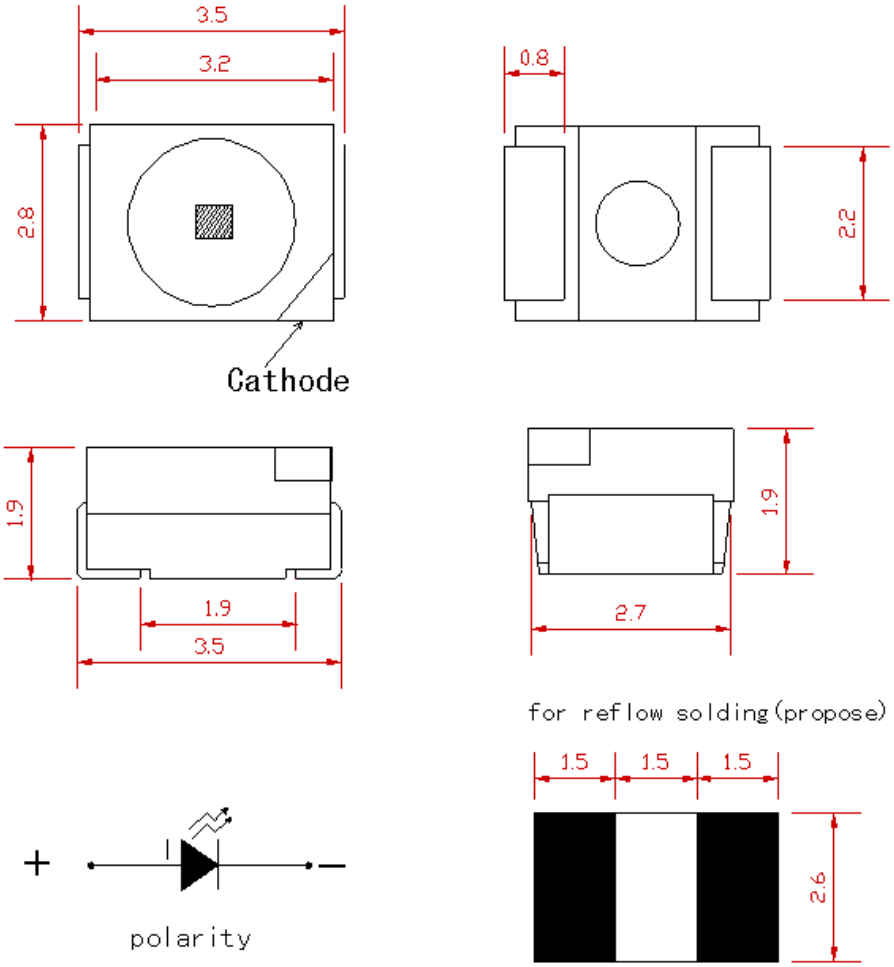
DATA SHEET

PART NO.: LT670LBCT-BKS

REV: A/0

CUSTOMER'S APPROVAL : _____ DCC : _____

- **Features**
  - Fluorescence Type
  - High Luminous Intensity
  - High Efficiency
  - Pb-free.
  - The product itself will remain within RoHS compliant version.
- **Application**
  - General lighting
  - Decorative and Entertainment Lighting.
  - Indicators.
  - Illuminations.
  - Switch lights.
- **Package Outline Dimensions**



otes:

1. All dimensions are in millimeters.
2. Tolerance is ± 0.10mm (.004") unless otherwise noted.

● CHIP MATERIALS

＊ Dice Material : InGaN
＊ Light Color : Blue
＊ Lens Color : Water Clear

● Absolute Maximum Ratings(Ta=25℃)

Symbol	Parameter	Rating	Unit
P_D	Power Dissipation	60	mW
I_{PF}	Peak Forward Current (1/10 Duty Cycle, 0.1ms Pulse Width)	30	mA
I_F	Continuous Forward Current	20	mA
V_R	Reverse Voltage	5	V
ESD	Electrostatic Discharge Threshold(HBM)Note A	2000	V
Topr	Operating Temperature Range	-40 ~ + 85	℃
Tstg	Storage Temperature Range	-40 ~ + 100	℃
Tsld	Soldering Temperature (One times MAX.)	Reflow Soldering:260℃ (for 5seconds)	
		Hand Soldering:300℃ (for 3 seconds)	

Note A :
HBM : Human Body Model. Seller gives no other assurances regarding the ability of to withstand ESD.

