深圳市同一方光电技术有限公司

Shenzhen TongYiFang Optoelectronic Technology CO.,Ltd.

FORM NO.:2016.01.01

TYF High Power Copper Base LED (CoB) Acknowledgment

客户名称(Customer's Name)：

客户品号(Customer's Series No.)：

产品型号(Model No.)：Z100-TY CoB Chips（20/30/40/50/60/70/80/100W）

送样日期(Date of Sample)：

厂商 Manufacturer		确认(品质部) Confirmation(Quality Dep.)		确认（技术部） Confirmation(Technology Dep.)	
制作： Drafter	Dai Xiao Dong	□ 接受(Accept)		□ 接受(Accept)	
		□ 不接受(Reject)		□ 不接受(Reject)	
审核： Checked	Huang Wen Ping	审核： Checked		审核： Checked	
核准： Approved	Yao Bing	核准： Approved		核准： Approved	

This specification shall come into effect upon signatures by both parties.

深圳市同一方光电技术有限公司

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1. Application

This specification applies to Z100-TY LED CoB Chips（20/30/40/50/60/70/80/100W）Module Only.

1.1 Features

High efficacy, high lumen, LM-80 standard

70Ra, Which is qualified for outdoor lighting, industrial lighting International standard

20-50W Copper base thermal conductivity is 378W/M*K ,60-100W 401W/M*K

Secondary packaging technology

Beam Angle: 120°

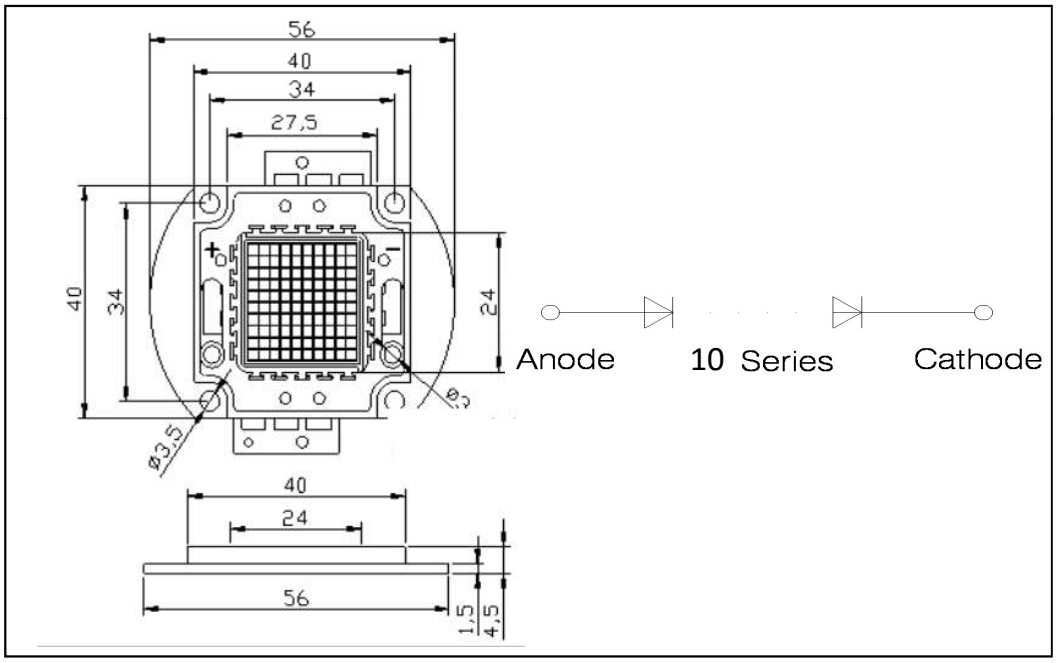
RoHS EN62471 Approved

Suitable for manual welding

Anti-sulfur

2. Main Application: Outdoor lighting, Industrial lighting

Dimension and Circuit



Unit: mm Tolerance: ±0.2mm Base material: Copper base

3. Characteristics

3-1. Absolute Maximum Ratings

(20W)

Item	Symbol	Value	Unit
Max Power	P	23.8	W
DC Forward Current	IF	700	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	1.1	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

(30W)

Item	Symbol	Value	Unit
Max Power	P	35.7	W
DC Forward Current	IF	1050	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.75	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

(40W)

Item	Symbol	Value	Unit
Max Power	P	47.6	W
DC Forward Current	IF	1400	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.57	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

(50W)

Item	Symbol	Value	Unit
Max Power	P	59.5	W
DC Forward Current	IF	1750	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.46	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

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(60W)

Item	Symbol	Value	Unit
Max Power	P	71.4	W
DC Forward Current	IF	2100	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.4	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

(70W)

Item	Symbol	Value	Unit
Max Power	P	83.3	W
DC Forward Current	IF	2450	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.36	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

(80W)

Item	Symbol	Value	Unit
Max Power	P	92.2	W
DC Forward Current	IF	2800	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.33	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

(100W)

Item	Symbol	Value	Unit
Max Power	P	119	W
DC Forward Current	IF	3500	mA
Reverse Voltage	V_R	-50	V
Junction Temperature	Tj	130	℃
Operating Temperature	T_{OPR}	-30~+60	℃
Storage Temperature	T_{STG}	-35~+100	℃
Thermal Resistance	RθJ-B	0.31	℃/W
Electrostatic Limit	ESD	2000	V
Soldering Temperature		350℃/3-5S	

Additional Remarks

1.Max power and positive current mean the maximum setting value of the bottom temperature of led light source by using the appropriate heat sink.

2.Originally connection error and off-limits voltage may damage LED chip.

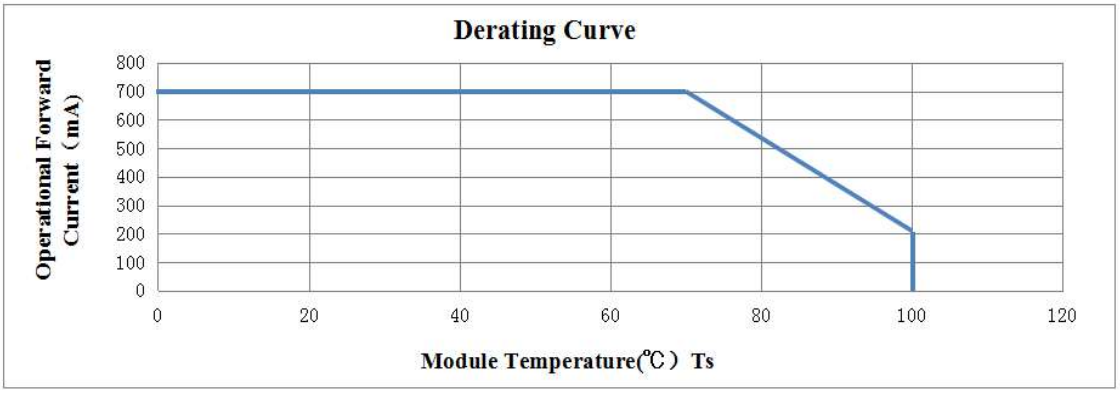
3.Different temperatures, corresponding temperature test point on the next, said LED light should operate follow derating curve on the text.

4. Test result based on testing Bridgelux 45mil

3-2. Derating Curve：

Note : In order to keep the temperature below the rated, please make sure the radiator has enough heat dissipation performance.

