



DATA SHEET

131Watt High Power LED Standard Voltage

Serie: M15020

Wavelength **8000= 8000°K**

Brightness **7000= 7000lm**

Color: **CW= Cool White**

**131Watt High Power LED
Standard Voltage**

Serie No.: **M15020**

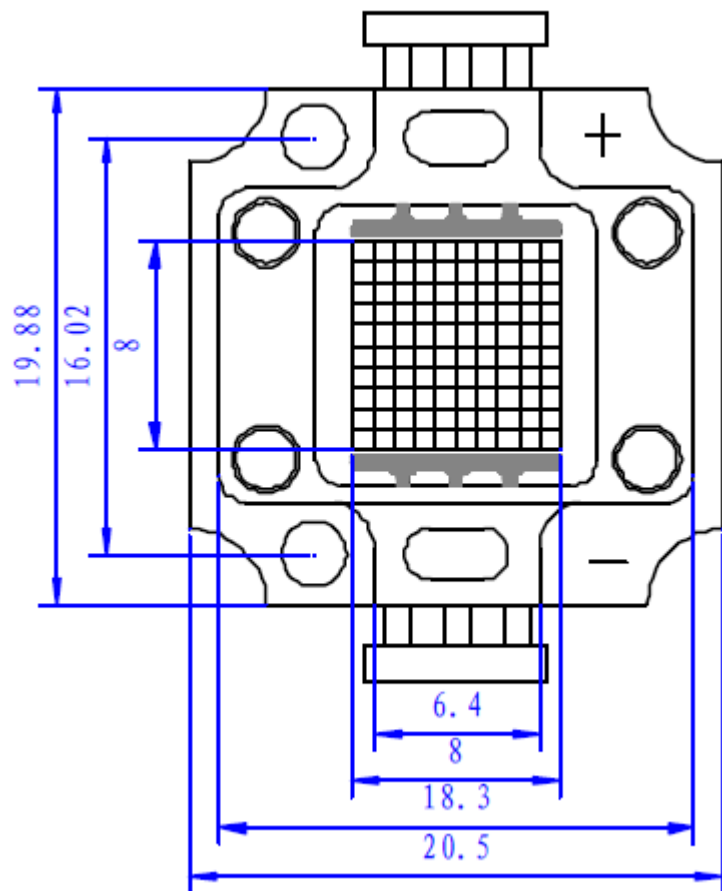
Customer:

DRW:	Jason	CHKD	Wilson	MATL:	Wilson	TOLERANCE	Mason	DATE	21.03.2012
APPD:	Schumi			FINISH	Jamy		Sheet No.		1 from 13

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Technical Dimensions



1. All Dimensions are in mm.
2. Lead Spacing in measurement where the lead emerge from the package
3. Protruded resin under flange is 1,5mm max.
4. Tolerance are 0,3mm unless otherwise noted.
5. Specifications are subject to change without notice
6. Driving LED without heat sinking device is forbidden
7. Warps the degree 0,5mm
8. Leds are not designed must to be driven in reverse bias.
9. Proper current derating must be observed to maintain junction temperature below the maximum
10. It is strongly recommended that the temperature of lead be not higher than 55°C.

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Features

- Long operating life
- Instant Light
- Superior ESD defense
- Low Voltage DC operated
- Color bright saturated
- More energy efficient than incandescent and most halogen lamps

Discription

EDCON-COMPONENTS High Power LED is make of hi-eff AS/TS GaInN chips with precide package technique which makes excellent heat dissipation to reach the advantages of high lunious efficiency, low decay, and long endurance. Now we have these colors available RED, GREEN, BLU, YELLOW, WHITE.

Typical Applications

- Decoration Lights
- Beacon light
- Bathrooms Light
- Medical applications
- Architectural detail lighting

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Electrical Characteristics at IF=350mA, TA=25°C

Absolute Maximum Ratings

Parameter	Symbol	Value			Unit
		Min	Typ	Max.	
Luminous Flux		~	7000	~	lm
Correlated Color Temperature	CCT	7000	~	8000	K
Forward Voltage	Vf	~	17,5	~	V
View Angle	20 1/2	120			deg.
Thermal Resistance	RO J-B	8			°C/W
Thermal Resistance	RO J-C	6,5			°C/W

Parameter	Symbol	Value	Unit
Forward Voltage	If	7500	mA
Power Dissipation	Pd	131	W
Junction Temperature	Tj	120	°C
Operating Temperature	Topr	-.30~+85	°C
Storage Temperature	Tstg	-.40~+120	°C
ESD Sensitivity	~	±2000V HBM	~