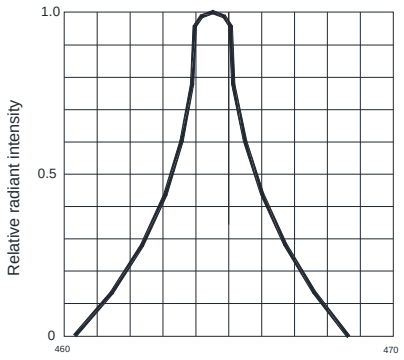
● Electrical and optical characteristics(Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Flux	Φ_V	1	---	2	lm	IF =20mA
Viewing Angle	2θ1/2	---	120	---	deg	IF =20mA
Dominant Wavelength	λd	465	---	475	nm	IF =20mA
Forward Voltage	VF	2.8	---	3.4	V	IF =20mA
Reverse Current	IR	---	---	10	uA	VR=5V

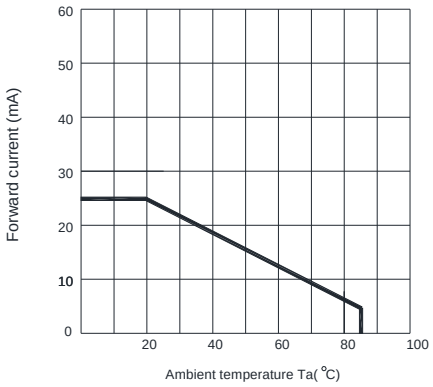
Notes: 1. Tolerance of measurement of luminous flux is ±15%.
2. Tolerance of measurement of dominant wavelength is ±1nm.
3. Tolerance of measurement of Vf is ±0.05 V.

● Typical Electro-Optical Characteristics Curves

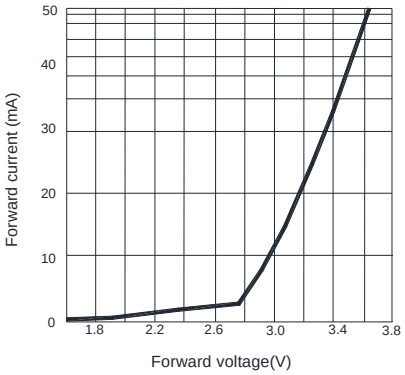
Relative intensity vs. wavelength(Ta=25℃)



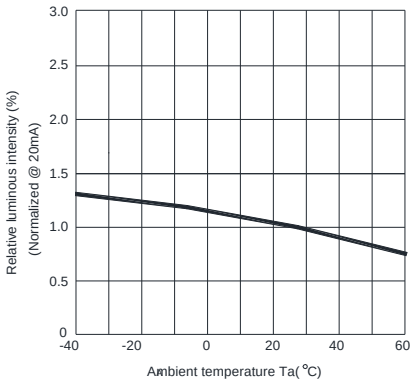
Forward current derating curve
vs. ambient temperature



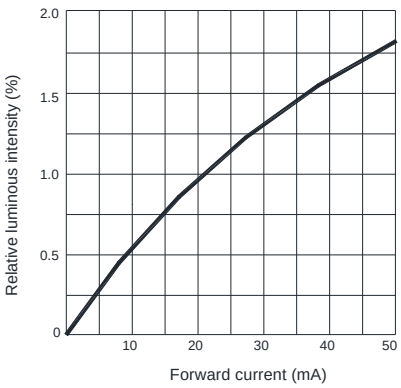
Forward current vs. forward voltage(Ta=25℃)



