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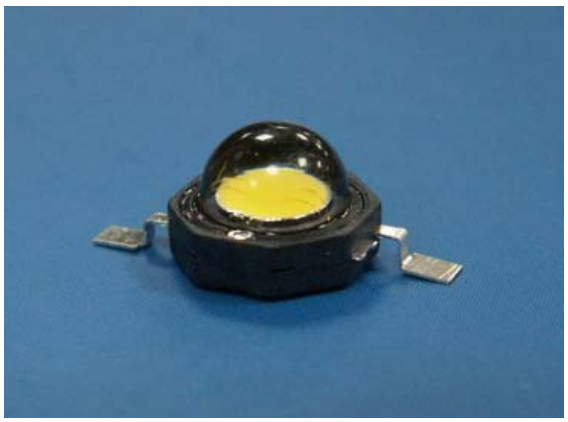

Features

- feature of the device: small package with high efficiency
- color coordinates: x=0.33, y=0.33 according to CIE 1931
- typical color temperature: 5600 K.
- View angle: 120°.
- High light flux output: more than 40lm@350mA.
- ESD protection.
- soldering methods: Hot bar soldering.
- grouping parameter: total luminous flux, color coordinates.
- optical efficiency: 37.8 lm/W.
- Thermal resistance (junction to lead): 15 K/W.
- The product itself will remain within RoHS compliant version.

Applications

- TFT LCD display backlight
- Flash
- Sunshine light
- decorative and entertainment illumination
- signal and symbol luminaries for orientation marker lights (e.g. steps, exit ways, etc.)

Materials

Items	Description
Housing black body	**Heat resistant polymer**
Encapsulating Resin	**Silicone resin with phosphor**
Lens	**Heat resistant clear polymer**
Electrodes	**Ag plating copper alloy**
Die attach	**Silver paste**
Chip	**InGaN**

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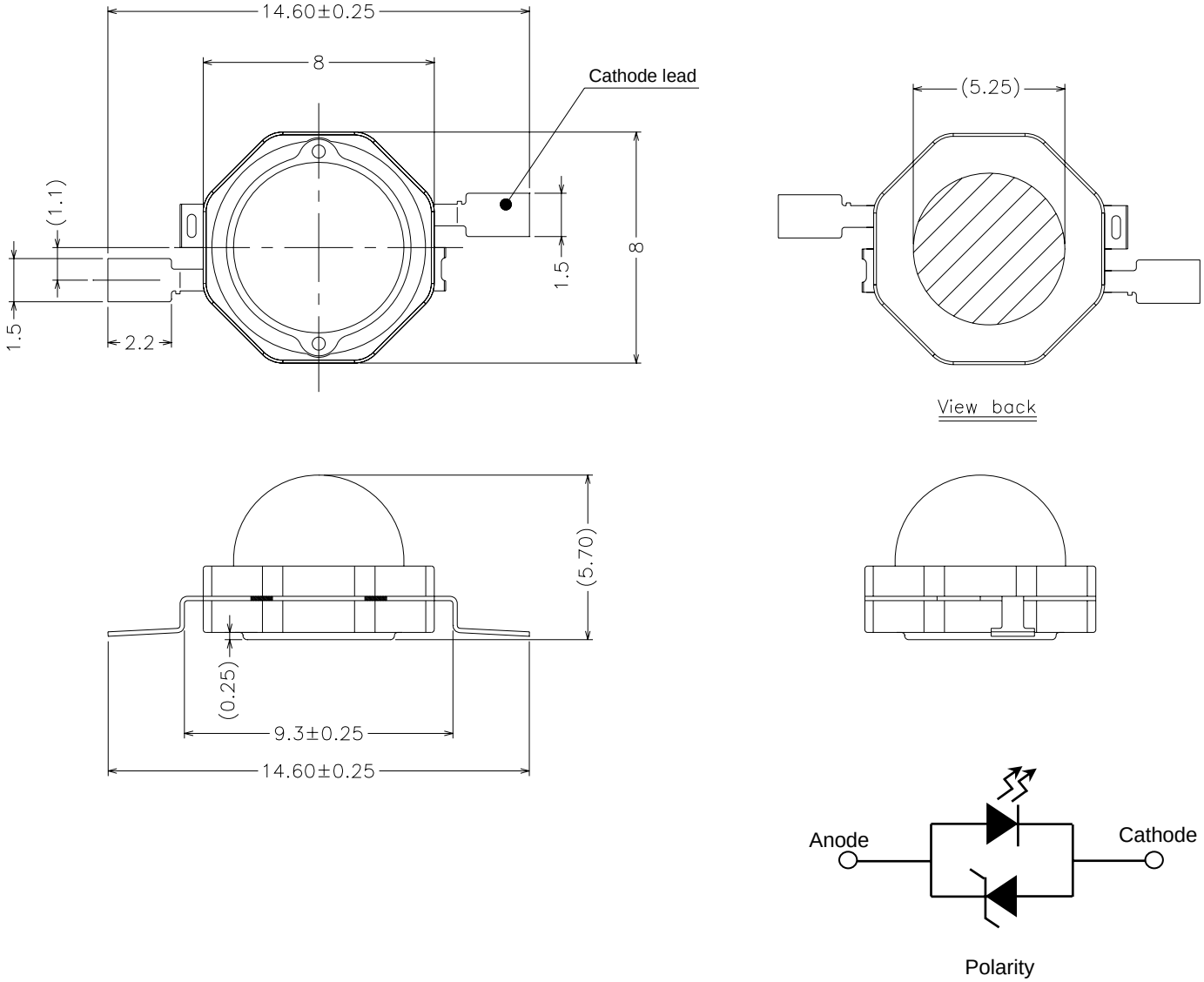
Dimensions



