

SUPER BRIGHT

KO-0805QBC/11

Data Sheet

Features

- Package in 8mm tape on 7" diameter reel.
- Compatible with automatic placement equipment.
- Compatible with infrared and vapor phase reflow solder process.
- Pb-free.
- The product itself will remain within RoHS compliant version

Descriptions

- The 0805 SMD LED 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 applications. etc.

Applications

- Backlighting in dashboard and switch.
- Automotive_Telecommunication
- Flat backlight for LCD, switch and symbol.
- General use.

Device Selection Guide

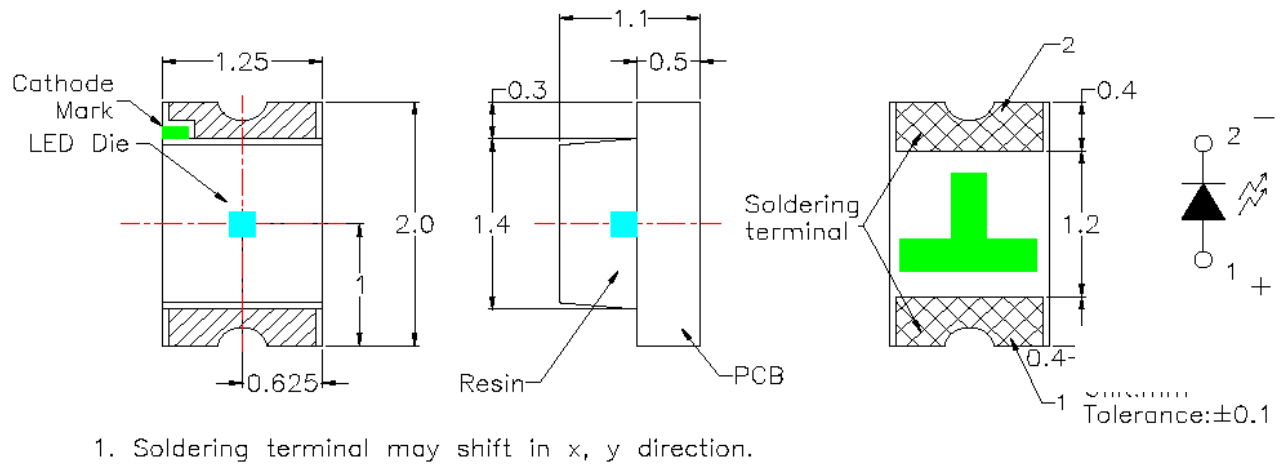
Part No.	Chip		Lens Color
	Material	Emitted Color	
KO-0805BC/11	InGan	Blue	Water clear



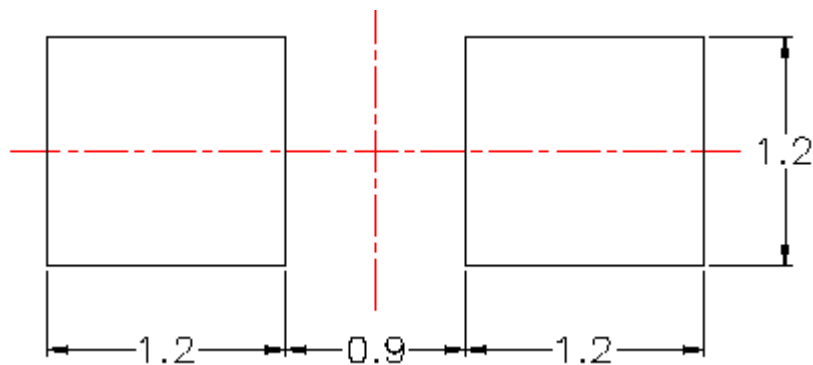
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Package Outline Dimensions



Recommended Soldering Pad Dimensions



Note: The tolerances unless mentioned is ± 0.1 mm, Unit = mm

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Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Reverse Voltage	V _R	5	V
Forward Current	I _F	25	mA
Peak Forward Current (Duty 1/10 @1KHz)	I _{FP}	100	mA
Power Dissipation	P _d	95	mW
Electrostatic Discharge(HBM)	ESD	150	V
Operating Temperature	Topr	-40 ~ +85	°C
Storage Temperature	Tstg	-40 ~ +90	°C
Soldering Temperature	Tsol	Reflow Soldering : 260 °C for 10 sec. Hand Soldering : 350 °C for 3 sec.	