(20W)



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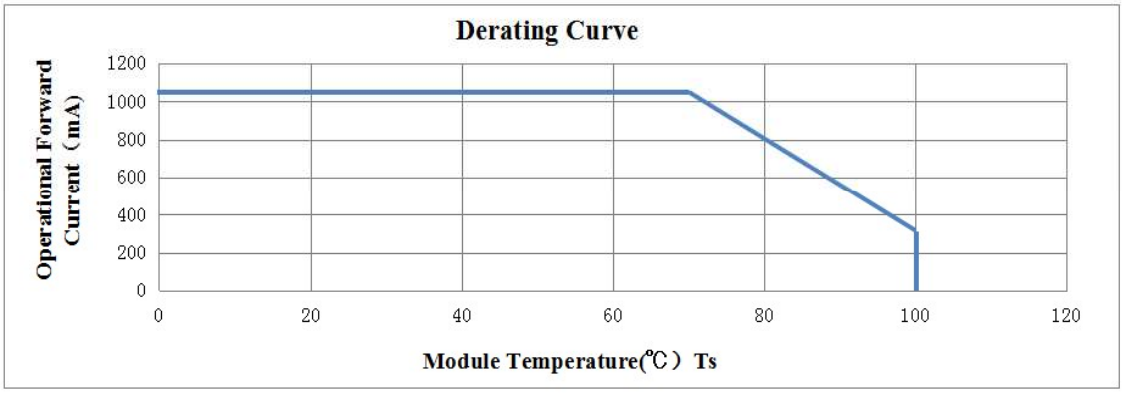

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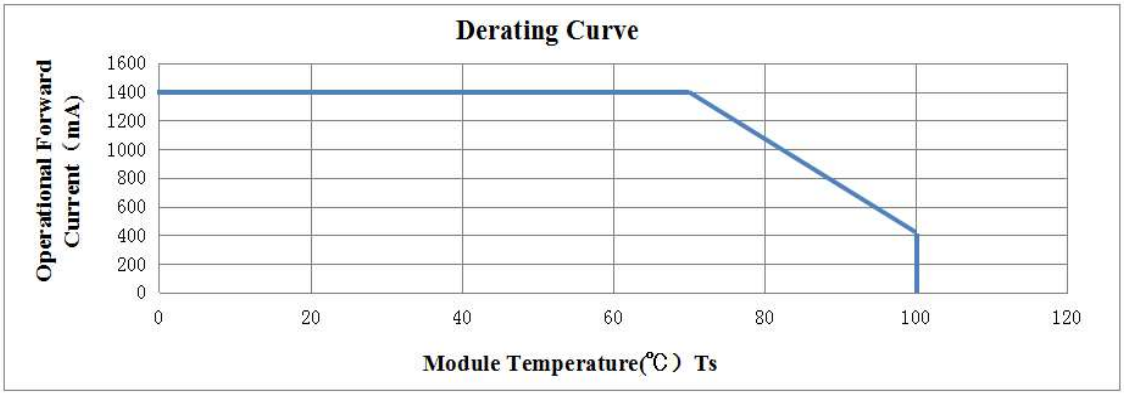

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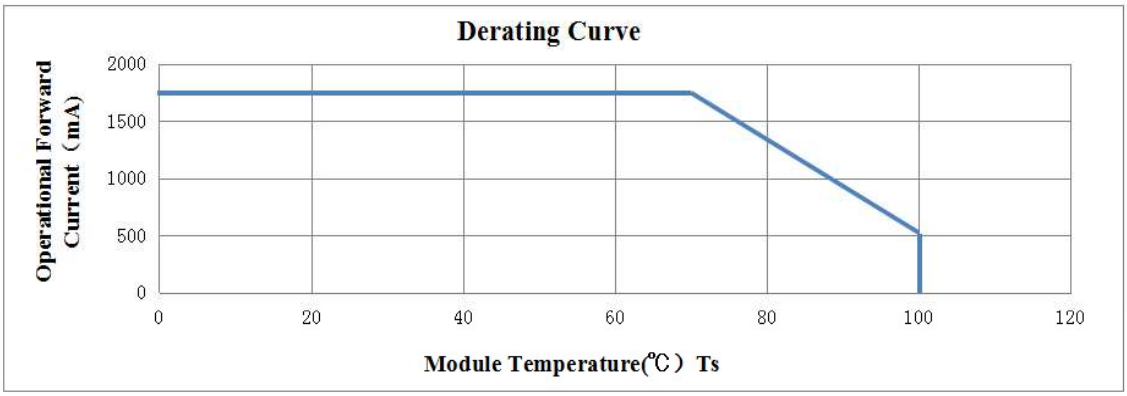

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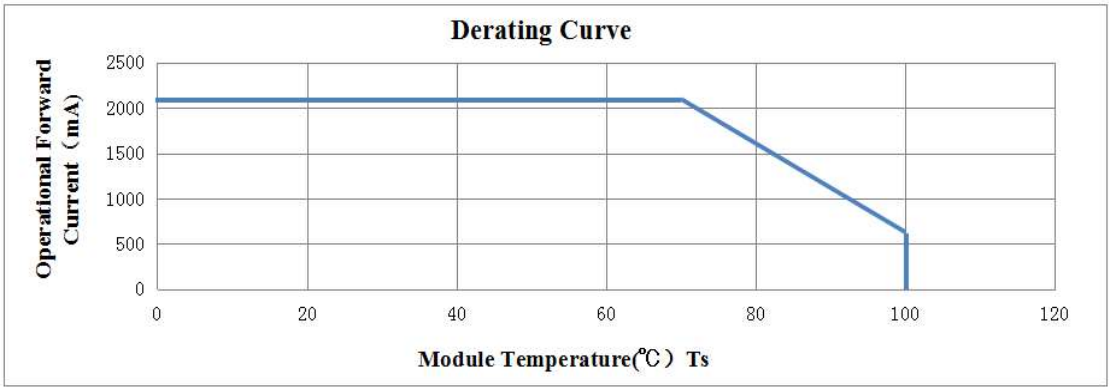

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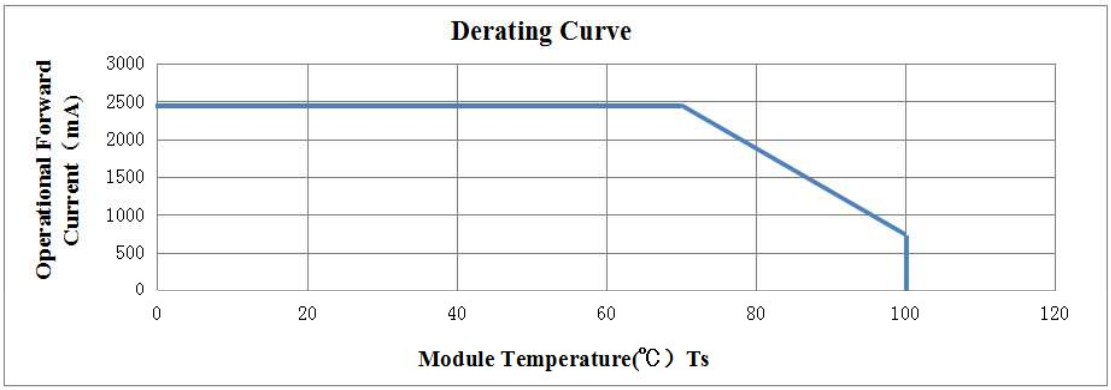

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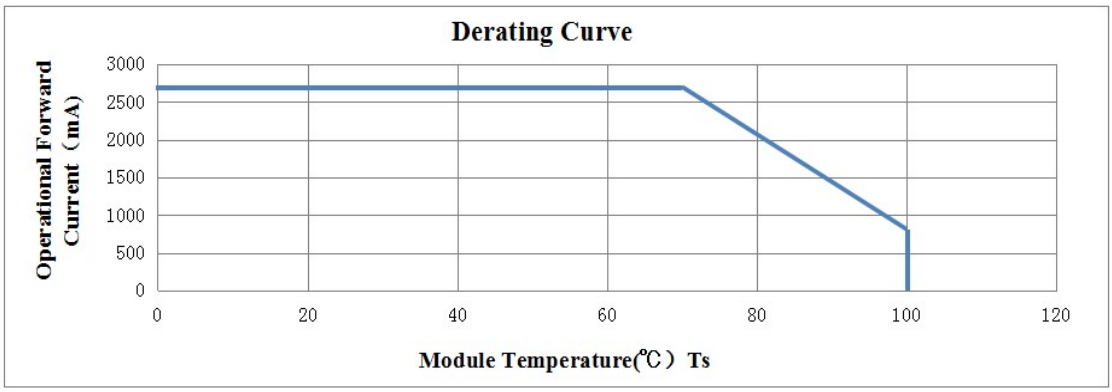

