DATA SHEET

Revise History

Rev.	Descriptions	Date	Page
1.0	-	23-10-2009	-
2.0	Renew form	15-12-2015	-
2.1	Renew form	10-11-2018	-
2.2	Renew form	27-12-2021	-
2.3	Renew form	23-10-2023	-
2.4	Renew form	10-10-2024	-

Features

- ●Long operating life.
- ●Low Power Consumption.
- ●Wide Viewing Angle.
- ●Low voltage DC operated.
- ●RoHS Compliant.
- ●Moisture sensitivity level: 3.

Application

- ●Backlight,Status indicator,Home and smart appliances,Wearable and portable devices,Healthcare applications

Part Number	Dice Material	Emitted Color	Lens Color
IE-1005WW-SB-C-04	InGaN	White	Yellow Diffused

Electro-Optical Characteristics (Ta=25℃)

Parameter	Symbol	Min.	Typ.	Max.	Unit	Test Condition
Luminous Intensity *1	IV	100	-	250	mcd	IF=5mA
Forward Voltage	VF	2.50	-	3.00	V	
Luminous Flux	Φ	-	-	-	lm	
Color Rendering Index	Ra	-	-	-	-	
CIE Coordinates CIE	x,y	Please refer to Color Bin Limits				
Color Temperature	CCT	-	-	-	K	
Viewing Angle *2	2θ1/2	-	130	-	deg	
Reverse Current	IR	-	-	10	uA	VR=5V

Notes:

1.A Luminous intensity is measured with a light sensor and filter combination that approximates the CIE eye-response curve.

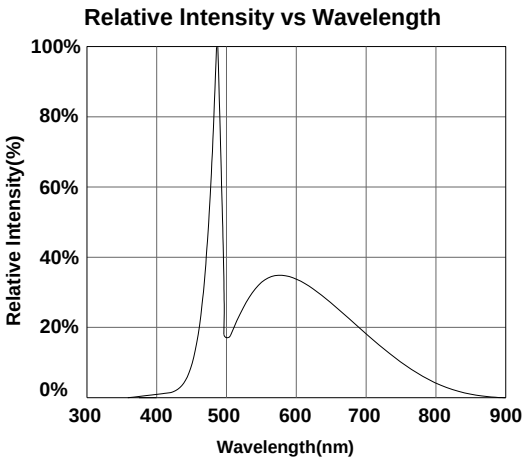
2.2θ1/2 is the o-axis angle where the luminous intensity is 1⁄2 the peak intensity.

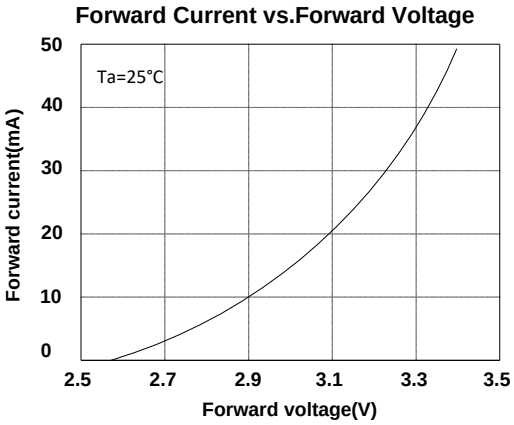
Absolute Maximum Ratings (Ta=25℃)

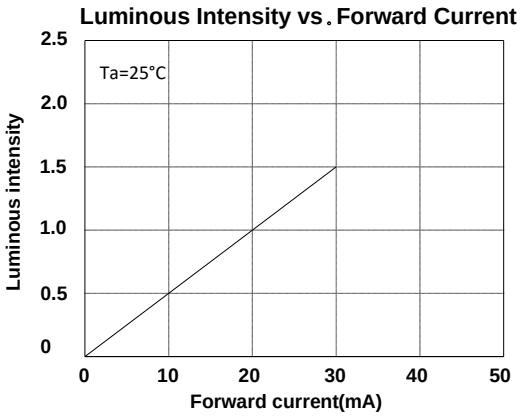
Parameter	Symbol	Max.	Unit
		White	
Power Dissipation	Pd	85	mW
Peak Forward Current *1	IFP	60	mA
Forward Current	IF	25	mA
Operating Temperature Range	Topr	-40to+85	°C
Storage Temperature Range	Tstg	-40to+90	°C
Reflow Soldering	Tsld	260°C for 5 secs	

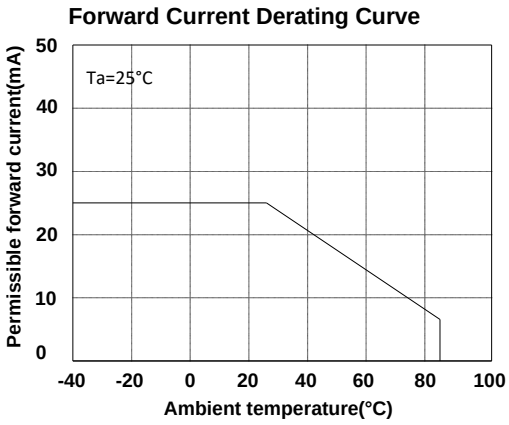
Notes 备注: 1.Duty Factor=10%, Frequency=1kHz.