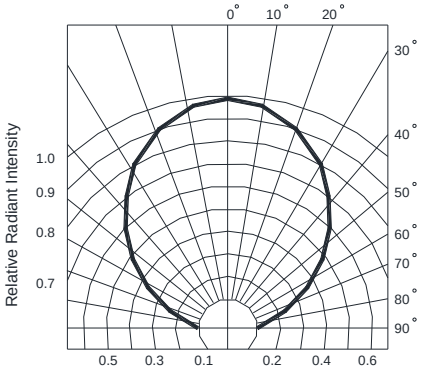
Luminous intensity vs.
ambient temperature



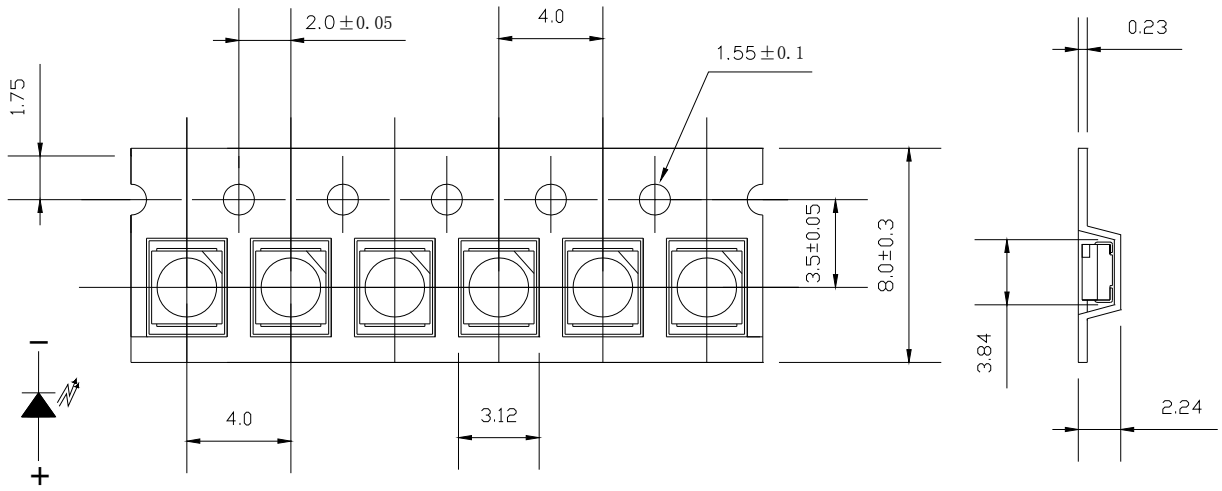
Relative luminous intensity vs. forward current