1. SSC maintains a tolerance of $\pm 10\%$ on flux and power measurements.
2. Φ_V is the total luminous flux output as measured with an integrated sphere.
3. Correlated Color Temperature is derived from the CIE 1931 Chromaticity diagram. CCT $\pm 5\%$ testing tolerance.
4. tolerance of $\pm 0.06V$ on forward voltage measurements.
- 5/6. RO J-B is measured with SSC metal core pcb. ($25^\circ C \leq T_J \leq 110^\circ C$)
RO J-C is measured with only emitter.. ($25^\circ C \leq T_J \leq 110^\circ C$)
- Break voltage of Metal PCB is 6,5KV AC
7. It is included the zener chip to protect the products from ESD.

Tolerance: 15% of EDCON- measuring equipments: EXELTRON
2001.2.S370 made by U.D.T:

TA=25°C

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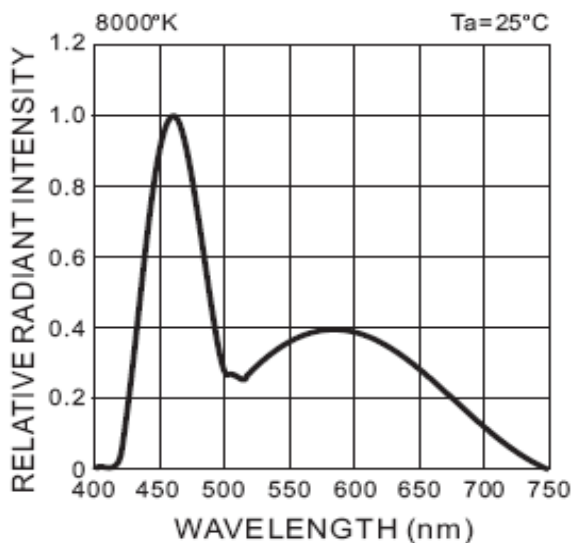
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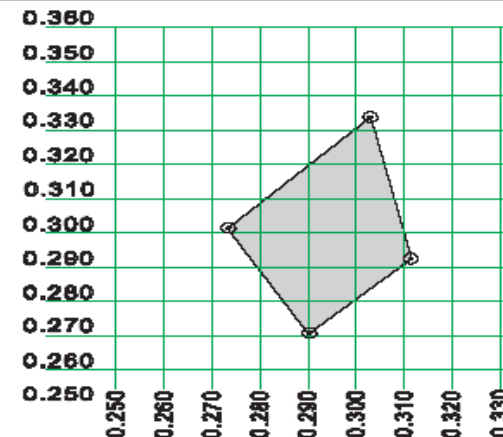
Color Range and Bin Selection

CCT (°K) TYP	Chromaticity Coordinates				
	8000	x	0,274	0,303	0,311
y		0,301	0,333	0,293	0,270
Tolerance	X +/-0,02		Y +/-0,02		

Color Temperature	Lens Color	Dice Source	Color (°K)
Cool White 1	White Diffusion	GaInN/GaN	8000



Cool White CIE Light Color Chart



Environmental Test

Test Item	Reference Standard	Test Conditions	Result
Temperature Cycling	MIL-STD-202:107D	-40°C ~ +25°C ~ +85°C ~ +25°C 60min 20min 60min 20min Test Time= 200cycles	0/22
	MIL-STD-750:1051		
	MIL-STD-833:1010		
	JIS-C-7021: A4		
Thermal Shock	MIL-STD-202:107D	-40°C +/- 5°C ~ +110°C +/-5°C 20min 20min. Test Time= 200cycles	0/22
	MIL-STD-750:1051		
	MIL-STD-833:1010		

Failure Criteria:

