
Description

Features.

- ◆ Super high Flux output and high Luminance
- ◆ Designed for high current operation
- ◆ Low thermal resistance:12°C/W
- ◆ SMT solder bility
- ◆ RoHS compliant

Applications.

- ◆ General Illumination
- ◆ Outdoor & Indoor architectural lighting
- ◆ Decorative lighting
- ◆ Portable lighting and Reading lighting
- ◆ Traffic signaling

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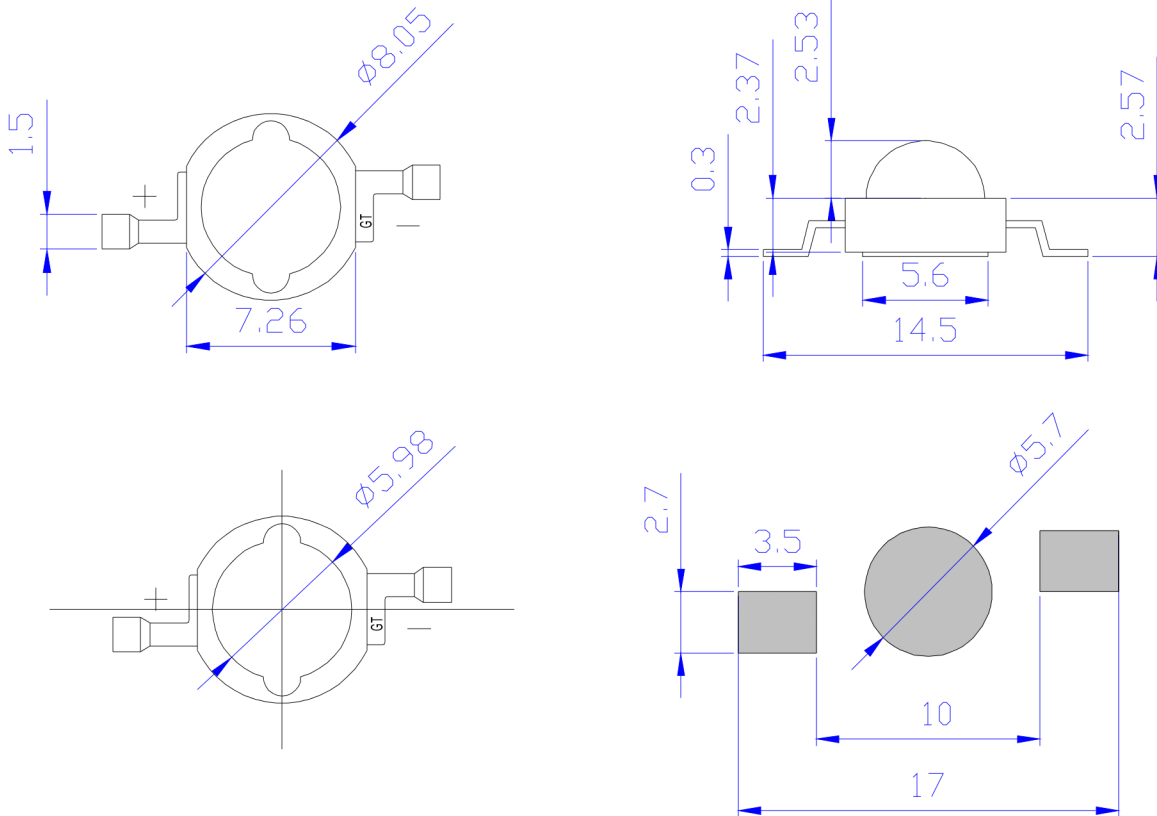
Typical Characteristic Curves (2)

Reliability Test

Soldering Condition

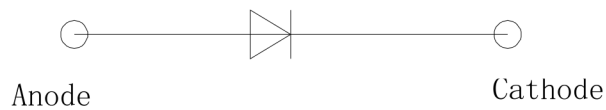
Outline Dimensions

1、 Dome Type



2、 Circuit diagram

INTERNAL CIRCUIT DIAGRAM



Notes

1. All dimensions are in millimeters.(tolerance:±0.2)
2. Dimension Scale:1:1

*The appearance and specifications of the product may be changed for improvement without notice.

