



# Technical Data Sheet

## White SMD Surface Mount Device

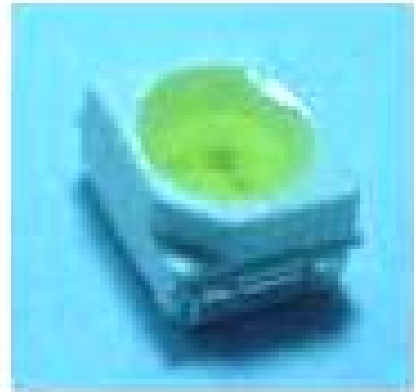
**67-21UWC/1B/TR8**

### Features

- Fluorescence Type
- High Luminous Intensity
- High Efficiency
- Emission Color:x=0.29,y=0.30

### Descriptions

The white LED which was fabricated using a blue LED and a phosphor, and the phosphor is excited by blue light and emits yellow fluorescence. The mixture of blue light and yellow light results in a white emission.



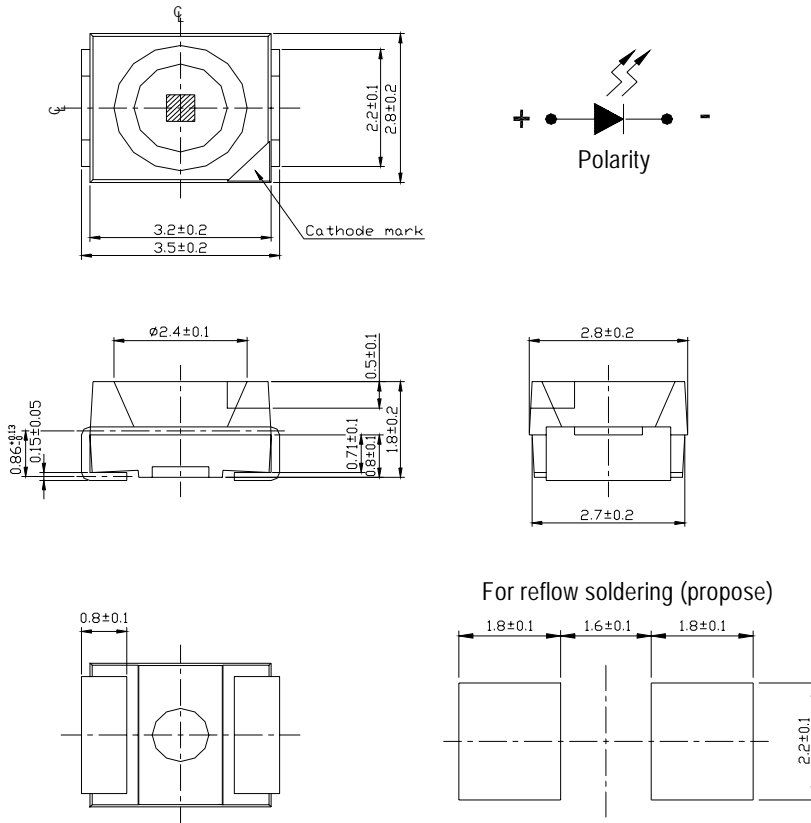
### Applications

- OA Equipment
- Backlighting of Full Color LCD
- Automotive Equipment
- Replacement of Conventional Light Bulbs and Fluorescent Lamps

### Device Selection Guide

Chip		Lens Color
Material	Emitted Color	
InGaN	White	Water Clear

**Package Dimensions**



**Notes:** .All dimensions are in millimeters

**Absolute Maximum Ratings (Ta=25 )**

Parameter	Symbol	Rating	Units
Forward Current	I <sub>F</sub>	30	mA
Pulse Forward Current <sup>*1</sup>	I <sub>FP</sub>	100	mA
Reverse Voltage	V <sub>R</sub>	5	V
Power Dissipation	P <sub>d</sub>	120	mW
Operating Temperature	T <sub>opr</sub>	-30 ~ +80	
Storage Temperature	T <sub>stg</sub>	-40 ~ +100	
Soldering Temperature <sup>*2</sup>	T <sub>sol</sub>	260	
Electrostatic Discharge	ESD	150	V

**Notes:** \*1:I<sub>FP</sub> Conditions--Pulse Width 10msec and Duty 1/10.

\*2:Soldering time 5 seconds.

