

## Specification for approval

CUSTOMER NAME

DIRECTOR

PART NO. IE-2012B-HB-C-08

PART NUMBER 0805 Blue

ISSUE DATE 2017-04-21



**RoHS**

## Features:

- Long operating life
- Low Power Consumption
- Wide Viewing Angle
- Low voltage DC operated
- RoHS Compliant

## Application

- Backlight
- Decoration lighting
- motormeter
- Indicator

Part Number	Dice Material	Emitted Color	Lens Color
IE-2012B-HB-C-08	InGaN	Blue	Water Clear

## Electro-Optical Characteristics(Ta=25°C, @20mA)

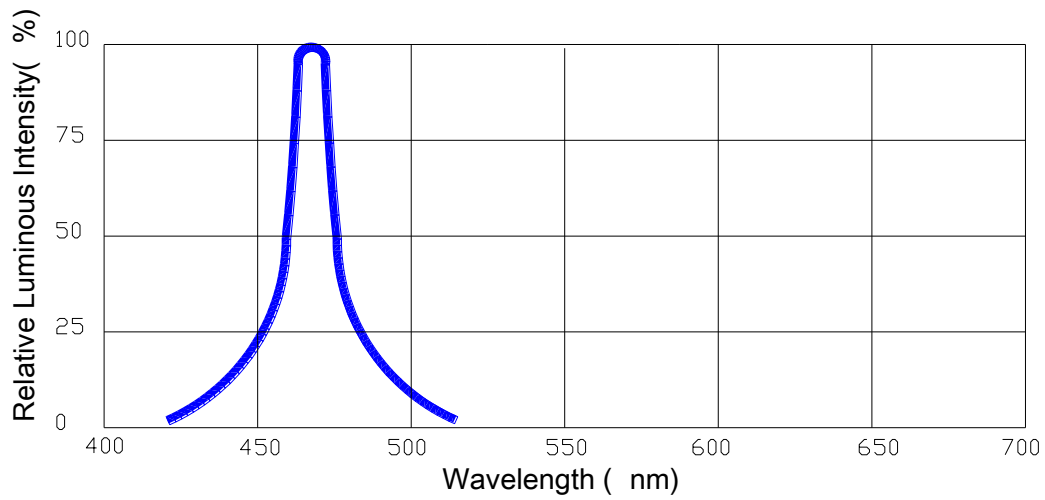
Parameter	Symbol	Min.	Typ.	Max.	Unit
Luminous Intensity	IV	180	-	250	mcd
Radiation Bandwidth	$\Delta\lambda$	-	35	-	nm
Forward Voltage	VF	2.90	3.00	3.40	v
Luminous Flux	$\Phi$	-	-	-	Lm
Dominant Wavelength	$\lambda_d$	460	465	475	nm
CIE Coordinates CIE	x,y	-	-	-	-
Color Temperature	Tc	-	-	-	k
Viewing Angle	2 $\theta$ 1/2	-	120	-	deg
Reverse Current	IR	-	-	10	uA

## Absolute Maximum Ratings(Ta=25°C)

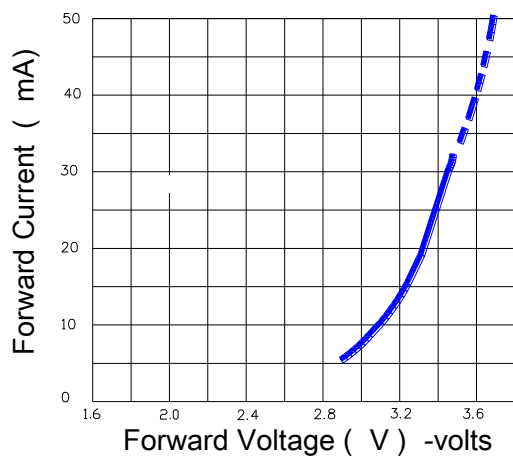
Parameter	Symbol	Max.	Unit
Peak Forward Current(1/10 Duty Cycle, 0.1ms Pulse Width)	IPF	100	mA
Forward Current	IF	30	mA
Reverse Voltage	VR	5	v
Operating Temperature Range	Topr	-40to+90	°C
Storage Temperature Range	Tstg	-40to+90	°C
Reflow Soldering	Tsld	260°Cfor 10secs	