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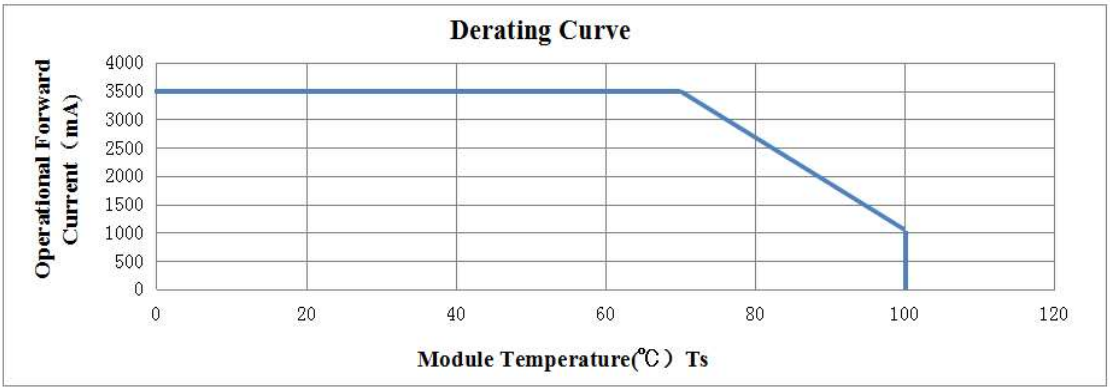

3-3 Other Optical Curves(Ta=25°C)

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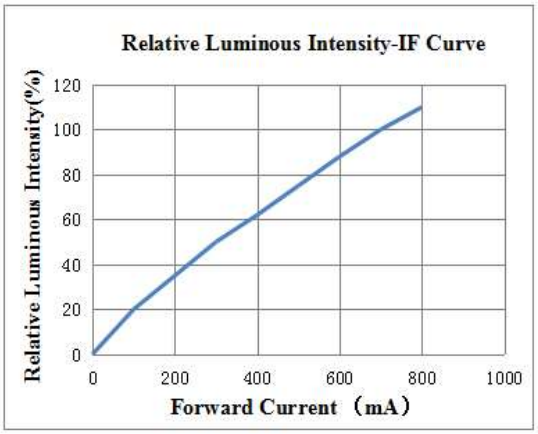

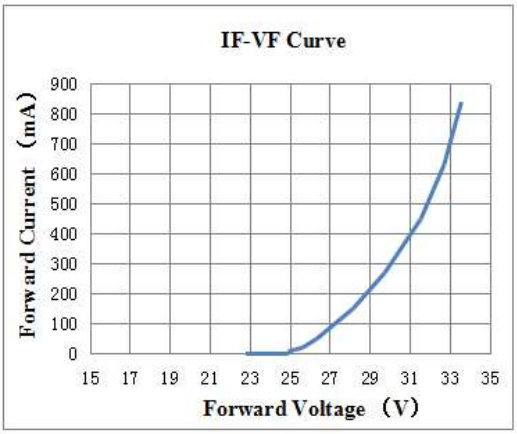

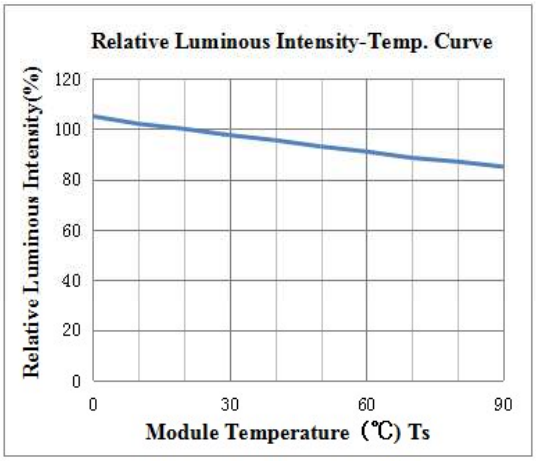

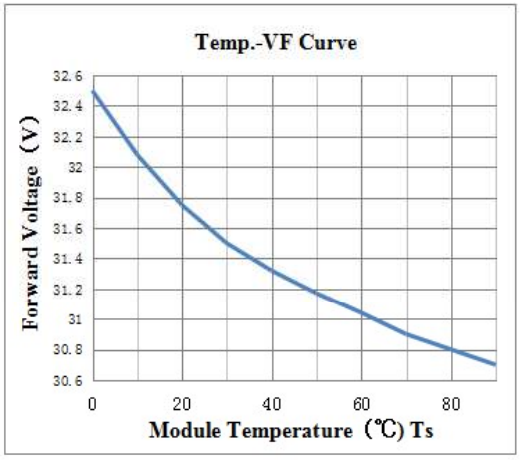

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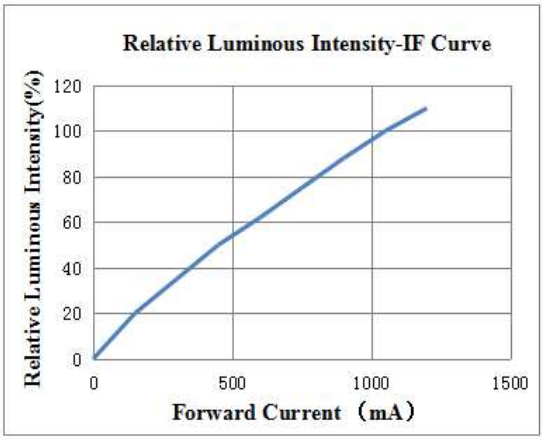

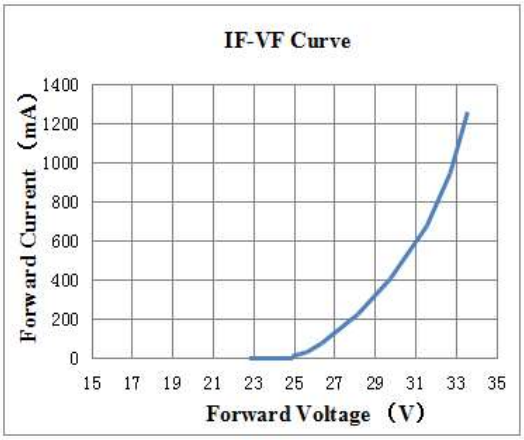

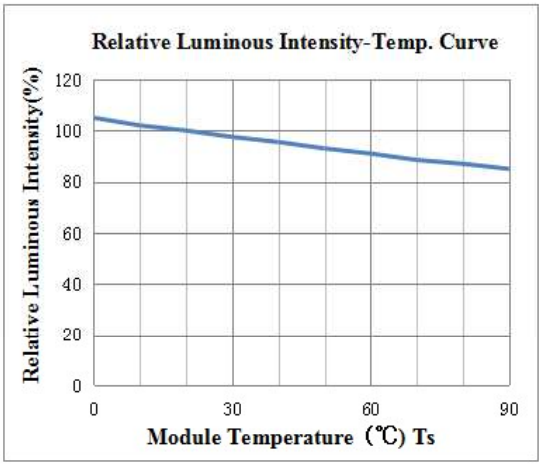

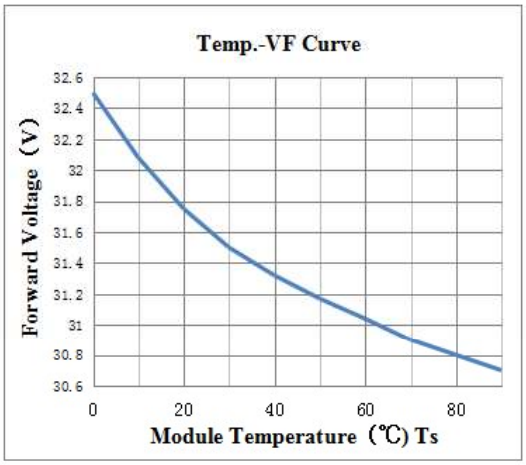

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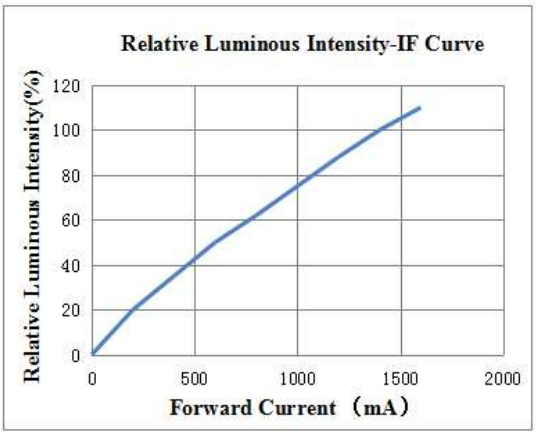