1. VF arise $\geq 10\%$
2. IV decline $\geq 30\%$
3. A failure is an LED that is open or shorted

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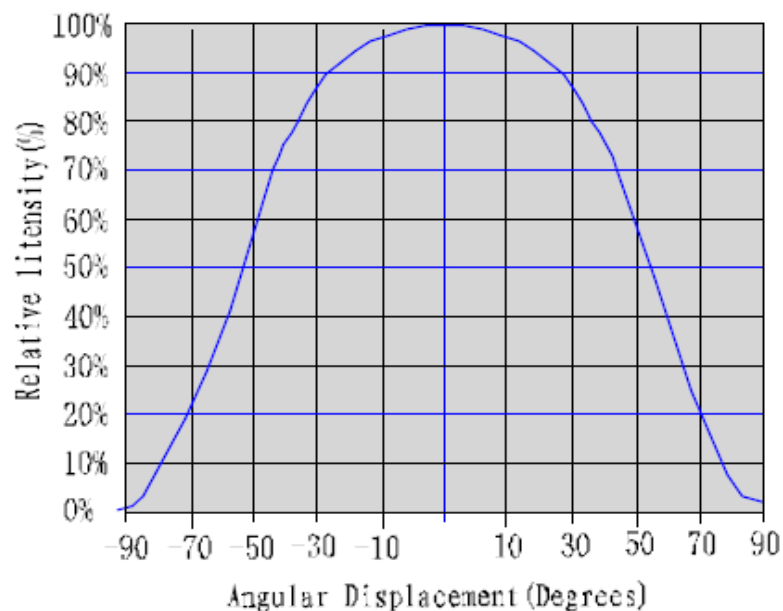
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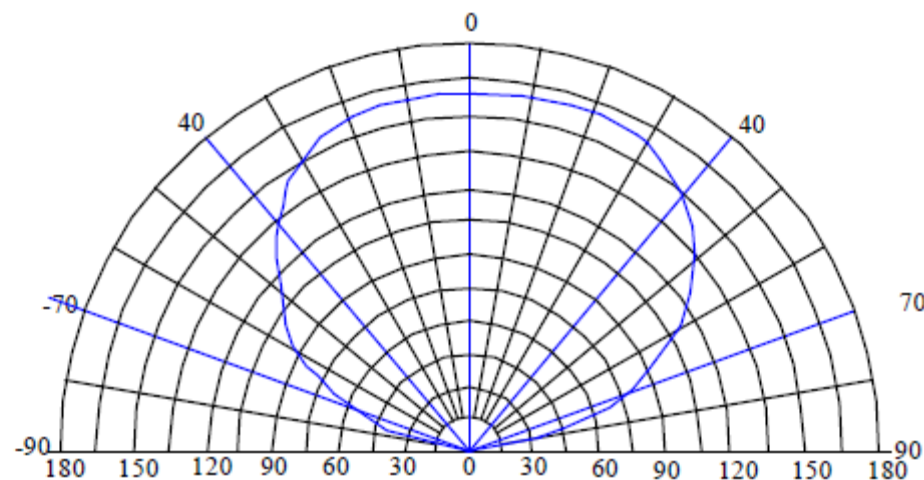


Typical Electrical Optical Characteristics Curves

Typical Radiation Patterns



Typical representative Spatial Radiation Pattern



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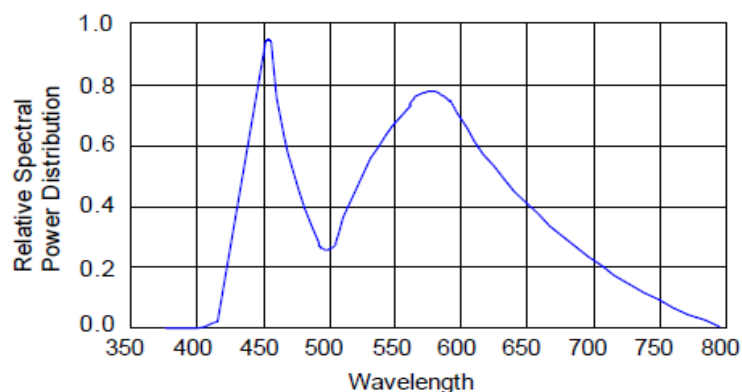
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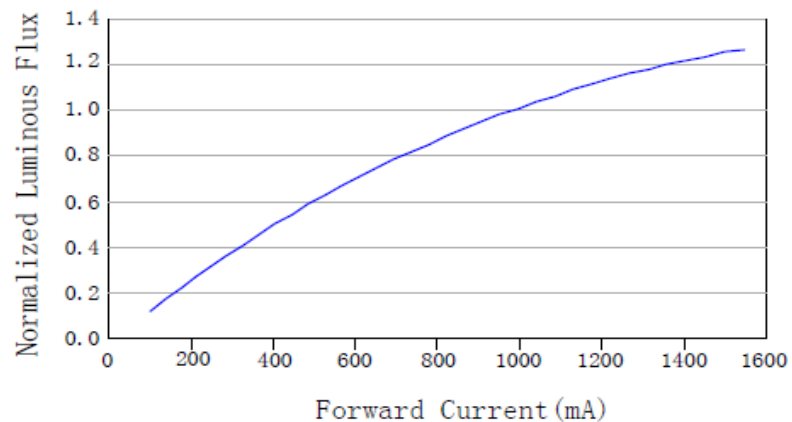