Parameters

Electrical-Optical Characteristics at $I_F=800\text{mA}$, $T_a=25^\circ\text{C}$

Parameter	Symbol	Min	Typ	Max	Unit
Wavelength	λ_D	740	~	745	nm
Forward Voltage	V_F	2.2	~	2.8	V
Power Dissipation	P_D	1.76	~	2.24	W
View Angle	$2\theta_{1/2}$	~	120	~	deg.
Thermal Resistance	$R\theta_{J-B}$	~	12	~	$^\circ\text{C}/\text{W}$

Absolute Maximum Ratings

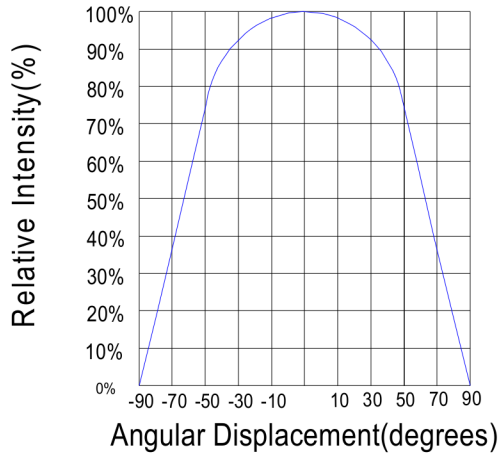
Parameter	Symbol	Value	Unit
Forward Current	I_F	800	mA
Junction Temperature	T_j	115	$^\circ\text{C}$
Operating Temperature	T_{opr}	-40~+60	$^\circ\text{C}$
Storage Temperature	T_{stg}	0~+60	$^\circ\text{C}$
ESD Sensitivity	~	$\pm 2,000\text{V HBM}$	~
Temperature Coefficient of voltage	~	-5	$\text{mV}/^\circ\text{C}$
DC Pulse Current(@ 1 KHz, 10% duty cycle)	I_{FP}	1000	mA
Reverse Voltage	V_R	Not designed for reverse operation	

*Notes

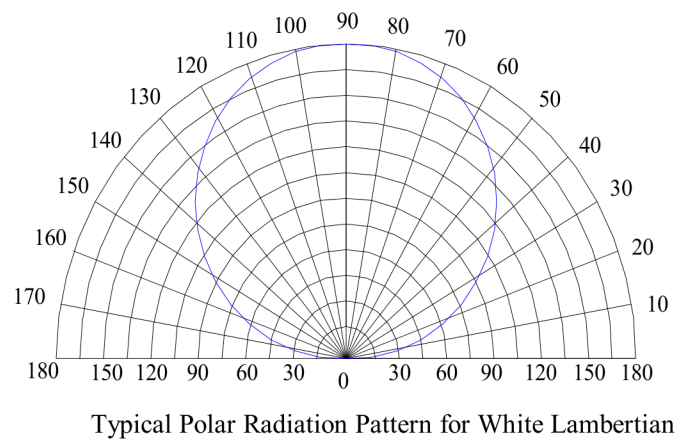
1. Tolerance of Luminous Flux is $\pm 3\%$.
2. Tolerance of Forward Voltage is $\pm 0.1\text{V}$.

Typical Characteristic Curves(1)

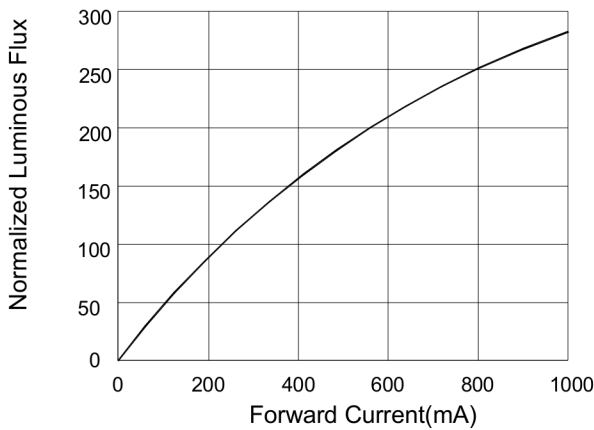
1. Typical Light Distribution Curve



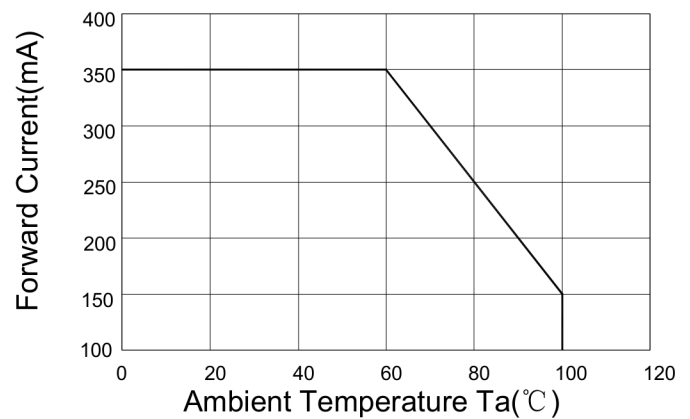
2. Typical Light-Emitting Angle Radiation Pattern