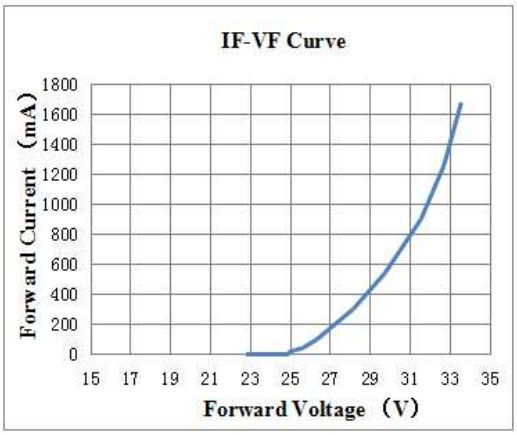

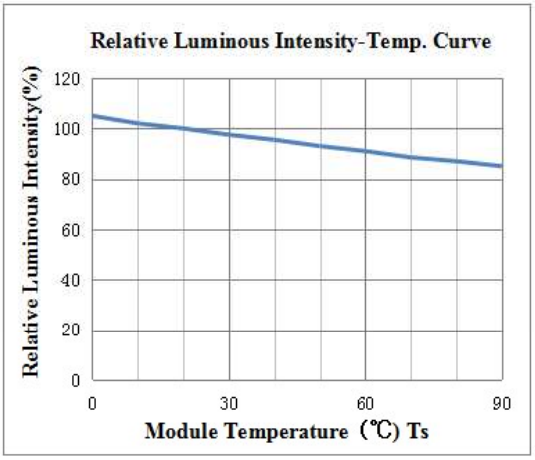

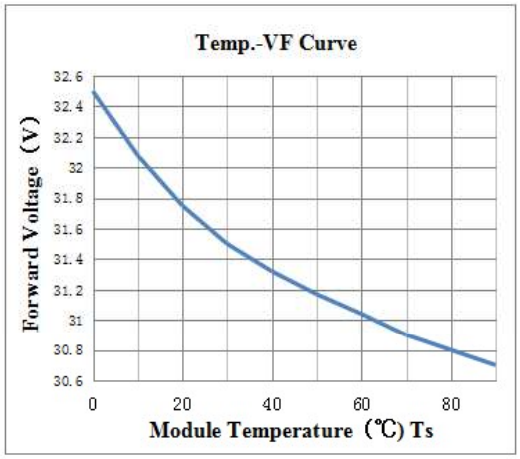

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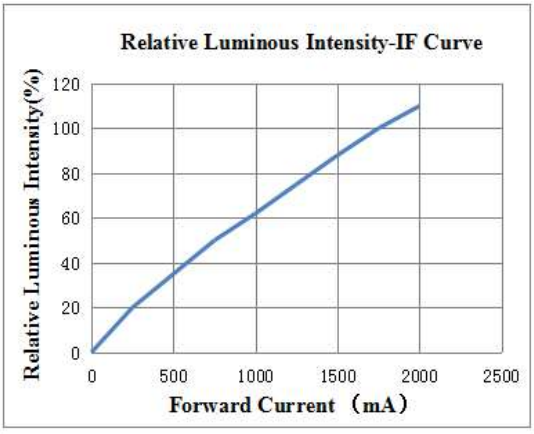

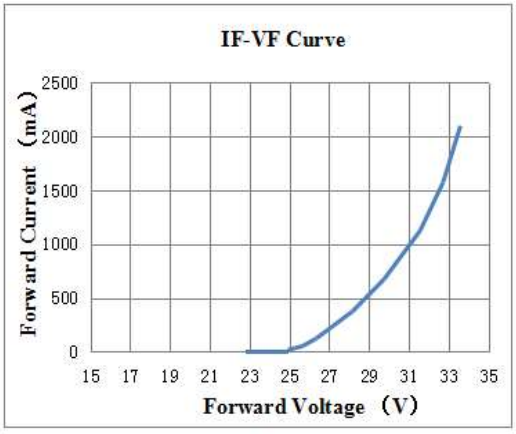

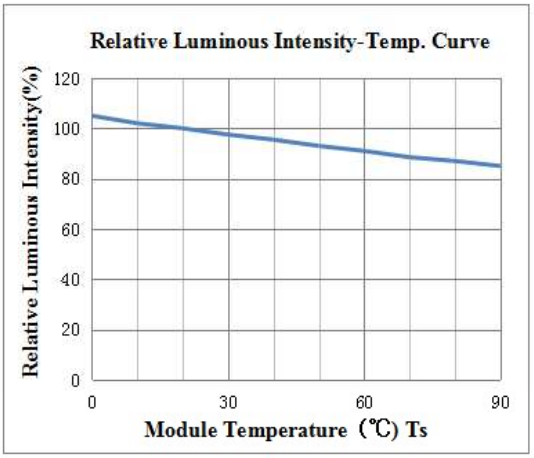

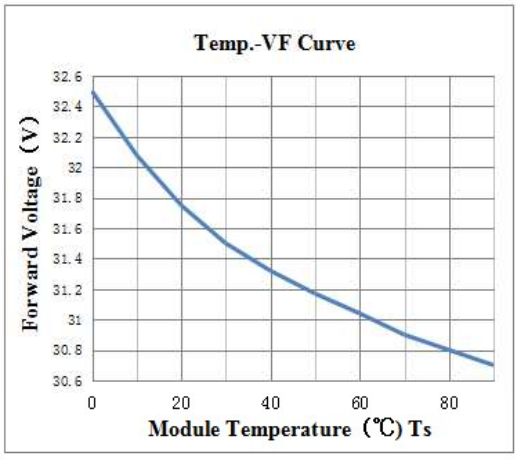

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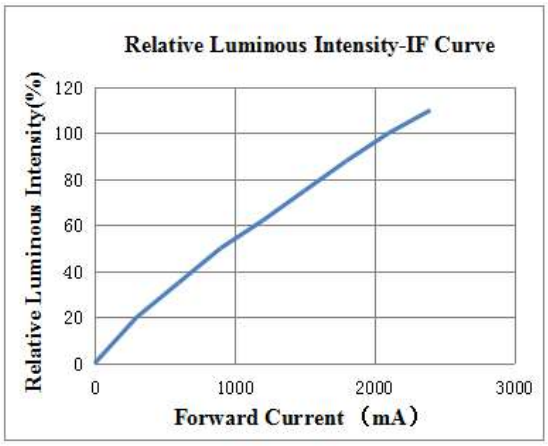