Typical Electrical Optical Characteristics Curves

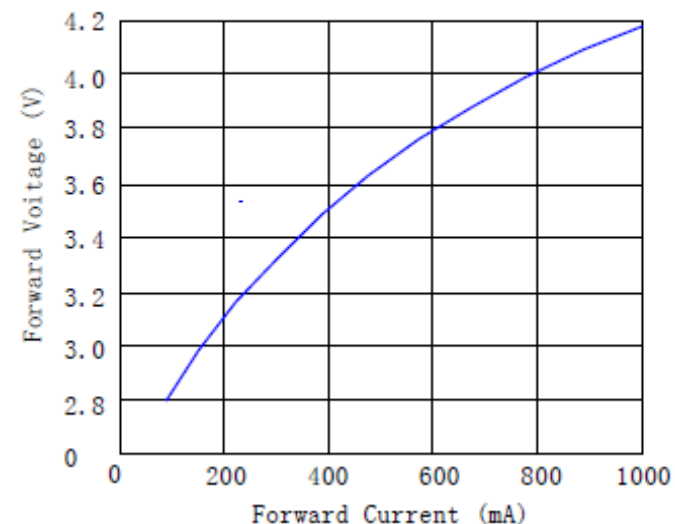
Cool-White color spectrum of typical CCT part, integrated measurement



Relative Luminous Flux vs. Forward Current



Forward Current vs. Forward Voltage



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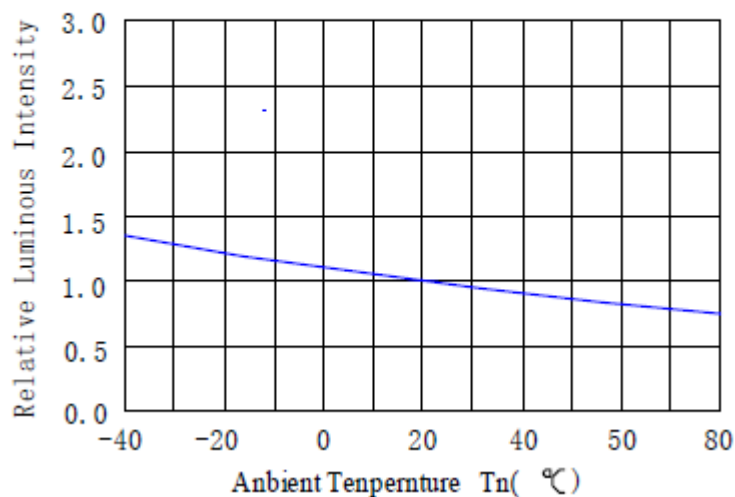
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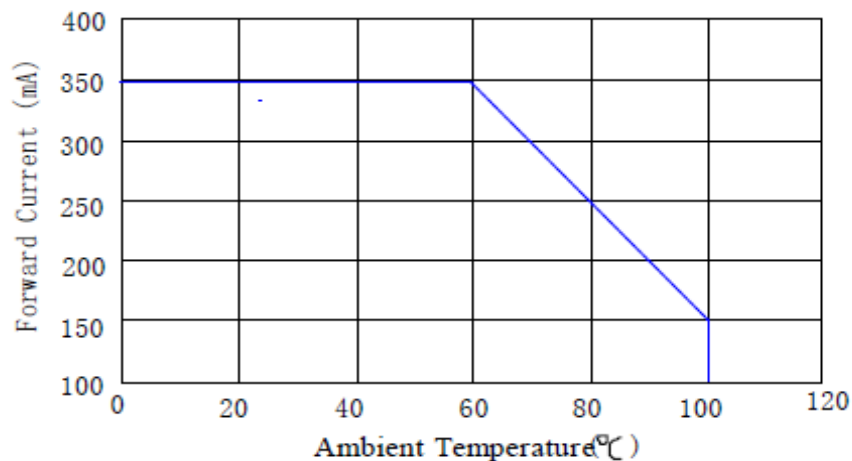