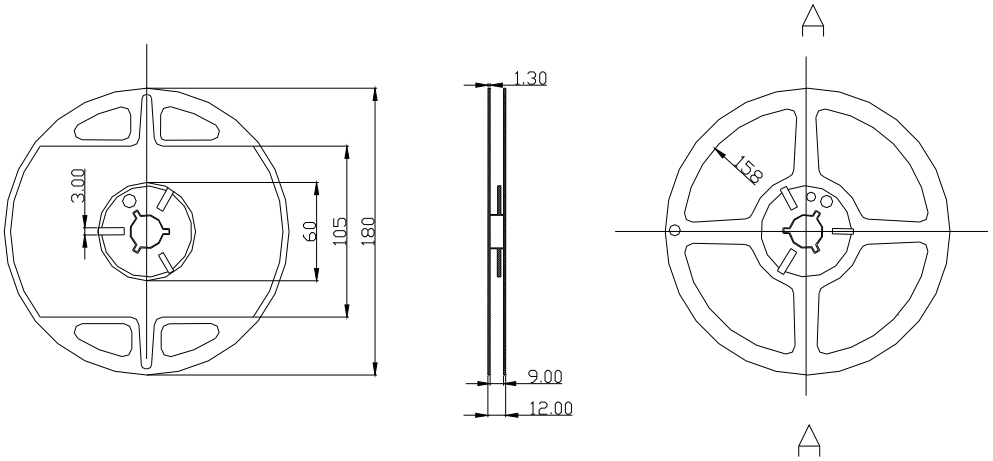
Radiation diagram



● Package Dimensions Of Tape And Reel

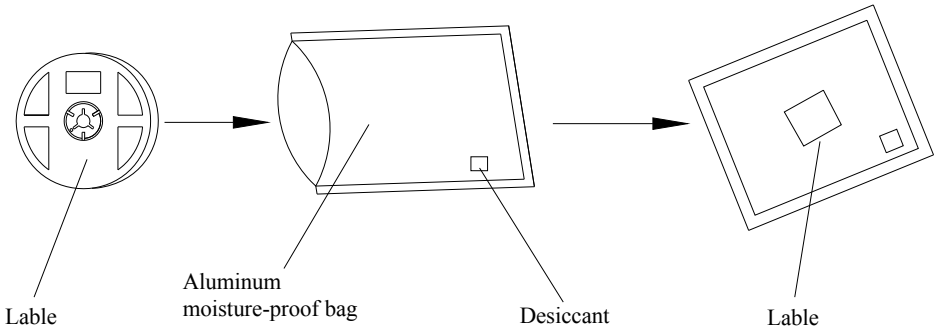


Note: Tolerance unless mentioned is ±0.1mm; Unit = mm



Carrier Tape Dimensions: Loaded Quantity 2000 pcs Per Reel.

● Moisture Resistant Packaging



Precautions for Use

1. Over-current-proof

   Customer must apply resistors for protection; otherwise slight voltage shift will cause big current change (Burn out will happen).

2. Storage

   2.1 Do not open moisture proof bag before the products are ready to use.

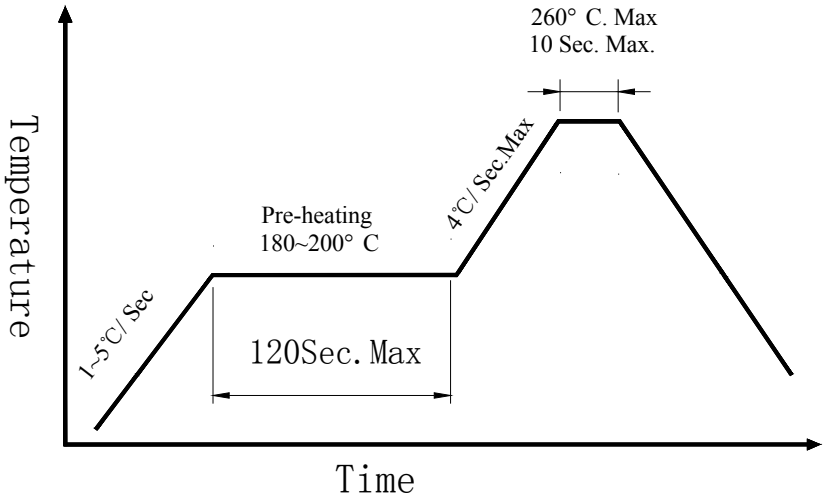
   2.2 Before opening the package: The LEDs should be kept at 30℃ or less and 90%RH or less.

   2.3 After opening the package: The LED's floor life are 168 hours under 30℃ or less and 60% RH or less. If unused LEDs remain, it should be stored in moisture proof packages.