**Electro-Optical Characteristics (Ta=25 )**

Parameter	Symbol	Condition	Min.	Typ.	Max.	Units
Forward Voltage	V <sub>F</sub>	I <sub>F</sub> =20mA	--	3.6	4.0	V
Reverse Current	I <sub>R</sub>	V <sub>R</sub> =5V	--	--	10	μ A
Luminous Intensity	I <sub>V</sub>	I <sub>F</sub> =20mA	100	160	--	mcd
Viewing Angle	2 1/2	I <sub>F</sub> =20mA	--	120	--	deg
Chromaticity* <sup>1</sup>	x	I <sub>F</sub> =10mA	--	0.29	--	
Coordinates	y		--	0.30	--	

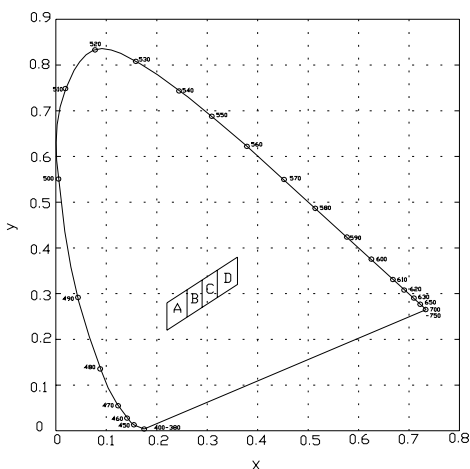
**Notes:** \*The C.I.E. 1931 chromaticity diagram.

\*The products are sensitive to static electricity and care must be fully taken when handling products.

**Chromaticity Coordinates Specifications for Bin Grading**

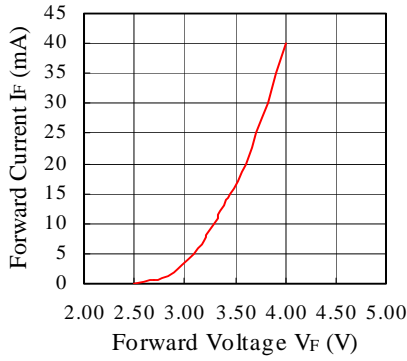
Rank	Chromaticity Coordinates					
	A	x	0.220	0.220	0.260	0.260
	y	0.220	0.280	0.310	0.250	
B	x	0.260	0.260	0.290	0.290	
	y	0.250	0.310	0.330	0.270	
C	x	0.290	0.290	0.320	0.320	
	y	0.270	0.330	0.350	0.290	
D	x	0.320	0.320	0.360	0.360	
	y	0.290	0.350	0.380	0.320	
* Tolerance		x±0.02			y±0.02	

**CIE Chromaticity Diagram**

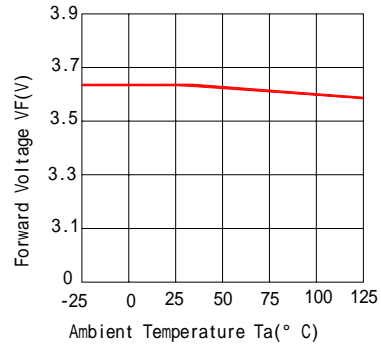


**Typical Electro-Optical Characteristics Curves**

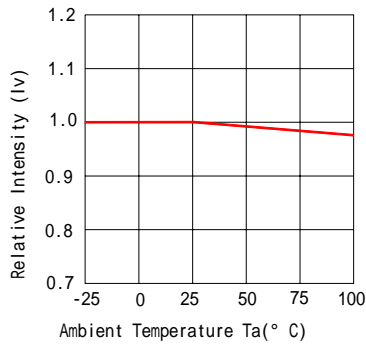
· Forward Current vs. Forward Voltage



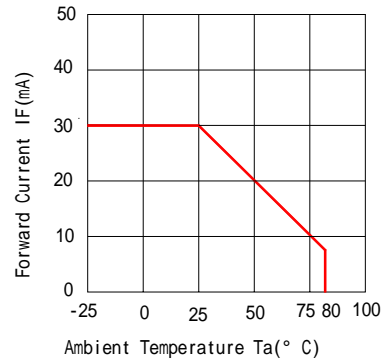
· Forward Voltage vs. Ambient Temperature



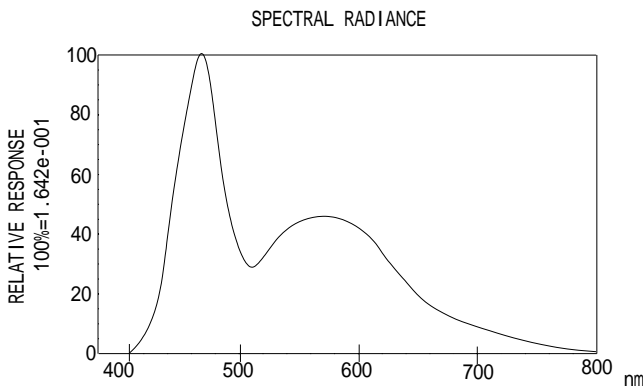
· Relative Intensity vs. Ambient Temperature



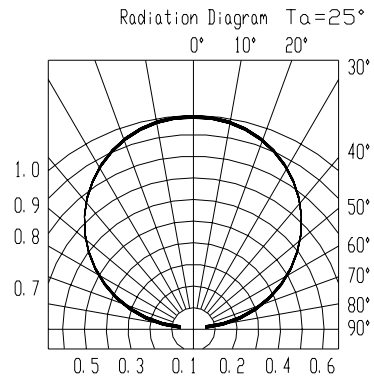
· Forward Current vs. Ambient Temperature