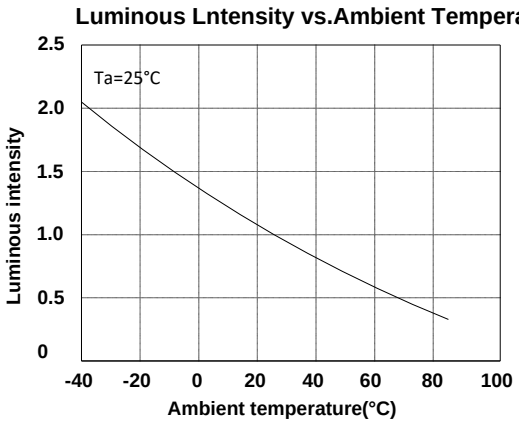
Optical & Electrical Characteristics Curves

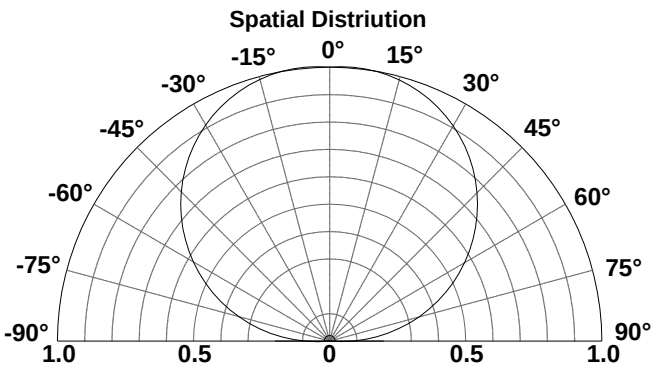




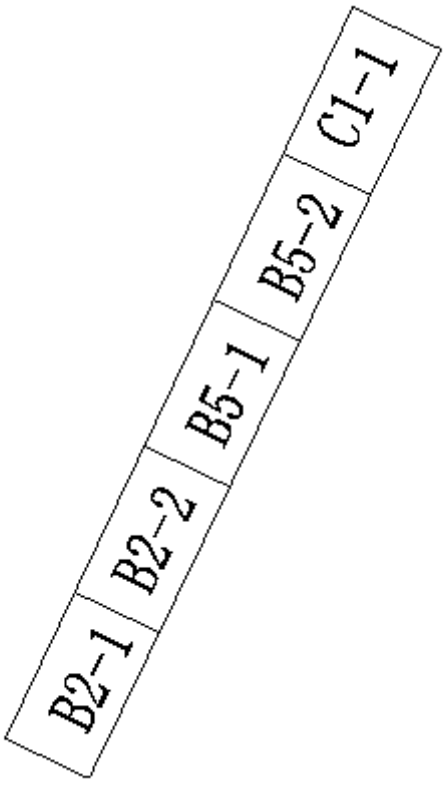








Color Bin Limits



BIN Code	X1	Y1	X2	Y2	X3	Y3	X4	Y4
B2-1	0.2752	0.2495	0.2691	0.2525	0.2742	0.2634	0.2805	0.2604
B2-2	0.2805	0.2604	0.2742	0.2634	0.2793	0.2742	0.2857	0.2712
B5-1	0.2857	0.2712	0.2793	0.2742	0.2845	0.2850	0.2909	0.2820
B5-2	0.2909	0.2820	0.2845	0.2850	0.2896	0.2959	0.2961	0.2928
C1-1	0.2961	0.2928	0.2896	0.2959	0.2948	0.3067	0.3013	0.3036

Electro-Optical Characteristics Bin Limits

Bin Range Of Luminous Intensity

Bin Code	Min.	Max.	Condition
L1	100	150	IF=5mA
L2	150	200	
L3	200	250	

Bin Range Of Forward Voltage

Bin Code	Min.	Max.	Condition
V1	2.50	2.60	IF=5mA
V2	2.60	2.70	
V3	2.70	2.80	
V4	2.80	2.90	
V5	2.90	3.00	