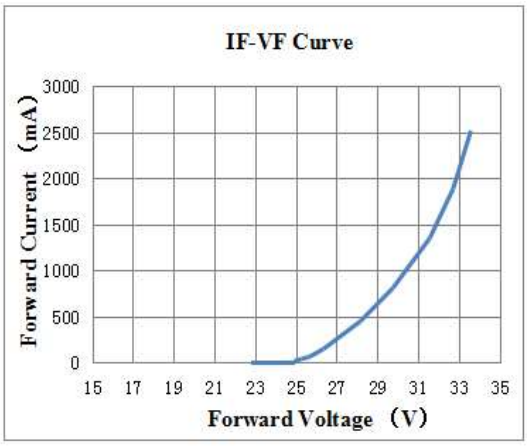

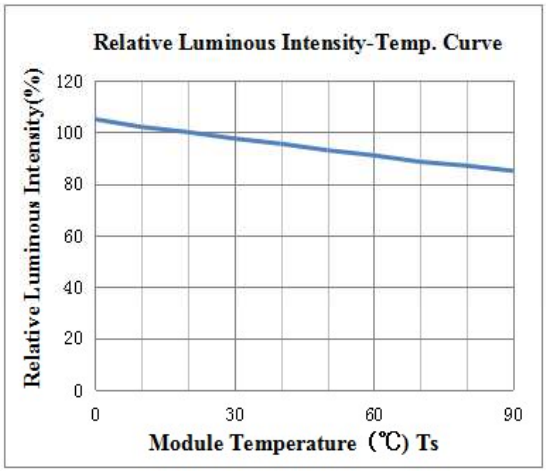

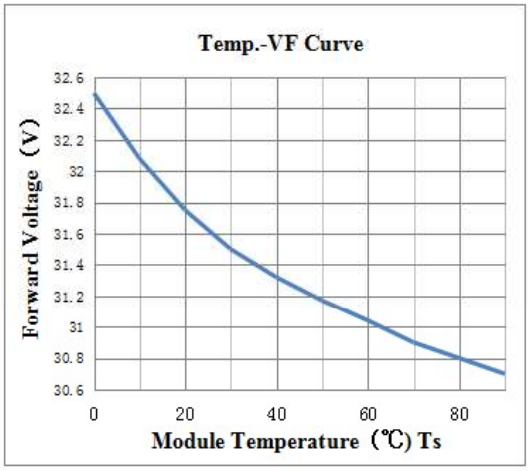

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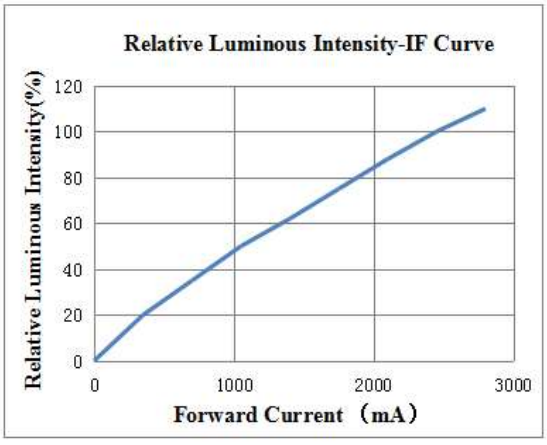

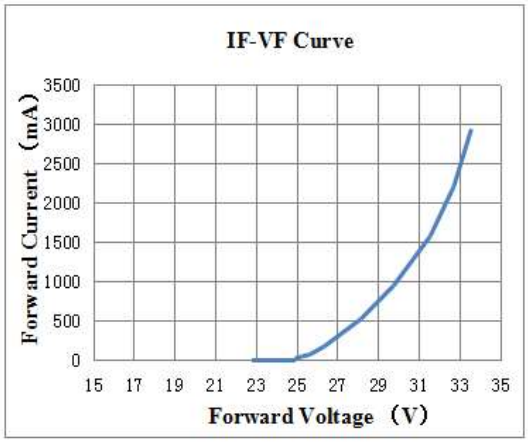

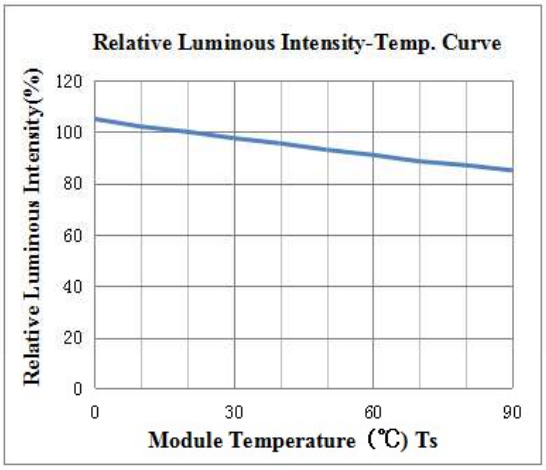

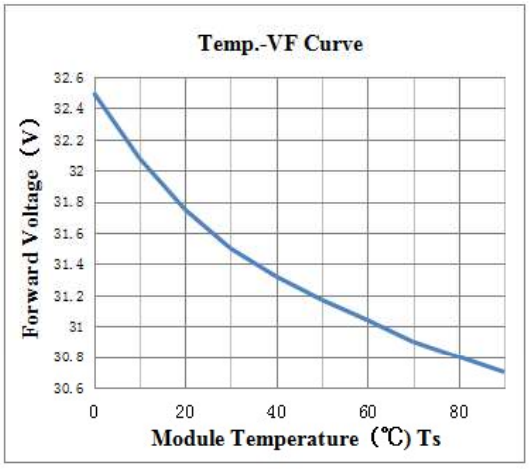

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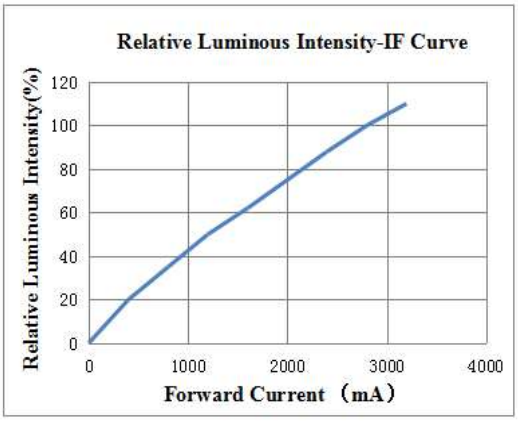

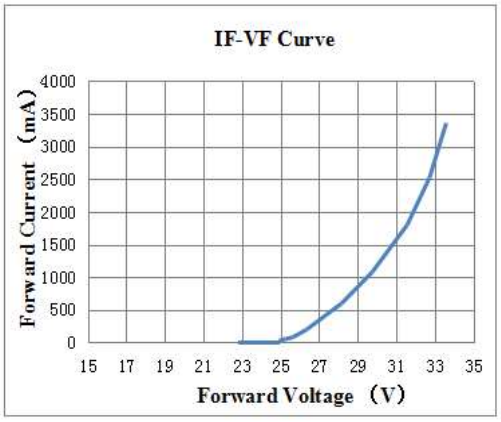

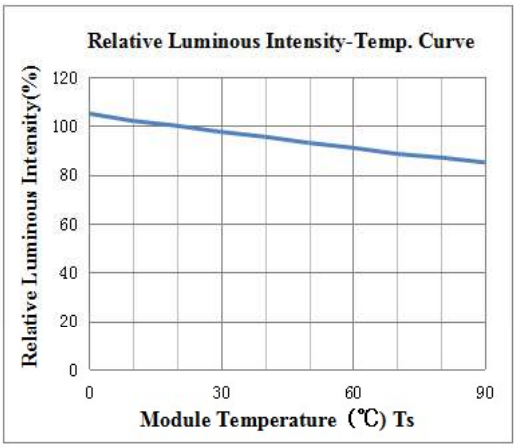

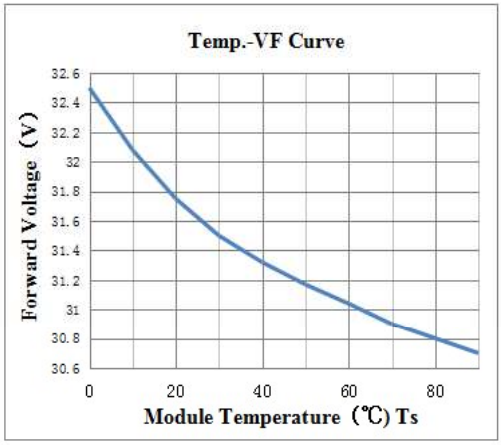

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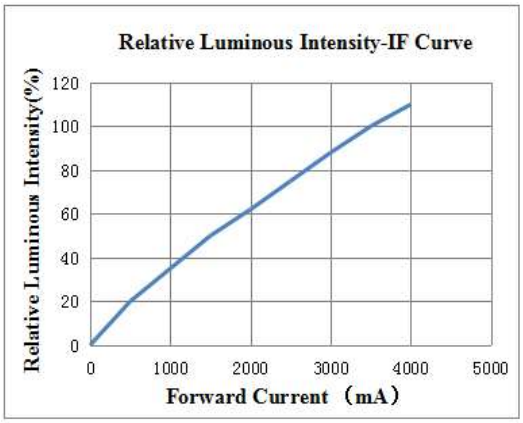

