
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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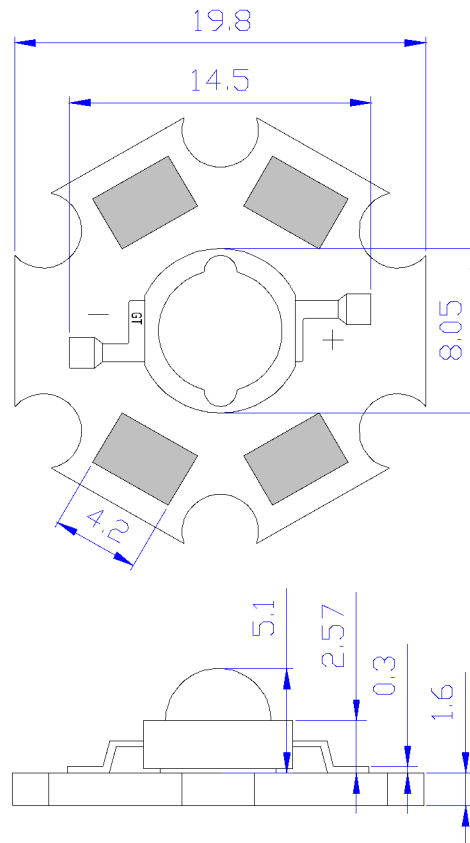
Typical Characteristic Curves (2)

Reliability Test

Soldering Condition./Packing Dimention.

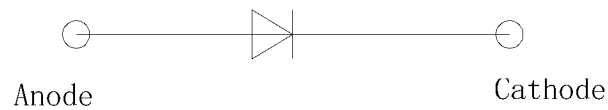
Outline Dimensions

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 IF=400mA, Ta=25°C

Parameter	Symbol	Min	Typ	Max	Unit
Luminous Flux	ϕ_v	10	~	20	lm
Wavelength	λ_D	640	~	660	nm
Forward Voltage	V_F	2.0	~	2.6	V
Power Dissipation	P_D	0.80	~	1.04	W
View Angle	2 θ 1/2	~	120	~	deg.
Thermal Resistance	$R\theta_{J-B}$	~	12	~	°C/W

Absolute Maximum Ratings

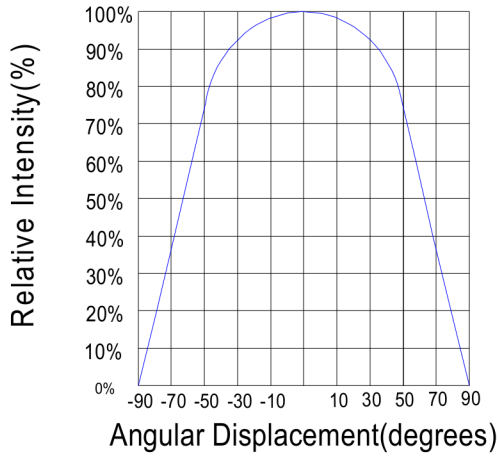
Parameter	Symbol	Value	Unit
Forward Current	I_F	400	mA
Junction Temperature	T_j	115	°C
Operating Temperature	T_{opr}	-40~+60	°C
Storage Temperature	T_{stg}	0~+60	°C
ESD Sensitivity	~	±2,000V HBM	~
Temperature Coefficient of voltage	~	-5	mV/°C
DC Pulse Current(@ 1 KHz,10% duty cycle)	I_{FP}	1000	mA
Reverse Voltage	V_R	Not designed for reverse operation	

*Notes

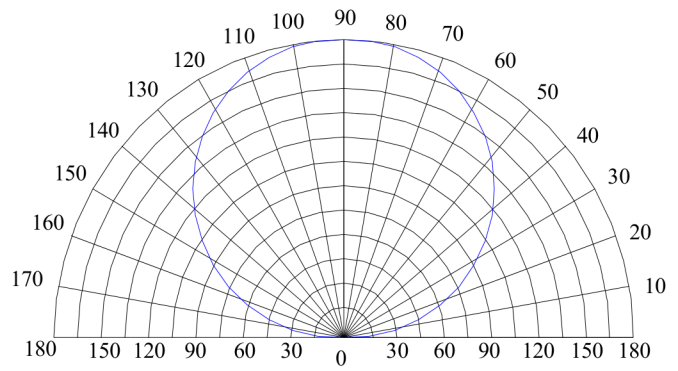
1. Tolerance of Luminous Flux is ±3%
2. Tolerance of Forward Voltage is ±0.1V