   2.4 If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions.
   Baking treatment: 60±5℃ for 24 hours.

3. Soldering Condition

   3.1 Pb-free solder temperature profile



   3.2 Reflow soldering should not be done more than two times.

   3.3 When soldering, do not put stress on the LEDs during heating.

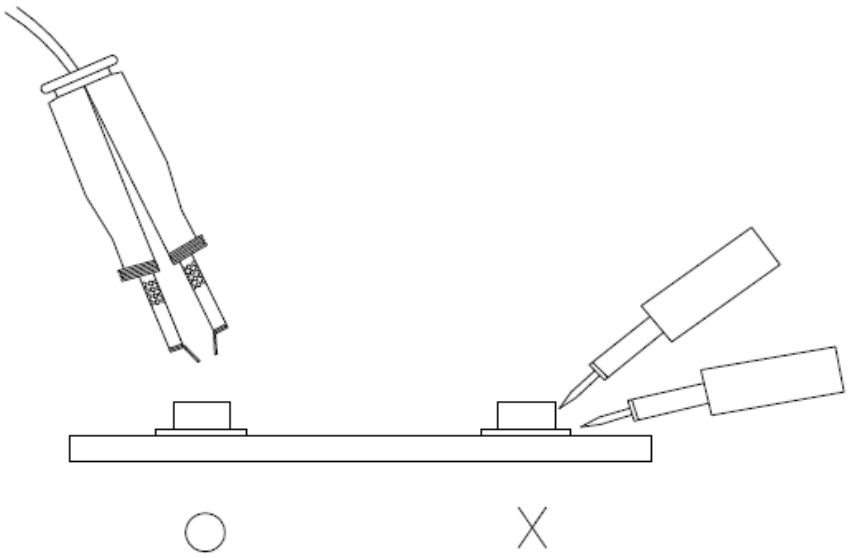
   3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

   Each terminal is to go to the tip of soldering iron temperature less than 350℃ for 3 seconds within once in less than the soldering iron capacity 25W. Leave two seconds and more intervals, and do soldering of each terminal. Be careful because the damage of the product is often started at the time of the hand solder.

5. Repairing

   Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed beforehand whether the characteristics of the LEDs will or will not be damaged by repairing.



6、Test Items And Results

The reliability of products shall be satisfied with items listed below.

Confidence level：90%.

LTPD：10%.

No.	Items	Test Condition	Test Hours/ Cycles	Sample Size	Ac/Re
1	Reflow Soldering	Temp. : 260℃±5℃ Min. 5sec.	6 Min.	22 PCS	0/1
2	Temperature Cycle	H : +100℃ 15min ∫ 5 min L : -40℃ 15min	300 Cycles	22PCS	0/1
3	Thermal Shock	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	300PCS	22PCS	0/1
4	High Temperature Storage	Temp. : 100℃	1000Hrs	22PCS	0/1
5	Low Temperature Storage	Temp. : -40℃	1000Hrs	22PCS	0/1
6	Dc Life	IF = 20 mA	1000Hrs	22PCS	0/1
7	High Temperature / High Humidity	85℃/ 85%RH	1000Hrs	22PCS	0/1
8	Drop Test	75cm	3 Times	22PCS	0/1

● **PART NO. SYSTEM :**

L – T 67 0 X X T - X X X X

XXXX : Special specification for customer

T : Taping for 7 inch reel
TC : Taping for 13 inch reel

Lens color
C : Water Clear
W : White Diffused
T : Color Transparent
D : Color Diffused

KY : 9mil AlInGap 590nm Super Yellow
KR : 9mil AlInGap 630 nm Super Red
TE : 14mil AlInGap 624 nm Super Red
TY: 14mil AlInGap590 nm Super Yellow
LB : InGaN ITO rough 470nm Blue
LG : InGaN ITOrough520nm Green
W : InGaN + YAG White color
……

0 : Single chip
1/2 : Super thin single chip
5/6 : Dual chip
F : Three chip(Full color)

650 : 3020 1.3T TYPE
670 : 3528 1.9T TYPE
020 : 3812 0.6T TYPE

C : PCB Top View Type
T :PLCC Top View Type
S : Side View Type