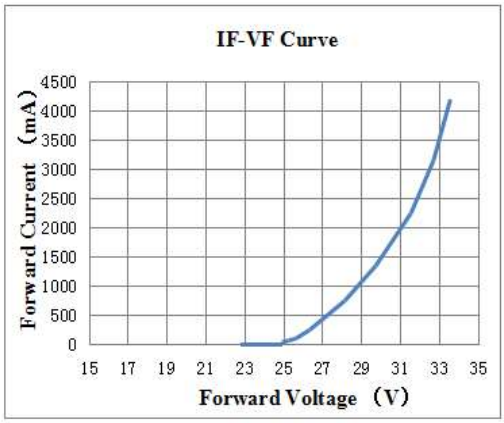

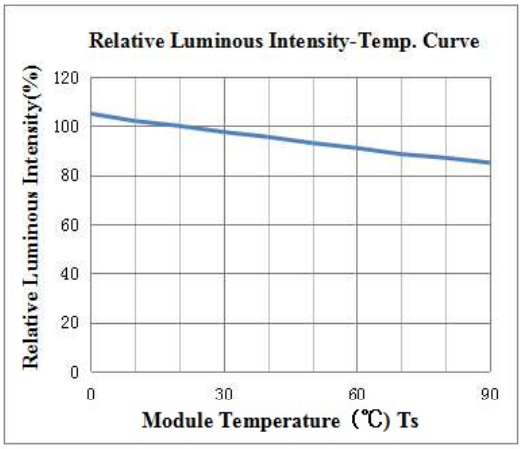

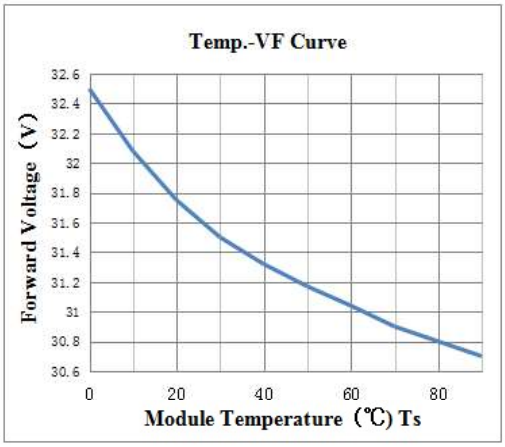

Attention: The characteristics of data described by this page are for reference only(Unassured Data)

深圳市同一方光电技术有限公司

Shenzhen TongYiFang Optoelectronic Technology CO.,Ltd.

4. Optical Characteristics：

(20W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=700mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 700mA	70	2700	2800	2900	＞130	Lm （Lm/W）
		CCT：4000K 700mA	70	2700	2800	2900	＞130	
		CCT：3000K 700mA	70	2500	2550	2600	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 700mA	70	2400	2500	2600	＞115	Lm （Lm/W）
		CCT：4000K 700mA	70	2400	2500	2600	＞115	
		CCT：3000K 700mA	70	2200	2300	2400	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 700mA	70	2400	2500	2600	＞115	Lm （Lm/W）
		CCT：4000K 700mA	70	2400	2500	2600	＞115	
		CCT：3000K 700mA	70	2200	2300	2400	＞105	

(30W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=1050mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 1050mA	70	4050	4200	4350	＞130	Lm （Lm/W）
		CCT：4000K 1050mA	70	4050	4200	4350	＞130	
		CCT：3000K 1050mA	70	3750	3825	3900	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 1050mA	70	3600	3750	3900	＞115	Lm （Lm/W）
		CCT：4000K 1050mA	70	3600	3750	3900	＞115	
		CCT：3000K 1050mA	70	3300	3450	3600	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 1050mA	70	3600	3750	3900	＞115	Lm （Lm/W）
		CCT：4000K 1050mA	70	3600	3750	3900	＞115	
		CCT：3000K 1050mA	70	3300	3450	3600	＞105	

(40W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=1400mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 1400mA	70	5400	5600	5800	＞130	Lm （Lm/W）
		CCT：4000K 1400mA	70	5400	5600	5800	＞130	
		CCT：3000K 1400mA	70	5000	5100	5200	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 1400mA	70	4800	5000	5200	＞115	Lm （Lm/W）
		CCT：4000K 1400mA	70	4800	5000	5200	＞115	
		CCT：3000K 1400mA	70	4400	4600	4800	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 1400mA	70	4800	5000	5200	＞115	Lm （Lm/W）
		CCT：4000K 1400mA	70	4800	5000	5200	＞115	
		CCT：3000K 1400mA	70	4400	4600	4800	＞105	

(50W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=1750mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 1750mA	70	6750	7000	7250	＞130	Lm （Lm/W）
		CCT：4000K 1750mA	70	6750	7000	7250	＞130	
		CCT：3000K 1750mA	70	6250	6375	6500	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 1750mA	70	6000	6250	6500	＞115	Lm （Lm/W）
		CCT：4000K 1750mA	70	6000	6250	6500	＞115	
		CCT：3000K 1750mA	70	5500	5750	6000	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 1750mA	70	6000	6250	6500	＞115	Lm （Lm/W）
		CCT：4000K 1750mA	70	6000	6250	6500	＞115	
		CCT：3000K 1750mA	70	5500	5750	6000	＞105	

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(60W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=2100mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 2100mA	70	8100	8400	8700	＞130	Lm（Lm/W）
		CCT：4000K 2100mA	70	8100	8400	8700	＞130	
		CCT：3000K 2100mA	70	7500	7650	7800	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 2100mA	70	7200	7500	7800	＞115	Lm（Lm/W）
		CCT：4000K 2100mA	70	7200	7500	7800	＞115	
		CCT：3000K 2100mA	70	6600	6900	7200	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 2100mA	70	7200	7500	7800	＞115	Lm（Lm/W）
		CCT：4000K 2100mA	70	7200	7500	7800	＞115	
		CCT：3000K 2100mA	70	6600	6900	7200	＞105	

(70W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=2450mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 2450mA	70	9450	9800	10150	＞130	Lm（Lm/W）
		CCT：4000K 2450mA	70	9450	9800	10150	＞130	
		CCT：3000K 2450mA	70	8750	8925	9100	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 2450mA	70	8400	8750	9100	＞115	Lm（Lm/W）
		CCT：4000K 2450mA	70	8400	8750	9100	＞115	
		CCT：3000K 2450mA	70	7700	8050	8400	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 2450mA	70	8400	8750	9100	＞115	Lm（Lm/W）
		CCT：4000K 2450mA	70	8400	8750	9100	＞115	
		CCT：3000K 2450mA	70	7700	8050	8400	＞105	