Electro-Optical Characteristics (Ta=25°C)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Condition
Luminous Intensity	I _V	90	-----	180	mcd	I _F =20mA
Viewing Angle	2 θ 1/2	-----	140	-----	deg	
Spectrum Radiation Bandwidth	Δλ	-----	20	-----	nm	
Peak Wavelength	λ _p	-----	468	-----	nm	
Dominant Wavelength	λ _d	466	-----	472	nm	
Forward Voltage	V _F	3.0	-----	3.3	V	
Reverse Current	I _R	-----	-----	50	μ A	V _R =20V

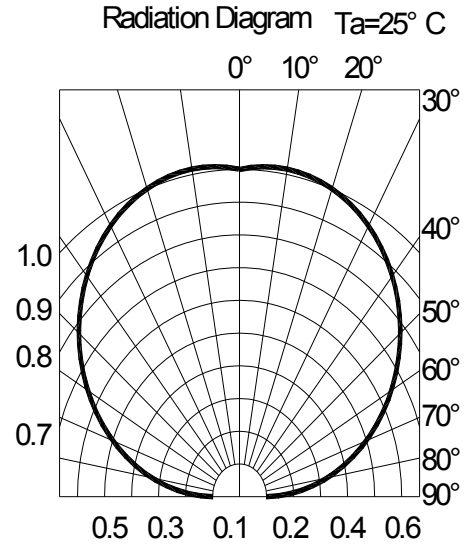
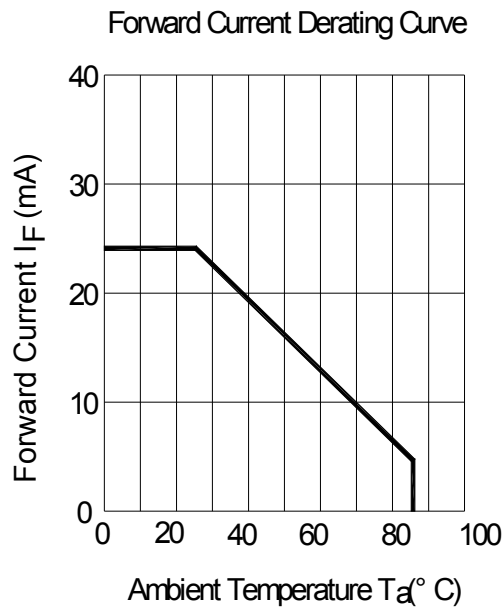
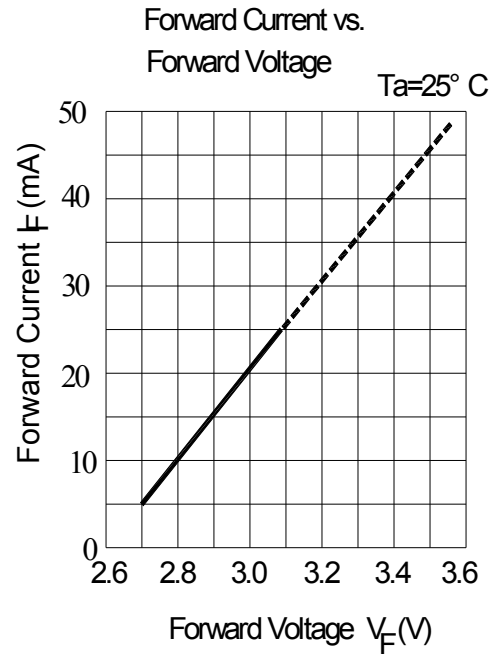
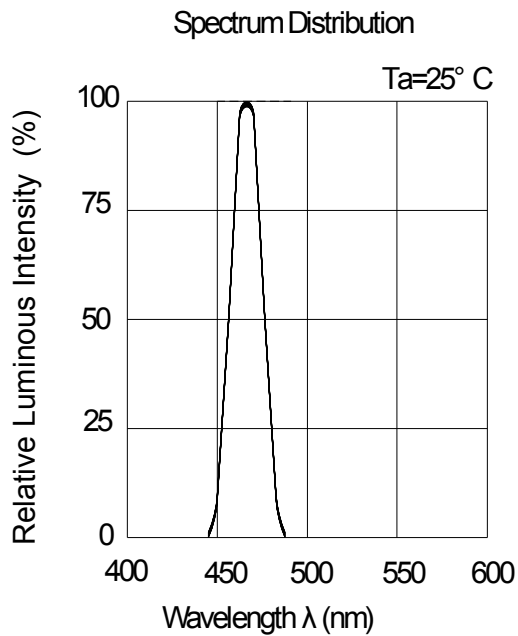
Notes:

- 1.Tolerance of Luminous Intensity ±11%
 2. Tolerance of Dominant Wavelength: ±1nm
 - 3.Tolerance of Forward Voltage ±0.1V
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Typical Electro-Optical Characteristics Curves

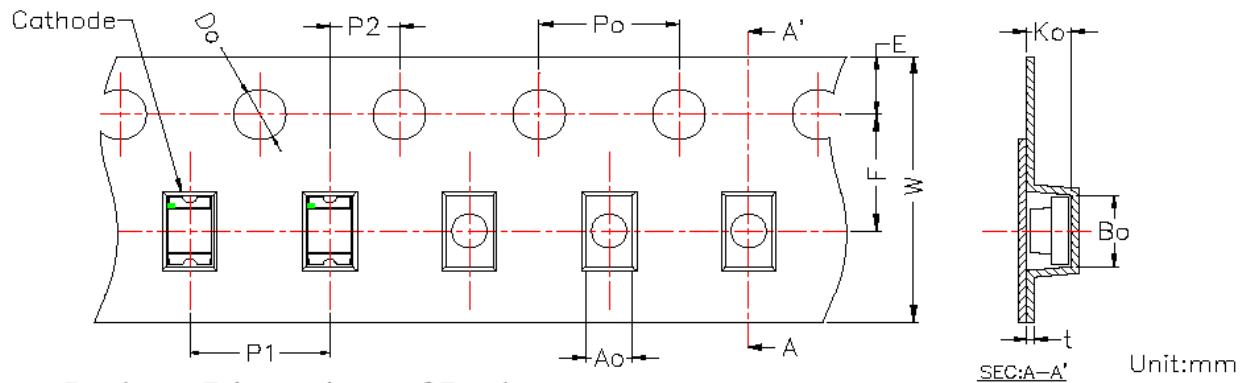


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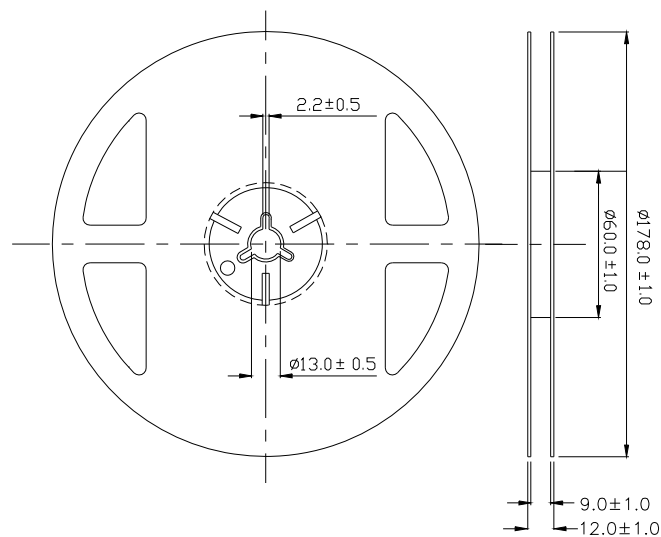
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Carrier Tape Dimensions : Loaded quantity 3000 PCS per reel

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	$\begin{smallmatrix} +0.10 \\ -0.00 \end{smallmatrix}$	±0.05	±0.05	±0.20	±0.05	±0.10	±0.10	±0.10	±0.05