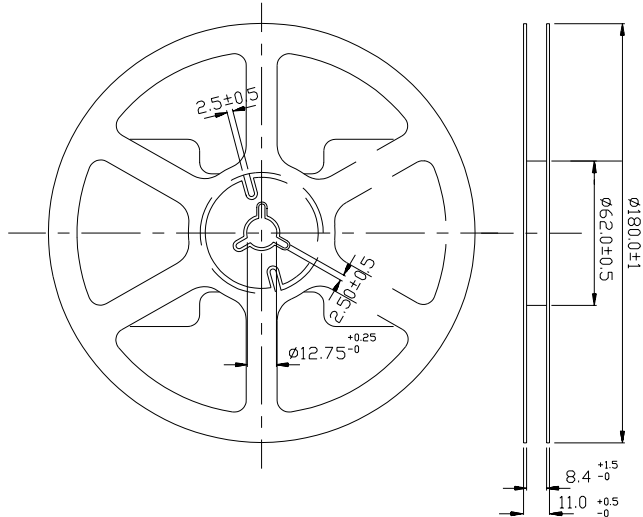
· Luminous Spectrum ( $T_a=25^\circ$ )



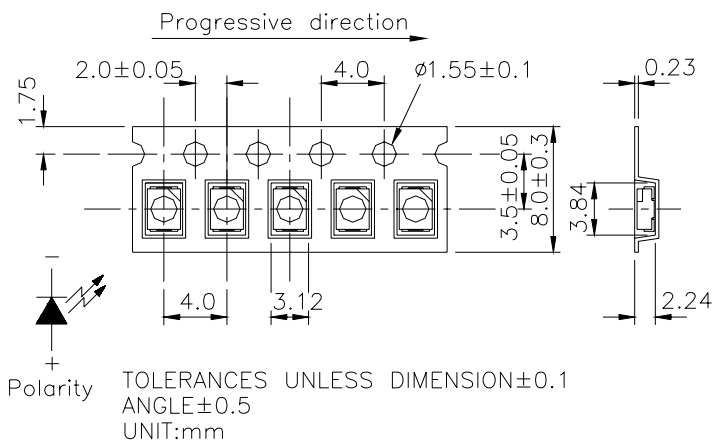
· Directivity Radiation Angle: 120 degree (Typ.)



**Package Dimension**

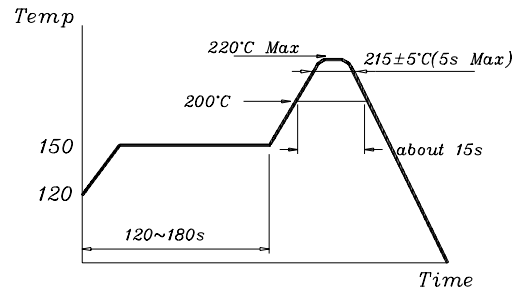
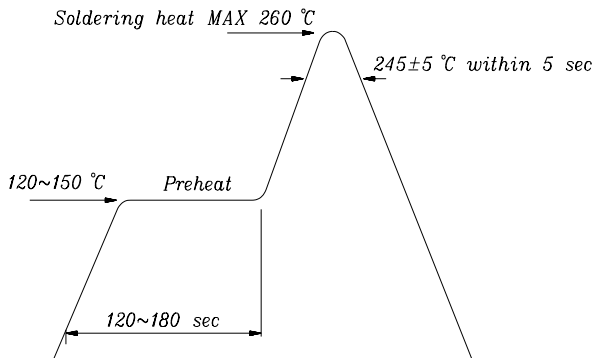


**Loaded quantity 2000pcs/reel and used by ESD reel(black reel)**



**Soldering heat reliability ( DIP )**

**Reflow Temp / Time**

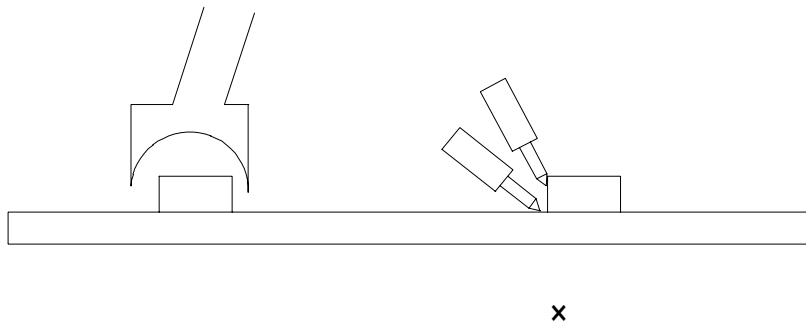


**Soldering Iron**

Basic spec is 5 sec when 260 . If temperature is higher, time should be shorter (+10 -1sec). Power dissipation of Iron should be smaller than 15 W , and temperature should be controllable. Surface temperature of the device should be under 230 .

**Rework**

1. Customer must finish rework within 5 sec under 245 .
2. The head of iron can not touch copper foil.
3. Twin-head type is preferred.



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