# Optical & Electrical Characteristics

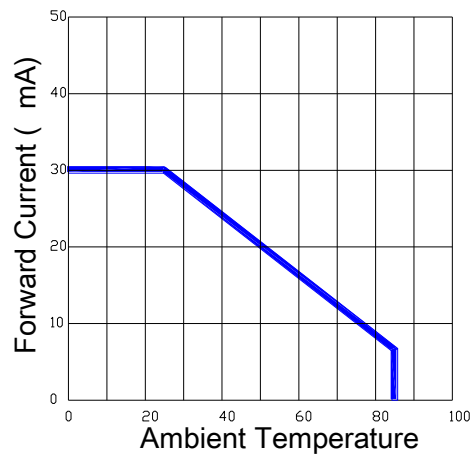
Spectrum Distribution



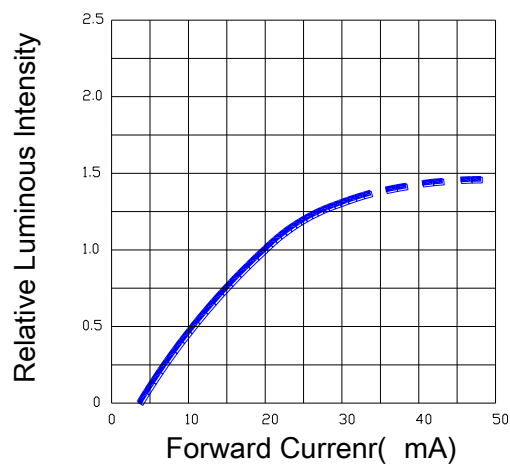
Forward Current vs.Forward Voltage



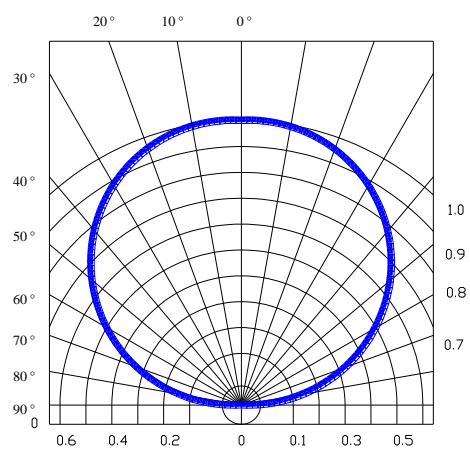
Forward Current vs.Ambient Temperature



Relative Luminous Intensity vs.Forward Current



Radiation Diagram



## Bin Limits :

### Bin Range Of Luminous Intensity

Bin Code	Min	Max	Condition
L1	180	250	IF=20mA
L2	-	-	
L3	-	-	

### Bin Range Of Forward Voltage

Bin Code	Min	Max	Condition
V1	2.9	3.0	IF=20mA
V2	3.0	3.1	
V3	3.1	3.2	
V4	3.2	3.3	
V5	3.3	3.4	

### Bin Range Of Wavelength

Bin Code	Min	Max	Condition
B1	460	462.5	IF=20mA
B2	462.5	465	
B3	465	467.5	
B4	467.5	470	
B5	470	472.5	
B6	472.5	475	

#### Notes:

- 1.Tolerance of Luminous Intensity  $\pm 10\%$
- 2.Tolerance of Forward Voltage  $\pm 0.1V$