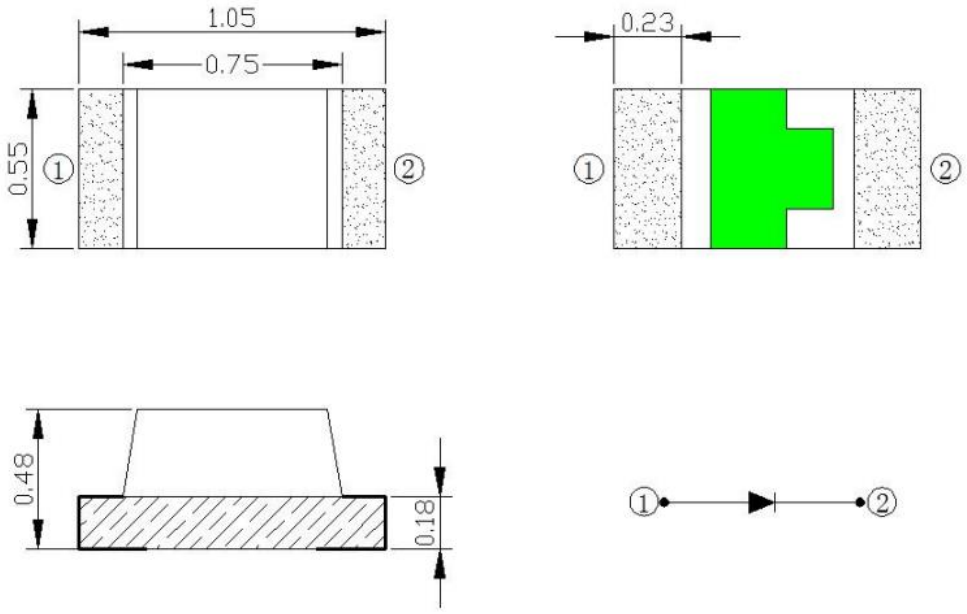
Notes:

1.Luminous Intensity measurement tolerance: ±10%.

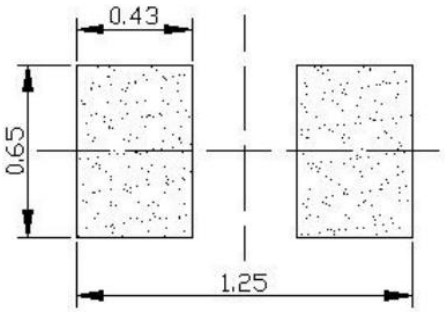
2.Wavelength measurement tolerance: ±1nm.

3.Forward voltage measurement tolerance: ±0.1V.

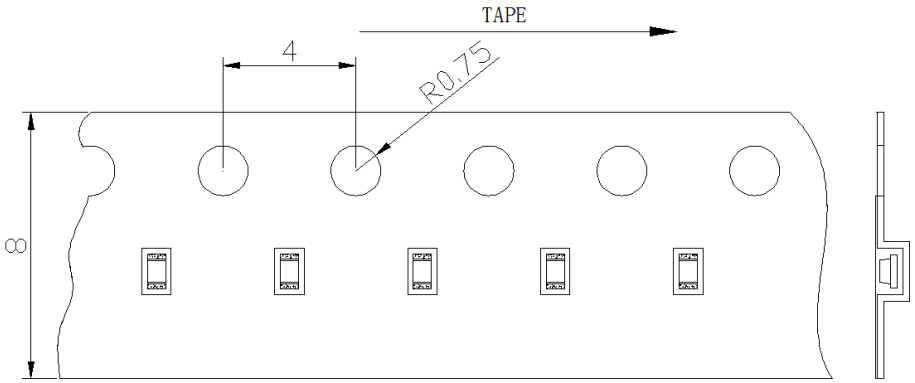
Package Dimension (Unit:mm,Tolerance: ±0.20mm)



Recommended Soldering Pad Design (Unit:mm,Tolerance: ±0.10mm)



Carrier Tape Dimensions (Unit:mm,Tolerance: ±0.10mm)