Notes: 1. Dimensions are in millimeters

2. Tolerances unless dimensions ±0.25mm

Maximum Ratings ($T_{Ambient}$=25ºC)

Parameter	Symbol	Rating	Unit
Operating Temperature	T_{opr}	-40 ~ +100	ºC
Storage Temperature	T_{stg}	-40 ~ +100	ºC
Junction temperature	T_j	125	ºC
Forward Current	I_F	500	mA
Power Dissipation	P_d	2.2	W
Junction to heat-sink thermal resistance	R_{th}	15	K/W

Electro-Optical Characteristics ($T_{Ambient}$=25ºC)

Parameter	Bin	Symbol	Min	Typ.	Max	Unit	Condition
Luminous Flux	J1	Φ_v	23	----	27	lm	I_F=350mA
	J2		27	----	33		
	J3		33	----	39		
	J4		39	----	45		
	J5		45	----	52		
Viewing Angle	----	$2\theta_{1/2}$	----	120	----	deg	
Forward Voltage	----	V_F	3.1	3.5	4.0	Volt	

➢ **Luminous flux measurement allowance : ±15%**

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Color Binning

Rank A0				
x	0.280	0.264	0.283	0.296
y	0.248	0.267	0.305	0.276

Rank B3				
x	0.287	0.283	0.304	0.307
y	0.295	0.305	0.330	0.315

Rank B4				
x	0.307	0.304	0.330	0.330
y	0.315	0.330	0.360	0.339

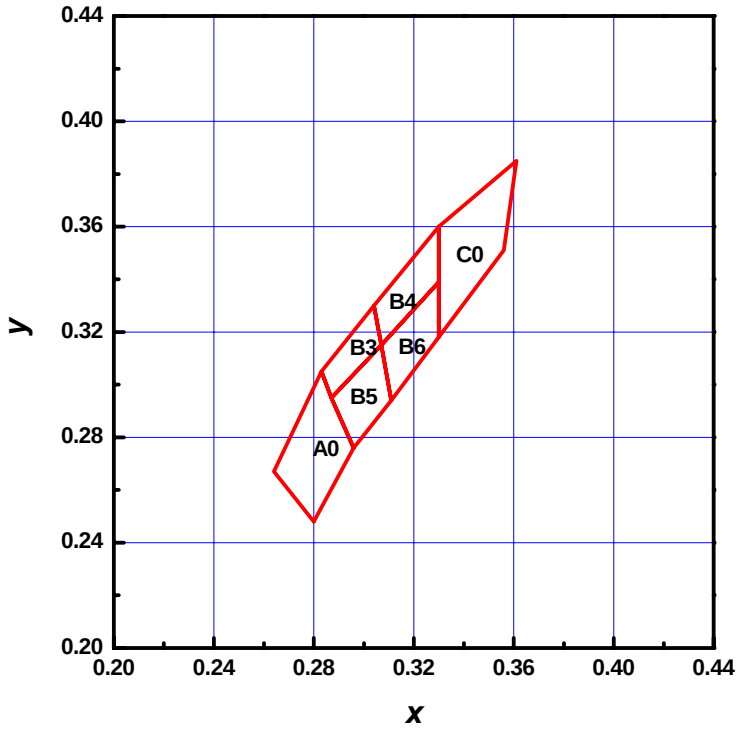
Rank B5				
x	0.296	0.287	0.307	0.311
y	0.276	0.295	0.315	0.294