Reel Dimensions

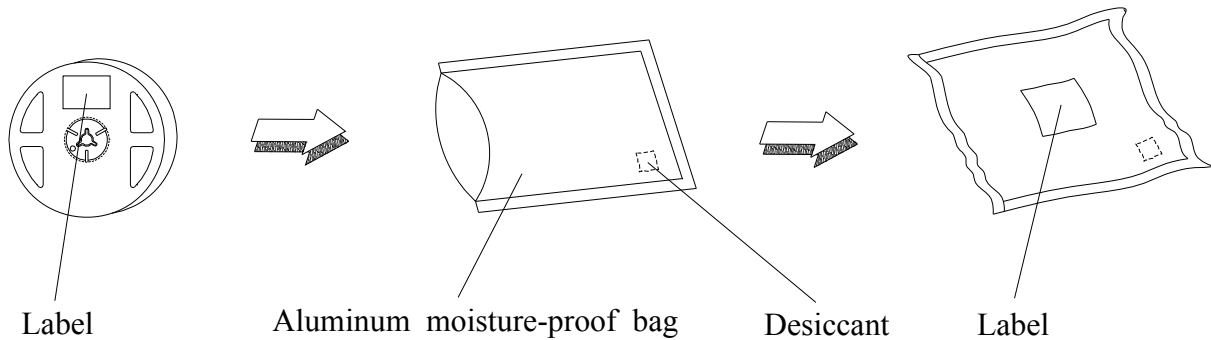


Note: The tolerances unless mentioned is $\pm 0.1\text{mm}$,Unit = mm

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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°C or less and 90%RH or less.

2.3 After opening the package: The LED's floor life is 1 year under 30°C 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.

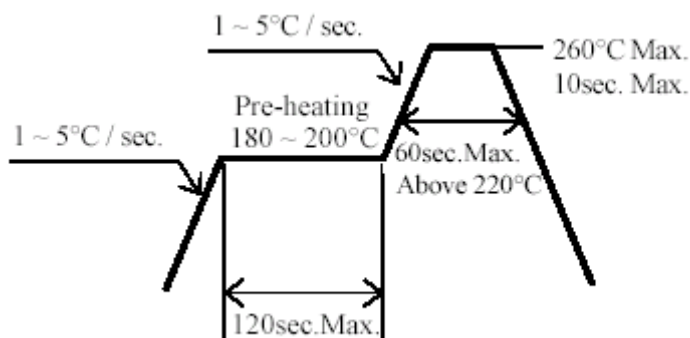
Baking treatment : 60±5°C for 24 hours.

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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.

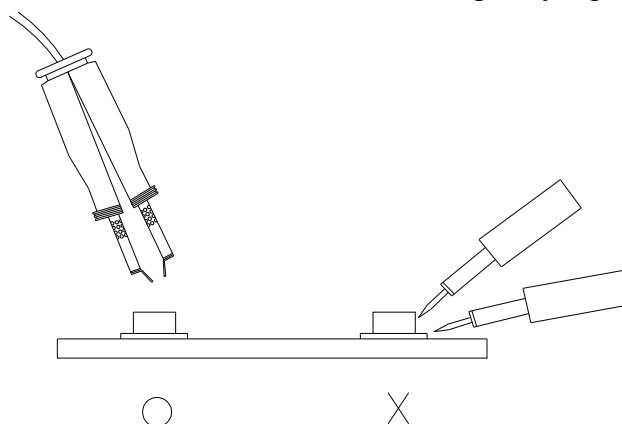
3.4 After soldering, do not warp the circuit board.

4. Soldering Iron

Each terminal is to go to the tip of soldering iron temperature less than 350°C 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.



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Reliability Test Items And Conditions

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°C±5°C Min. 5sec.	6 Min.	22 PCS.	0/1
2	Temperature Cycle	H : +100°C 15min § 5 min L : -40°C 15min	300 Cycles	22 PCS.	0/1
3	Thermal Shock	H : +100°C 5min § 10 sec L : -10°C 5min	300 Cycles	22 PCS.	0/1
4	High Temperature Storage	Temp. : 100°C	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage	Temp. : -40°C	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life	I _F = 20 mA	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity	85°C / 85%RH	1000 Hrs.	22 PCS.	0/1

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Bin Range of Luminous Intensity

Bin Code	Min.	Max.	Unit	Condition
C4	90.0	112	mcd	$I_F=20\text{mA}$
C5	112	140		
C6	140	180		

Note: Tolerance of Luminous Intensity: $\pm 11\%$

Bin Range of Forward Voltage

Bin Code	Min.	Max.	Unit	Condition
32	3.0	3.1	V	$I_F=20\text{mA}$
33	3.1	3.2		
34	3.2	3.3		

Note: Tolerance of Forward Voltage: $\pm 0.1\text{V}$

Bin Range of Dominant Wavelength

Bin Code	Min.	Max.	Unit	Condition
A2	466	468	nm	$I_F=20\text{mA}$
A3	468	470		
A4	470	472		

Note: Tolerance of Dominant Wavelength: $\pm 1\text{nm}$