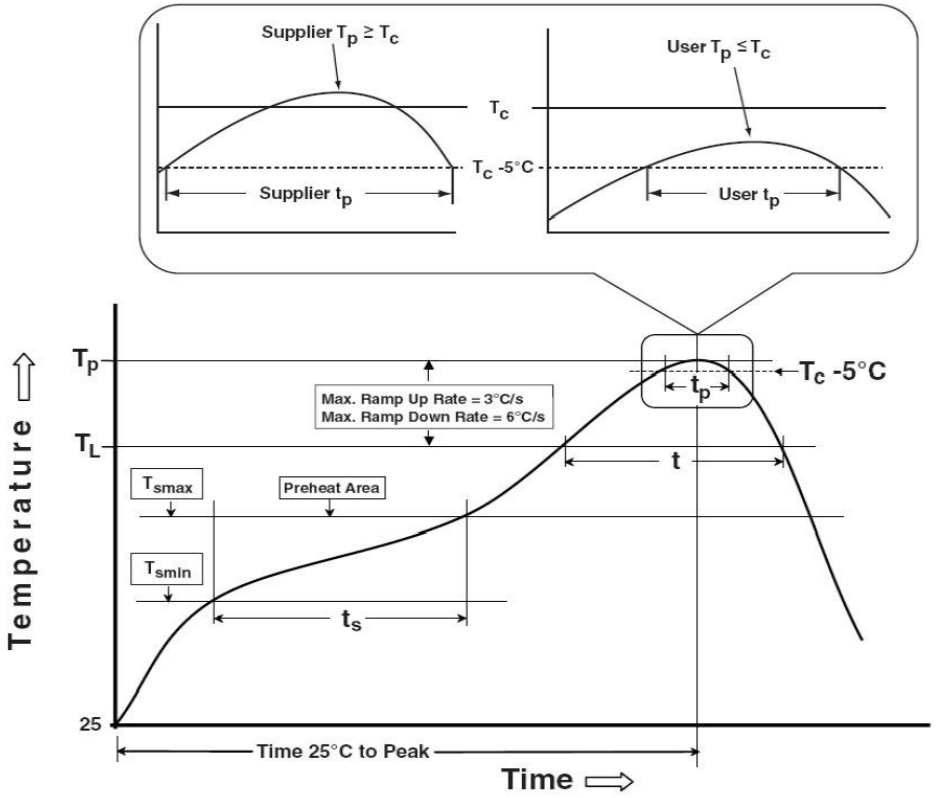
●Loaded quantity 3-6000 pcs per reel.

SMT Reflow Soldering Instructions

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Preheat & Soak	100°C	150°C
Temperature min (Tsmin)	150°C	200°C
Temperature max (Tsmax)	60-120 seconds	60-120 seconds
Time (Tsmin to Tsmax) (ts)	-	-
Average ramp-up rate (Tsmax to Tp)	3°C/second max	3°C/second max
Liquidous temperature (TL)	183°C	217°C
Time at liquidous (tL)	60-150 seconds	60-150 seconds
Peak temperature (Tp)*	230°C ~235°C	255°C ~260°C
Classification temperature (Tc)	235°C	260°C
Time (tp) within 5°C of the specified Classification temperature (Tc)	20 seconds	30 seconds
Average ramp-down rate (Tp to Tsmax)	6°C/second max	6°C/second max
Time 25°C to peak temperature 25℃	8 minutes max	8 minutes max

1.Tolerance for peak temperature (Tp) is defined as a supplier minimum and a user maximum.

2.Tolerance for time at peak temperature (tp) is defined as a supplier minimum and a user maximum.



Precautions

1. Storage：

●Moisture proof and anti-electrostatic package with moisture absorbent material is used, to keep moisture to aminimum.

●Before opening the package, the product should be kept at 30°C or less and humidity less than 60% RH, and beused within a year.

●After opening the package, the product should be stored at 30°C or less and humidity less than 10%RH. It is recommended that the product be operated at the workshop condition of 30℃ or less and humidity less than 60%RH.

●If the moisture absorbent material has fade away or the LEDs have exceeded the storage time, baking treatment should be performed based on the following condition: (70±5) ℃ for 24 hours.

2. Static Electricity 静电：

●Static electricity or surge voltage damages the LEDs. Damaged LEDs will show some unusual characteristic such as the forward voltage becomes lower, or the LEDs do not light at the low current. All devices, equipment and machinery must be properly grounded. At the same time, it is recommended that wrist bands or anti-electrostatic gloves, anti-electrostatic containers be used when dealing with the LEDs.

3. Vulcanization 硫化：

●LED curing is due to sulfur being in bracket and the +1 price of silver in the chemical reaction generated Ag2S in the process. It will lead to the capacity of reflecting of silver layer reducing, light color temperature drift and serious decline ,seriously affecting the performance of the product.So we should take corresponding measures to avioding vulcanization, such as to avoid using sulphur volatile substances and keeping away from high sulphur content of the material.

4. Handling Precautions :

● Handle the component along the side surfaces by using forceps or appropriate tools.

●Do not directly touch or handle the epoxy resin lens surface. It may damage the internal circuitry.

●Do not stack together assembled PCBs containing exposed LEDs. Impact may scratch the epoxy resin lens or damagethe internal circuitry.