Rank B6				
x	0.311	0.307	0.330	0.330
y	0.294	0.315	0.339	0.318

Rank C0				
x	0.330	0.330	0.361	0.356
y	0.318	0.360	0.385	0.351

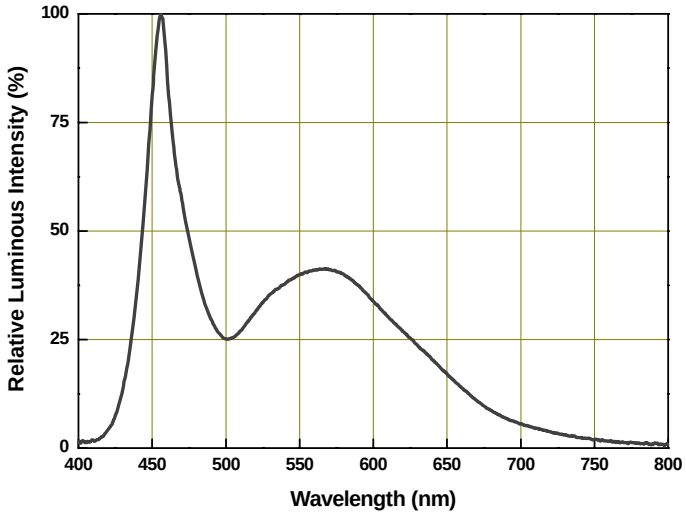
➢ **Color coordinates measurement allowance : ±0.01**

Color Binning Structure Graphic Representation

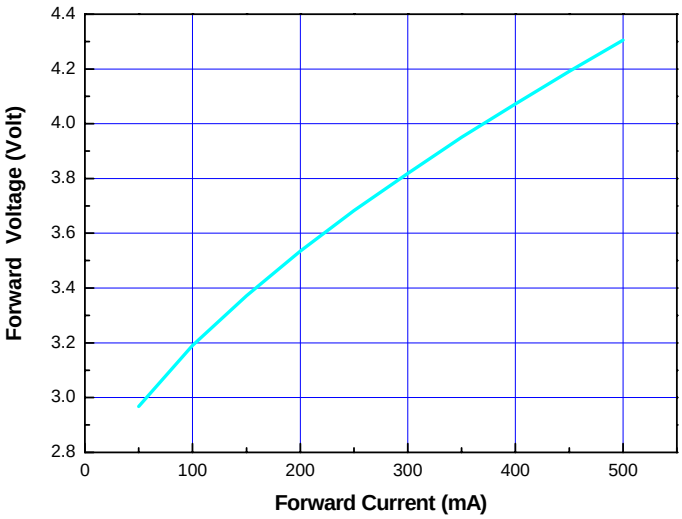


Typical Electro-Optical Characteristics Curves

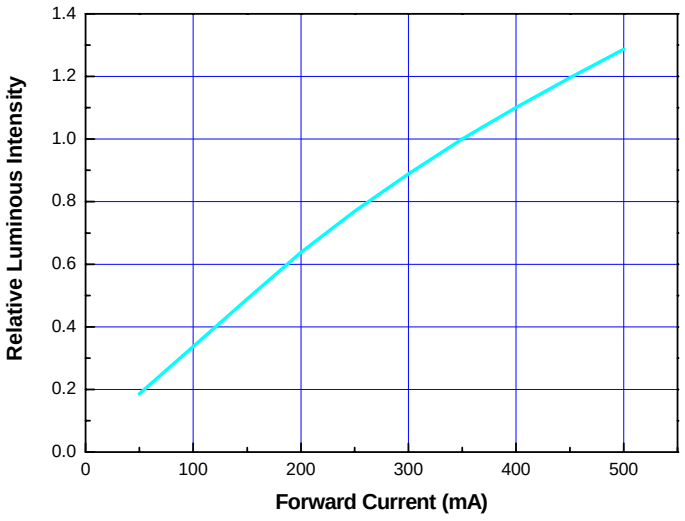
Relative Spectral Distribution, I_F=350mA, $T_{Ambient}$=25ºC