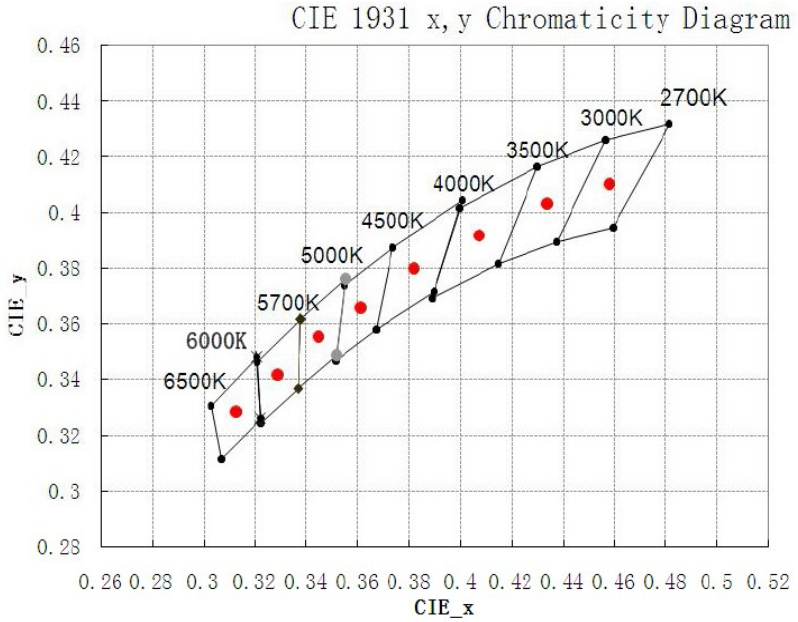
(80W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=2800mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 2800mA	70	10800	11200	11600	＞130	Lm（Lm/W）
		CCT：4000K 2800mA	70	10800	9800	11600	＞130	
		CCT：3000K 2800mA	70	10000	8925	10400	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 2800mA	70	9600	8750	10400	＞115	Lm（Lm/W）
		CCT：4000K 2800mA	70	9600	8750	10400	＞115	
		CCT：3000K 2800mA	70	8800	8050	9600	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 2800mA	70	9600	8750	10400	＞115	Lm（Lm/W）
		CCT：4000K 2800mA	70	9600	8750	10400	＞115	
		CCT：3000K 2800mA	70	8800	8050	9600	＞105	

(100W)

Parameter	Symbol	Condition	CRI	Min.	Typ.	Max.	Lm/W	Unit
Forward Voltage	VF	IF=3500mA /Ta=25 ℃	/	30	32.5	34	/	V
Luminous Flux	Bridgelux 45mil	CCT：6000K 3500mA	70	13500	14000	14500	＞130	Lm（Lm/W）
		CCT：4000K 3500mA	70	13500	14000	14500	＞130	
		CCT：3000K 3500mA	70	12500	12750	13000	＞120	
Luminous Flux	Epistar 33mil	CCT：6000K 3500mA	70	12000	12500	13000	＞115	Lm（Lm/W）
		CCT：4000K 3500mA	70	12000	12500	13000	＞115	
		CCT：3000K 3500mA	70	11000	11500	12000	＞105	
Luminous Flux	Sanan 35mil	CCT：6000K 3500mA	70	12000	12500	13000	＞115	Lm（Lm/W）
		CCT：4000K 3500mA	70	12000	12500	13000	＞115	
		CCT：3000K 3500mA	70	11000	11500	12000	＞105	

5. Color Area：



Center Color	2725K	3045K	3560K	3985K	4550K	5028K	5665K	6530K
X	0.4578	0.4338	0.4082	0.3818	0.3607	0.3447	0.329	0.3123
Y	0.4101	0.403	0.3918	0.3797	0.3675	0.3553	0.3417	0.3282

Attentions：

Testing environment 25 ℃, 300ms, and color temperature will change if tested in different current and environment.

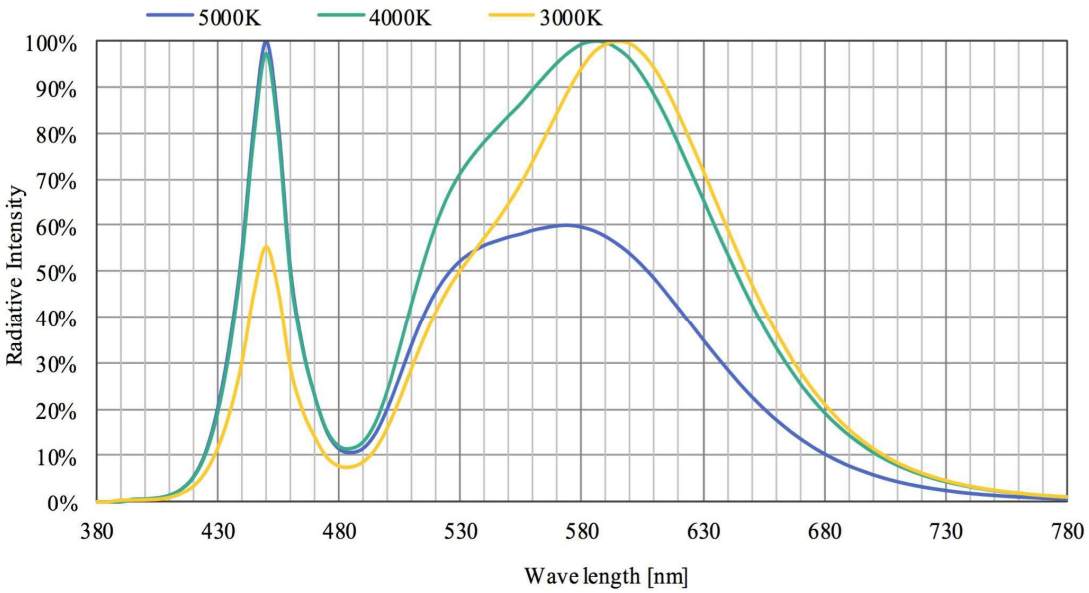
Tolerance among different testing machine: Voltage: ±3%, Lumen ±10%, CRI ±2Ra, Color coordinate ±0.005.

Color area can be controlled 4-6 steps within MacAdam Ellipse. Bin of color temperature refers to ANSI C78.377-2008.

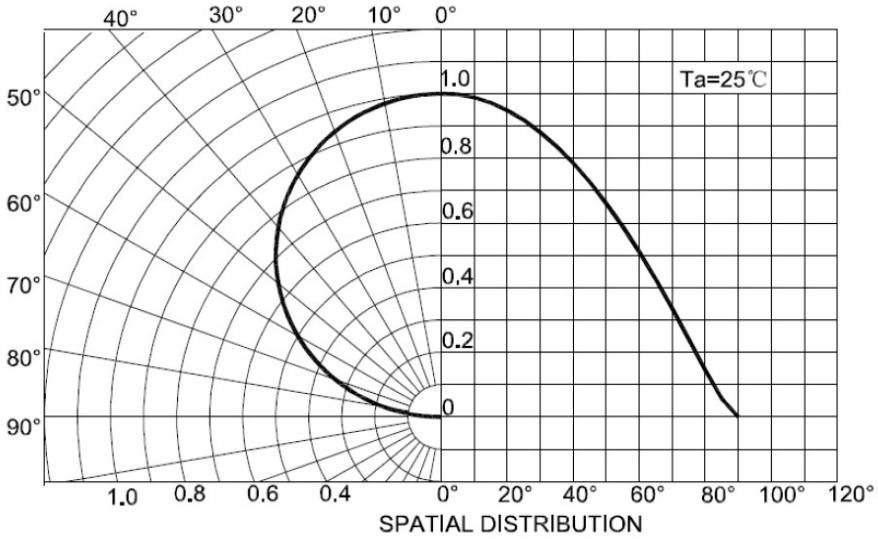
6.Characteristics Diagram(TYP)

6-1 Relative Spectral Distribution Graph:

Spectrum ： CRI(Ra) 70Min.