Typical Characteristic Curves(1)

1. Typical Light Distribution Curve

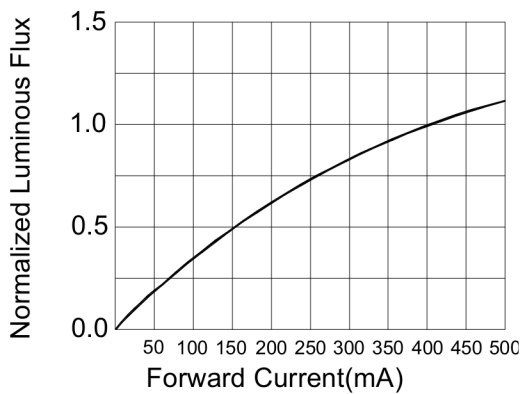


2. Typical Light-Emitting Angle Radiation Pattern

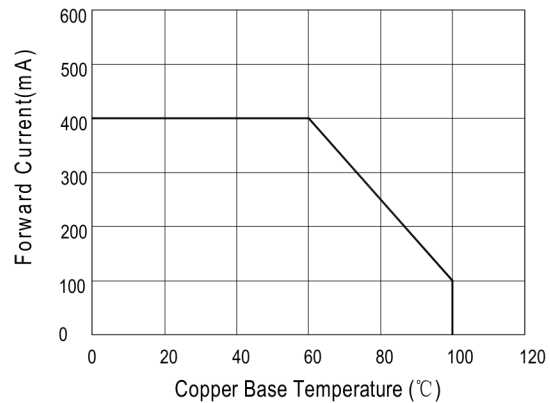


Typical Polar Radiation Pattern for Lambertian

3. Forward Current vs. Relative Luminous Flux Curve

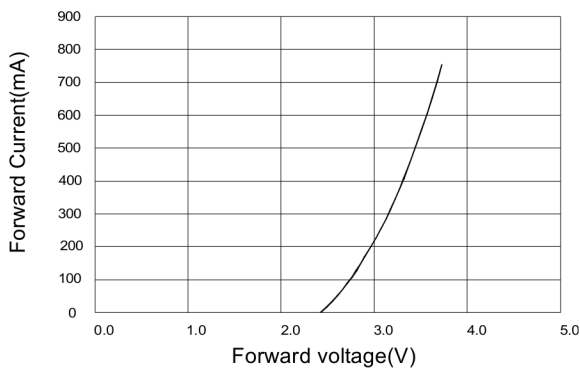


4. Forward Current Derating Curve, Derating based on Tjmax=125°C

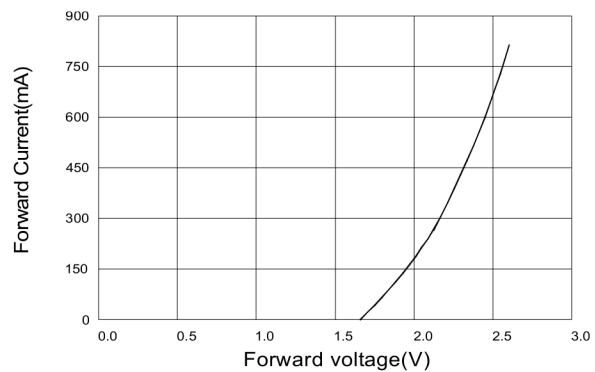


5. Electrical Characteristics Curve

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



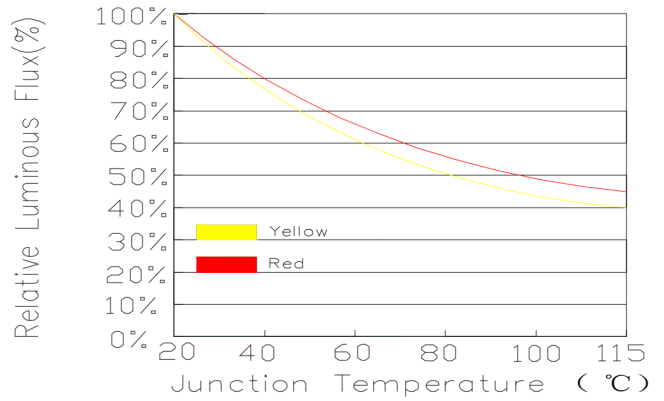