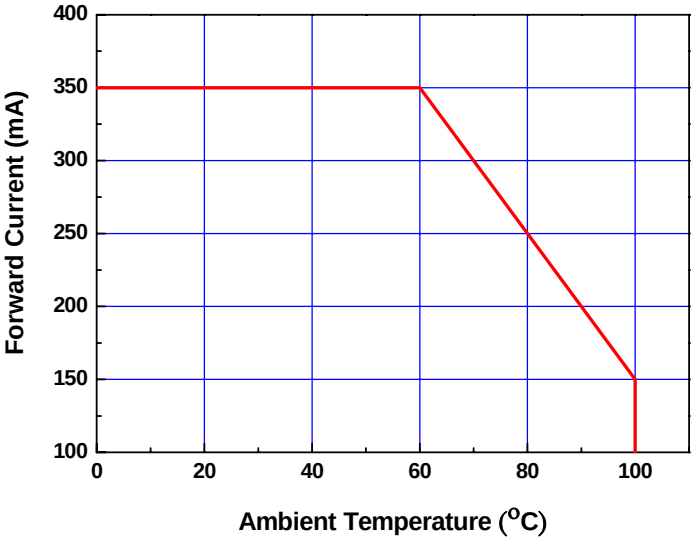
Forward Voltage vs Forward Current, $T_{Ambient}$=25ºC



Relative Luminous Intensity vs Forward Current, $T_{Ambient}$=25ºC



Forward Current Derating Curve, Derating based on T_{JMAX}=125˚C



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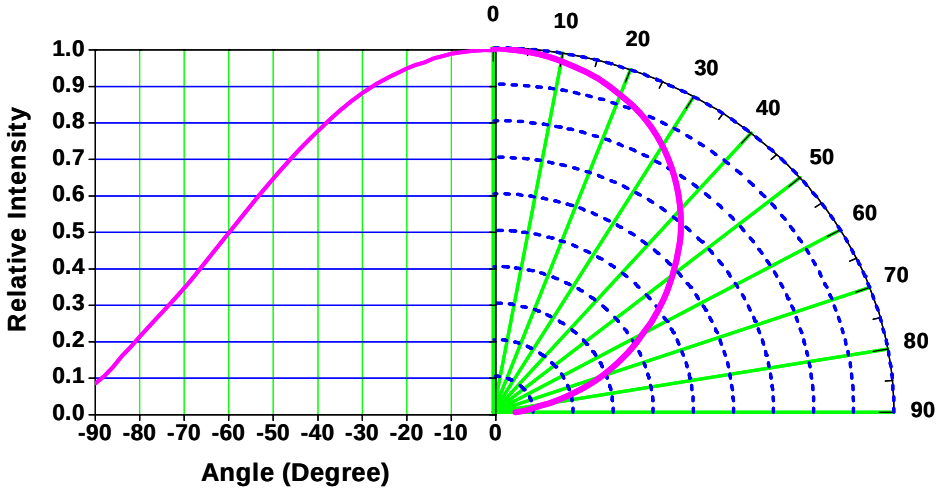
Typical Representative Spatial Radiation Pattern



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Reliability Test Items and Results

Stress Test	Stress Condition	Stress Duration	Failure Criteria	Number of damaged
Solder Heat Resistance (SHR)	260ºC±5ºC, 10 sec	1 time	Note 2	0/7
Non-Operating Temperature Shock	-10ºC /100ºC, 5 min dwell / 10 sec transfer	200 cycles	No catastrophe	0/7
Non-Operating Temperature Cycle	-40ºC /100ºC, 15 min dwell / 5 min transfer	200 cycles	No catastrophe	0/7
High Temperature Storage Life	100ºC, non-operating	168 Hrs	Note 2	0/7
Low Temperature Storage Life	-40ºC, non-operating	168 Hrs	Note 2	0/7
Room Temperature Operating Life	25ºC , I_F= 350 mA	168 Hrs	Note 2	0/7
Wet High Temperature Storage Life	85ºC /85% RH, non-operating	168 Hrs	Note 2	0/7

Note 1 : Following test measured by 350mA operation for judging the damage

Note 2 : Failure criteria includes unit with catastrophic failures, or units with Iv degradation for the test over than 30% of initial condition at 168 hours, or an average Iv degradation for the test of greater than 20% of initial condition at 168 hours.