Typical Electrical Optical Characteristics Curves

Relative Luminous Intensity vs.Ambient Temperature



Forward Current Derting Curve, Derting based on Timax=125°C



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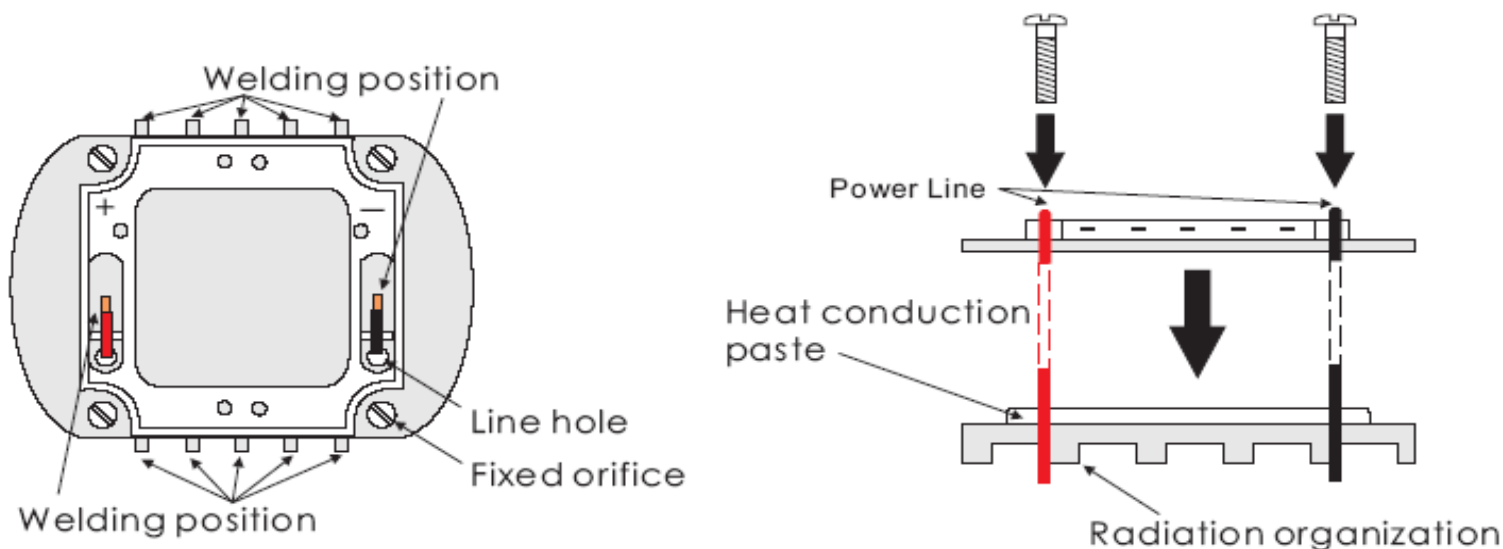
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Mounting Explanation



EDCON-COMPONENTS provide simple comparison table for High Power LED, you could find your request heat dissipation area from the following table.

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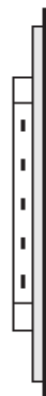
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Conclusion



Free Convection Horizontal	
Flat Heat Dissipation Set-up	
(Area Require mm ²)	
White	107,000

Free Convection Vertical	
Flat Heat Dissipation Set-up	
(Area Require mm ²)	
White	79,500

Free Convection	
Finned Heat dissipation Set-up	
(Area Require mm ²)	
White	371,000

TAB in this table is according to highest operating temperature 65°C

Different materials of second heat dissipation device, the surface area of heat sink will be different. Thus, this document is for reference only.

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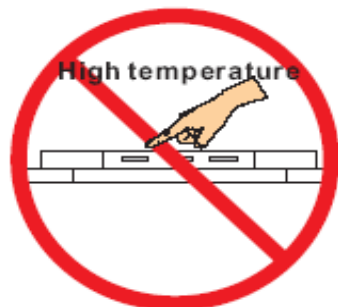
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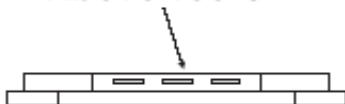
Operating Instructions



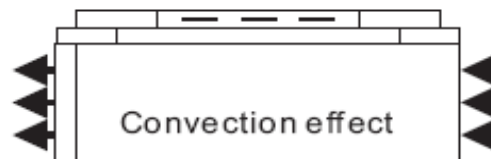
It is important to keep away the product from the water, in order to avoid the product electronic characteristics to be harmful



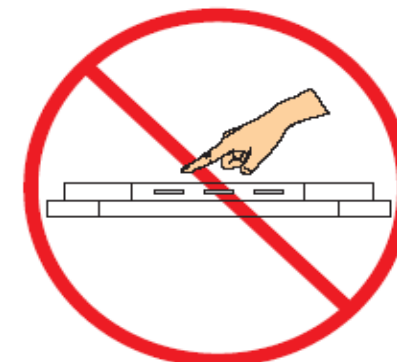
Above 150°C



There is 150°C directly from the front of Power LED emitting diode. It is untouchable to prevent burning.