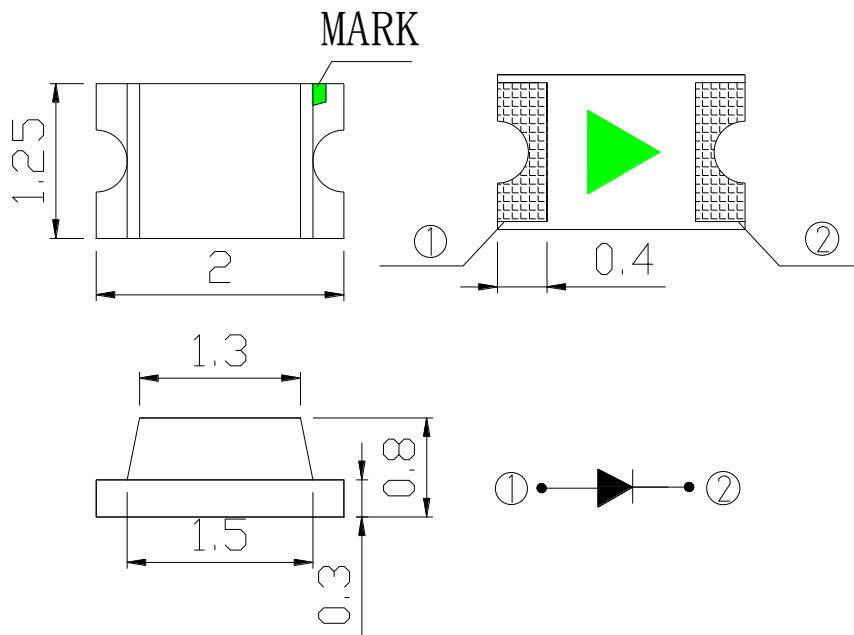
## Reliability Test Items And Conditions

Test Items	Reference	Test Conditions	Time	Quantity	Criterion
Thermal Shock	MIL-STD-202G	-40°C ( 30min ) ~100°C ( 30min )	100 Cycles	22	0/22
Temperature And Humidity Cyclic	JEITA ED-4701 200 203	-10°C~65°C ; 0%~90%RH	10cycles	22	0/22
High Temperature Storage	JEITA ED -4071 200 201	Ta=100°C	1000H	22	0/22
Low Temperature Storage	JEITA ED -4071 200 202	Ta=-40°C	1000H	22	0/22
High Temperature High Humidity Storage	JEITA ED -4071 100 103	Ta=60°C ; RH=90%	1000H	22	0/22
High Temperature Life Test	JESD22-A108D	Ta=80°C	1000H	22	0/22
Life Test	JESD22-A108D	Ta=25°C IF=20mA	1000H	22	0/22
Resistance to Soldering Heat	GB/T 4937, II , 2.2&2.3	Tsol*=(240±5)°C 10secs	2次 2 times	22	0/22

## Criteria For Judging Damage

Test Items	Symbol	Test Conditions	Criteria For Judging Damage
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =I <sub>FT</sub>	Initial Data ±10%
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	I <sub>R</sub> ≤10uA
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =I <sub>FT</sub>	Average I <sub>V</sub> degradation≤30% ; Single LED I <sub>V</sub> degradation≤50%
Resistance to Soldering Heat			Material without internal cracks,no material between stripped,no deaded light