3. Forward Current vs. Relative Luminous Flux Curve

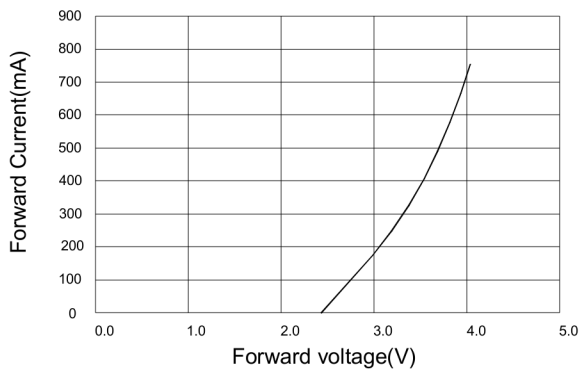


4. Forward Current Derating Curve, Derating based on $T_{max}=125^{\circ}C$

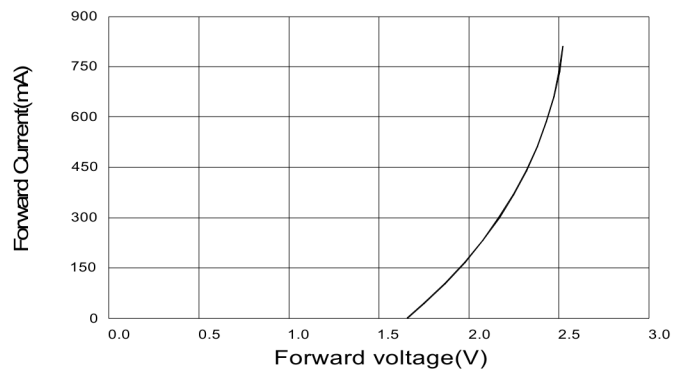


5. Electrical Characteristics Curve

5-1. White, Royal Blue, Blue, Green

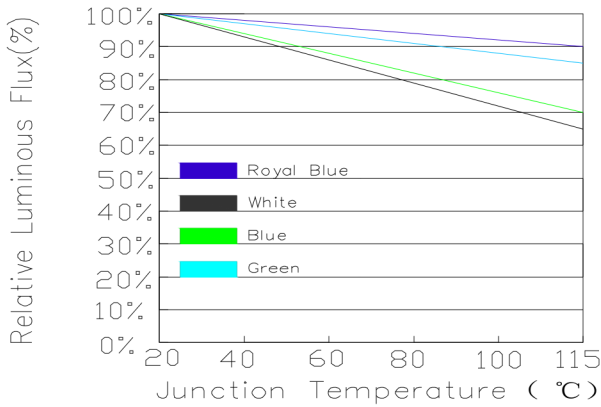


5-2. Amber, Red

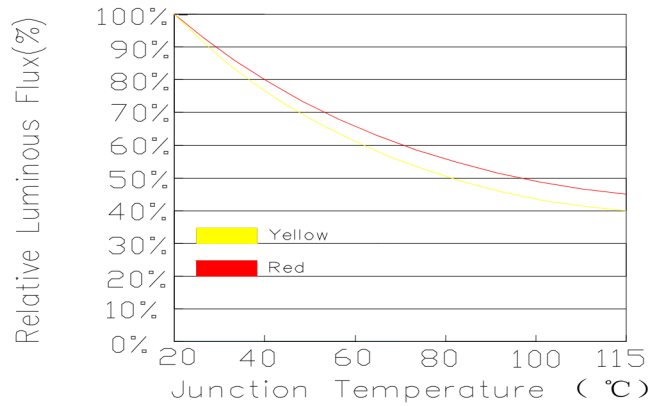


Typical Characteristic Curves(2)

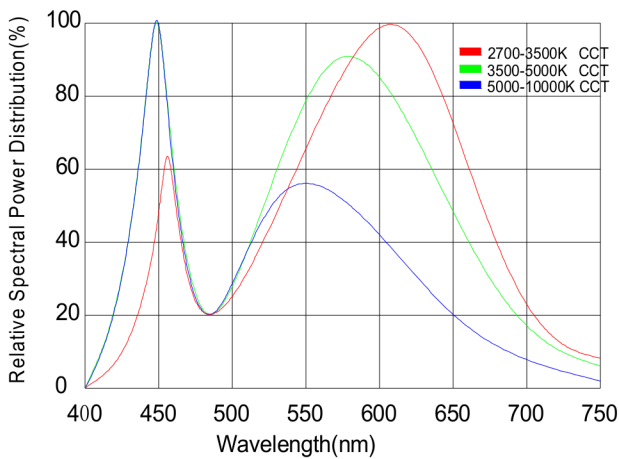
6-1. Relative Flux vs. Junction Temperature (If = 350 mA)
White, Royal Blue, Blue, Green