It should be noticed whether there is convection in design of device. Convection has to exist.



The material in the central top of POWER LED is soft. Therefore, it is unquenchable and untouchable.



Keep Insulation

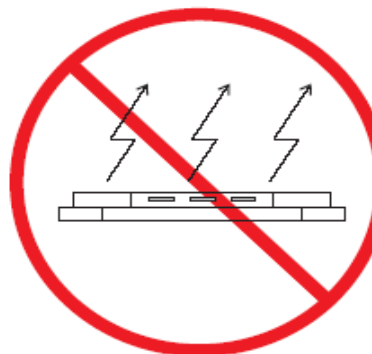


Power Supply

In the button of heat sink cannot be touched with neither positive nor negative pole. (Heat sink has to be insulation)



When making use of products, it is necessary to use anti ESD devices to prevent destructive electronic characteristics.



The product should not be light up directly without heat dissipation device

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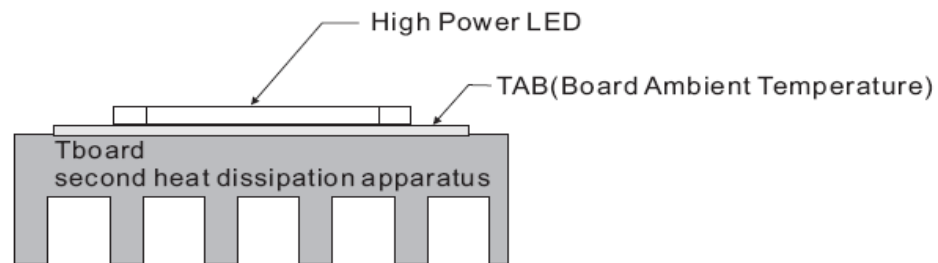
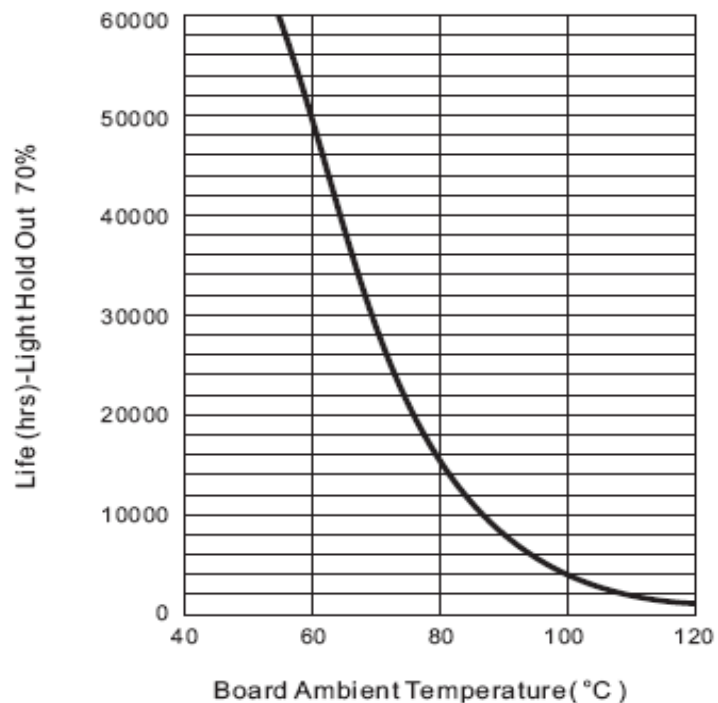
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TAB Temperature LIFE Characteristics Curve



Board Ambient Temperature Tolerance 5°C
 TAB in this table is according to highest operating temperature 65°C
 The TAB is the stable testing value for the product lighted 100% after one hour
 Different materials of second heat dissipation device, the surface area of heat sink will be different,
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Ordering Informations

Serie	Emitting Color	(°Kelvin)	Brightness (LM)	ROHS	Packing Code					
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M15020	CW1	8000	7000	R	BU					
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CW= Cool White	8000= 8000°K	7000= 7000lm	R= ROHS Conform	BU= Bulk Ware		
			N= NON ROHS Conform	TY= Tray Packing		

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