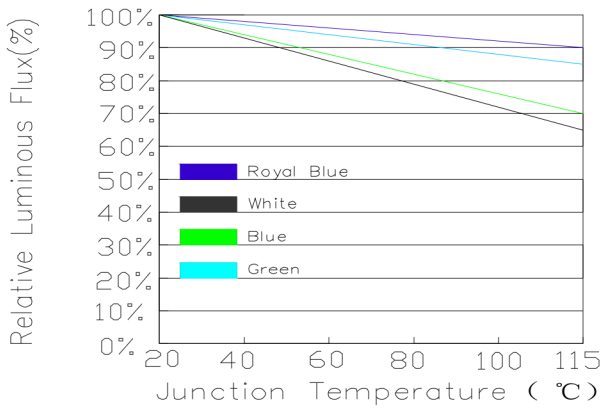
5-2. Amber, Red



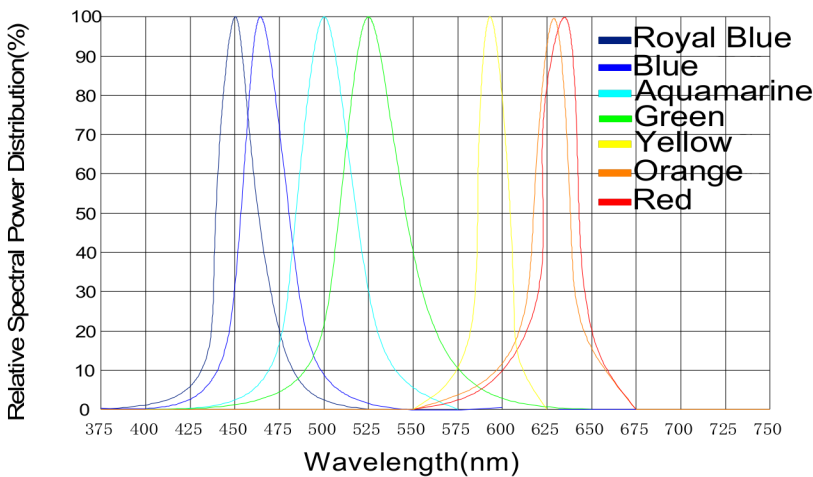
Typical Characteristic Curves(2)

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

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

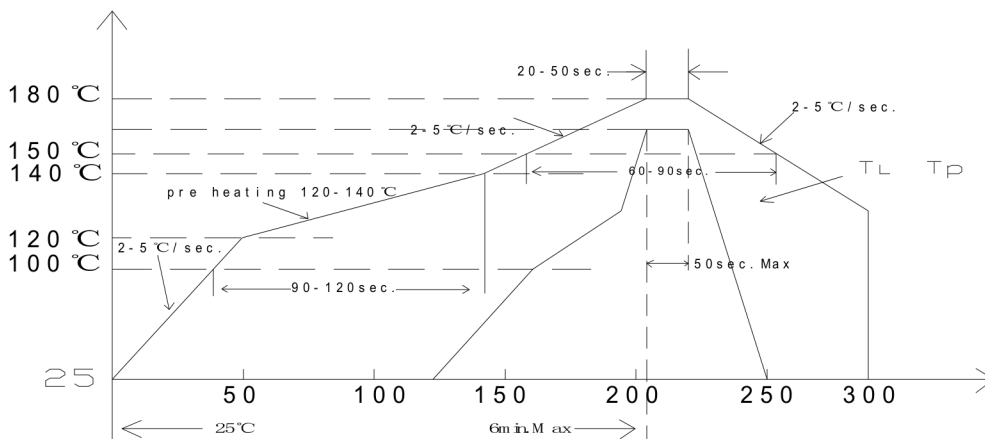


7. Relative Spectral Power Distribution



8. 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=400mA	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 =400mA	Initial Data±10%
Reverse Current	I _R	V _R =5V	I _R ≤10μA
Luminous Flux	φ _v	I _F =400mA	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.