6-2 Luminous Flux Distribution



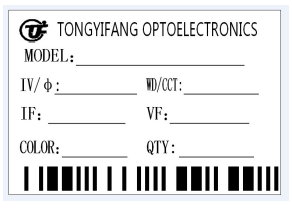
7. Reliability

7-1. Testing Items and Testing Conditions

Serial No.	Test Item	Test Condition			Sample Quantity	Failure Quantity
1	Thermal Shock	-40℃(30min)-----+100℃(30min), 100cycles			22	0
2	High Temperature Storage	+85℃，1000h			22	0
3	Low Temperature Storage	-40℃，1000h			22	0
4	Humidity Heat Storage	T=+85℃,RH>=85%,1000h			22	0
5	High-Temperature Operation	T=+85℃,	IF=700/1050/1400/1750/2100/2450/2800/3500mA	1000h	22	0
6	Low Temperature Operation	T=-40℃,	IF=700/1050/1400/1750/2100/2450/2800/3500mA	1000h	22	0

8. Packing Standard

8.1 Label



Label

MODEL- Model number

IV/Φ--Range of luminance/Lumen

VF--Range of Forward voltage

WD/CCT--Range of wavelength/CCT

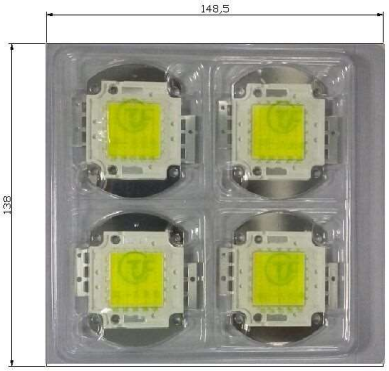
IF-- Forward Current

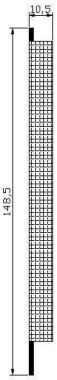
COLOR

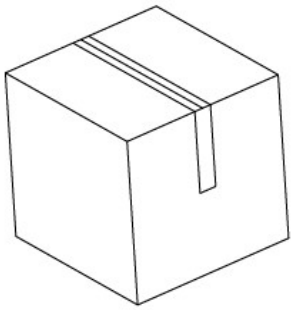
QTY--(Quantity)

8.2 Package

The product is packed in fluted plastic box with protection cover, preventing from outside pressure. 4 pcs in one plastic box according to different model (Outside dimension of the plastic box is 148.5*138mm). Packed plastic box will be stored in carton and sealed,which is showed as the picture.







9.Note for Storage:

To avoid moisture, we recommend storage conditions for the unopened LED +5 ~ +30 °C, relative humidity <60%. LED should be used within 168 Hrs. of opening the package. Please make sure to dehumidify and vacuum pack the remaining/ unused LED. Dehumidifying condition: +60 ° C ± 5 ° C, 4 Hrs. Effective age for the sealed led is one year.

9.2 Note for Assembling：

Recommeded to use thermal paste which thermal conductivity 3.0-4.0W/M*K . To ensure the LED Chip well connect to the radiator, we strongly recommended to use screws to fix our LED, please make sure no hollow phenomenon exist.

Soldering conditions: Reflow soldering is not recommended for this LED. If hand soldering, set sol-dering iron temperature at 350°C and soldering time not More than 5 seconds, after the first soldering, make sure the substrate surface temperature returns to ambient temperature before a second soldering. Please make sure when soldering, there is no external force on the soldering surface (such as pressure, friction or sharp metal nails, etc.), to avoid gold wire deformation or damage and other abnormalities. If beyond recommended conditions, we cannot guarantee the LED stability, please do the risk assessment first.

Product normal operating temperature: Ts point (negative pad) is less than 75℃, the colloid surface temperature less than 180℃. If exceeded our requirements, please let our engineer to make a reliability assessment. Or it may cause damage.

Driver Select: This product is to be driven using a constant current source, and the output current of the power range meets the specifications of the book, for the use of a constant voltage source or other conditions, please do used result of risk assessment

ESD protection is needed. Please take adequate measures to prevent electrostatic generation, such as wearing electrostatic ring or anti-static fingerstall etc; any relative products like plant equipment, machinery, carrier and transpor-tation units shall be connected to discharging unit/ ground. The ESD sensitivity of this product is > 2000V, after assembly the final lamp, please make sure to discharge Static Electricity by proper ESD equipment.

9.3 Other Instructions：

If you use the product in any of the following conditions, please make sure its normal performance and reliability.*Place where is moist or has dew、cream、salt air、 corrosive gases(C1, H2S, NH3, SO2, NOX, etc.)

If LED colloid surface dirty, please use alcohol to clean it. Do not use acetone caustic cleaning solvent.

9.4. Using Compatibility

The chemical composition of gas in lamps and surrounding environment of light source are essential to the life of the lamps, especially when you choose to use chemical composition, it is particularly important in lighting design. Before considering the use of any material, be sure to consult the product supplier or LED manufacturer. The more information obtained before using some material, the higher the performance of the lamp.

Many regular chemicals will release gaseous aromatic compounds (ie, aromatics), and even small amounts of these chemicals, the gases which they released also tend to cause Led discoloration or damage. The chemicals in

Chemicals removing hydrocarbon gas (such as toluene, benzene, xylene)
Methyl acetate or ethyl acetate (such as resurrection oil)
Cyanoacrylate (such as "glue")
Ethylene glycol ether and dipropylene glycol monomethyl ether (such as electronic
Formaldehyde or butadiene (such as pLIoBoND® adhesive)
Chlorine, including detergent and sprays with bleach

9.5. The following sheet is the list of common basic materials and commercial products in electronics and electrical equipment. Some of those materials can cause serious damage or light color shift phenomenon. The results of a risk assessment related materials are as shown in the sheet:

Material Name	Type	Using for LED	Outgassing Test	Prohibit Using	To Be Verified
Acetic Acid	Acid			Yes	
Acetone	Manufacturing Materials		Yes		
Acrylonitrile-butadiene-styrene (ABS)	Rubber/ Plastic Sealant	Yes			
Ammonia	Alkali				Yes
Benzene	Solvent				Yes
Butadiene Rubber	Rubber/ Plastic Sealant				Yes
Butyl Rubber	Rubber/ Plastic Sealant				Yes
Polyvinyl Chloride	Rubber/ Plastic Sealant				Yes
Chlorobutyl	Rubbe / Plastic Sealant				Yes
Chlorosulfonation Rubber	Rubber/ Plastic Sealant				Yes
Cyanoacrylate	Sealants and Adhesives		Yes	Yes	
DCa SCC3	Paint/ Glue	Yes	Yes		
Dichloromethane	Solvent				Yes
Propylene Wxide	Rubber/ Plastic Sealant				Yes
Gasoline	Solvent				Yes
Graphite Washer	Thermal Grease	Yes	Yes		
Halogenated Hydrocarbons (Including F, Cl, Br element) / Other			Yes		Yes
HT902	Paint / Glue	Yes	Yes		
Hydrochloric Acid	Acid				Yes
Isopropanol（Ipa）	Cleanser	Yes	Yes		
MeK (Methyl Ethyl Ketone)	Solvent				Yes
MIBK (Methyl Isobutyl ketone)	Solvent				Yes
Mineral Oil	Solvent				Yes
Nitric Acid	Acid				Yes
Non-silicone Thermal Grease	Thermal Grease	Yes	Yes		Yes
Petroleum	Oil/ Lubricants				
Polycarbonate (PC)	Structural Plastic	Yes			

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Material Name	Type	Using for LED	Outgassing Test	Prohibit Using	To Be Verified
Polyethylene	Rubber/ Plastic Sealant	Yes			
Polypropylene (PP)	Structural Plastic	Yes			
Polystyrene (GppS)	Structural Plastic	Yes			
Potassium Hydroxide	Alkali				Yes
Silicone Oil	Oil/ Lubricants				Yes
Sodium Hydroxide	Alkali				Yes
Sulfuric Acid	Acid				Yes
Tetrachloromethane	Solvent				Yes
Tetradecy Lamine					Yes
Heat Transmission Grease(Silicon)	Thermal Grease	Yes	Yes		
Tropical Pass (with or without Adhesive)	Thermal Grease	Yes	Yes		
Toluene	Solvent				Yes
Trimethyl Hexamethylene Diamine					Yes
Xylene	Solvent				Yes

Address: No1&3Building, XinLian River Industry Park, JinCheng Road, Shajing Town, BaoanDistrict, Shenzhen, Guangdong, China.
Tel:0755-29432329 Fax:0755-27916693