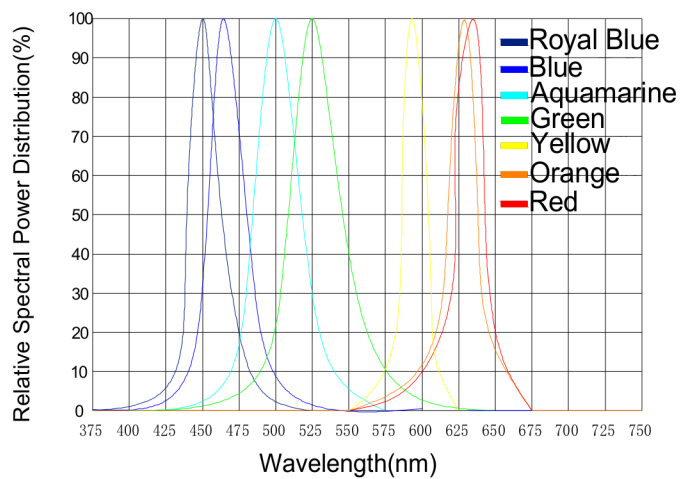
6-2. Relative Flux vs. Junction Temperature (If = 400 mA)
Amber, Red



7. Typical white spectral distribution

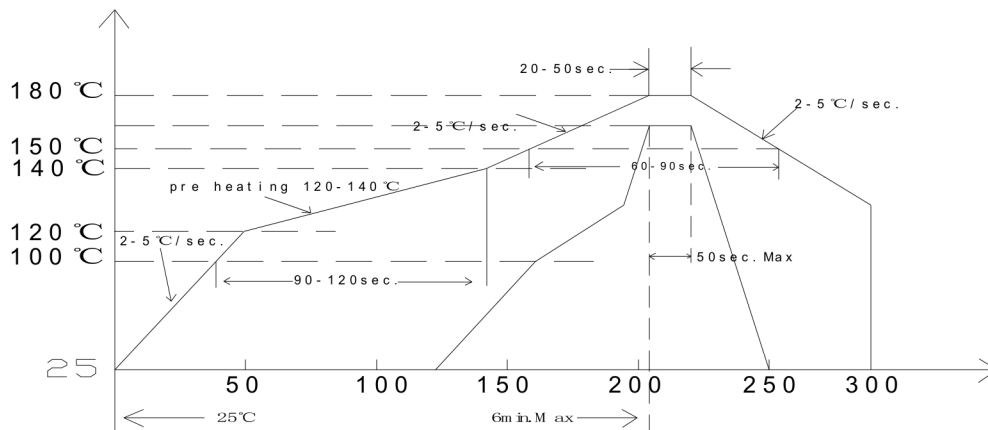


8. Relative Spectral Power Distribution



9. Reflow temperature time curve

Reflow Soldering Profile — Lead Free Solder



Reliability Test Items And Conditions

Test Items	Test Condition	Test Hours Cyles	Sample Size	Ac/Re
DC Aging	Ta=25℃ IF=800mA	1000H	22	0/1
Hot and cold shock	-40℃/30min +100℃/30min	100Cycles	22	0/1
High Temperature Storage	Ta=100℃	1000H	22	0/1
High Temperature High Humidity	85℃/85%RH	1000H	22	0/1
Low Temperature Storage	Ta=-40℃	1000H	22	0/1
ESD(HBM)	2000V HBM	1Time	10	0/1

Criteria For Judging the Damage

Items	Symbol	Test Condition	Criteria For Judging Damage
Forward Voltage	V _F	I _F =800mA	Initial Data±10%
Reverse Current	I _R	V _R =5V	I _R ≤10μA
Luminous Flux	φ _v	I _F =800mA	Average φ _v degradation≤20% Single LED φ _v degradation≤30%

Soldering Condition

Reflow Soldering			Manual Welding	
	High temperature PC lens	Molding products	Temperature	Soldering time
Preheat	100-140°C	180-200°C	Highest 350°C	3ses once
Heatup time	120sec Max	120sec Max		
Peak temperature	180°C Max	260°C Max		
Condition of Soldering time	50sec Max	10sec Max		

*Notes

Conventional PC lens products don't use reflow soldering.