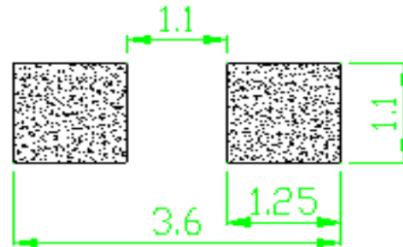
**product size (Unit : mm)**



**NOTES :**

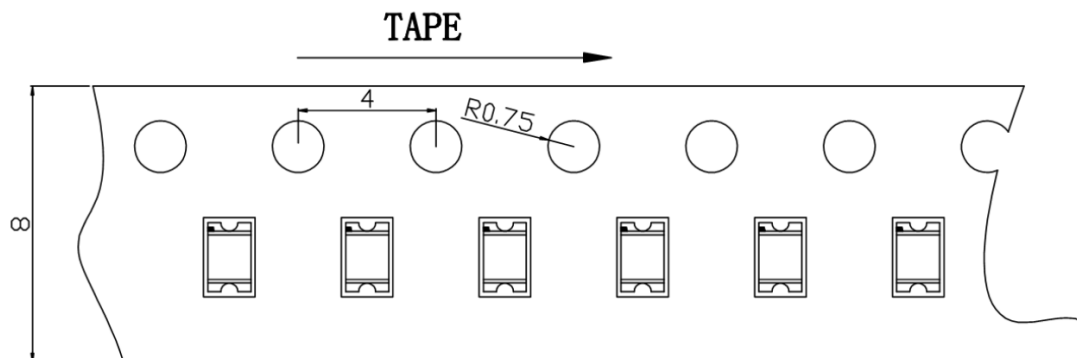
1. All dimensions are in millimeters (inches)
2. Tolerances are  $\pm 0.2\text{mm}$  (0.008inch) unless otherwise noted.

**Recommended Soldering Pad Design(Unit : mm)**



**Taping and package Spec**

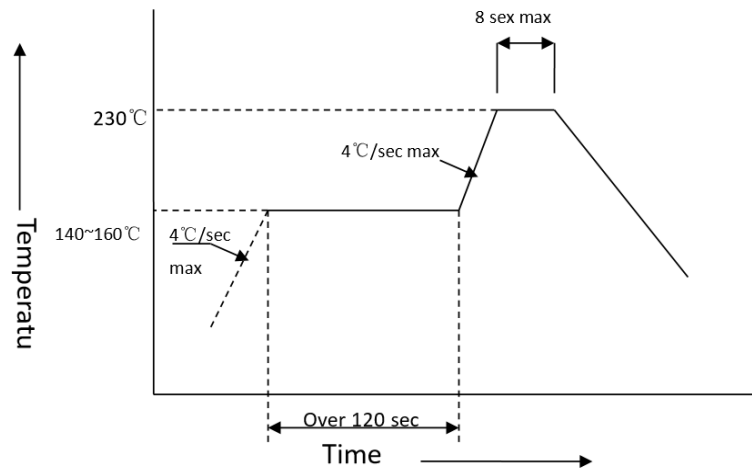
- Tape Specification:3,000pcs Per Reel



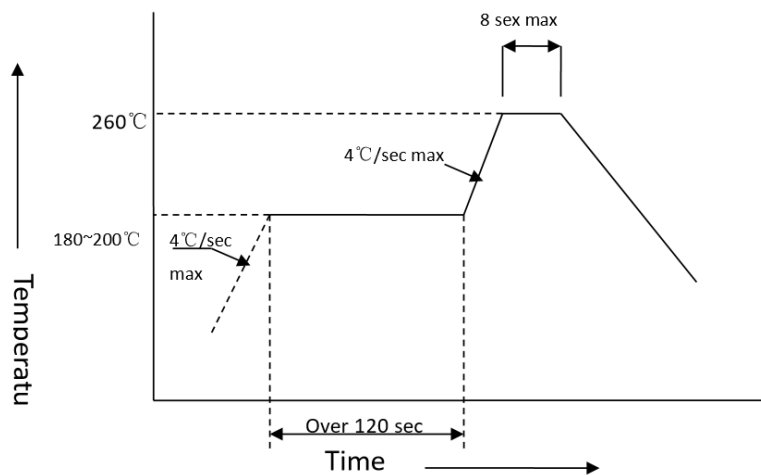
## Useful hint

### Reflow Soldering Instructions

#### Lead Solder



#### Lead-Free Solder



- Reflow soldering should not be done more than two times
- Stress on the LEDs should be avoided during heating in soldering process
- After soldering, do not deal with the product before its temperature drops down to room temperature.