FROM NO.:2016.11.15
NO.:

高 功 率 倒装 LED（COB）承认书
High Power LED (COB) Acknowledgment

产 品 型 号 ： HF4027JJ 100W 白光
Model of product: HF4027JJ 100W White light

客户名称(Name)：

客户品号(Article No.0)：

产品型号(Model No.)： 超导铝倒装 HF4027JJ
Superconducting aluminum inversion HF4027JJ

送样日期(Date Landed)：

厂商 Manufacturer		客户确认（品质部） Customer Confirmation(Quality Dep.)		客户确认（技术部） Customer Confirmation (Technology Dep.)	
制作：Drafter	鲁为军	☐ 接受(accept)		☐ 接受(accept)	
		☐ 不接受(Reject)		☐ 不接受(Reject)	
审核：Checked	肖兆新	审核：Checked		审核：Checked	
核准：Approved	黄文平	核准：Approved		核准：Approved	

此规格书需双方盖公司公章确认。
This specification shall come into effect upon signatures by both parties.

1. 应用 Application

此规格书只适用于型号为 HF4027JJ （100W） 的发光二极管模组。

This specification applies only to models of HF4027JJ （60W）LED Moudle.

1.1 特点 Feature

●高光效,高显色指数,超长光通量维持率,达到LM-80标准，导热系数 122W/M*K。
High lighting effect,High lumen,up to LM-80 standard, thermal conductivity is 122W/M*K.

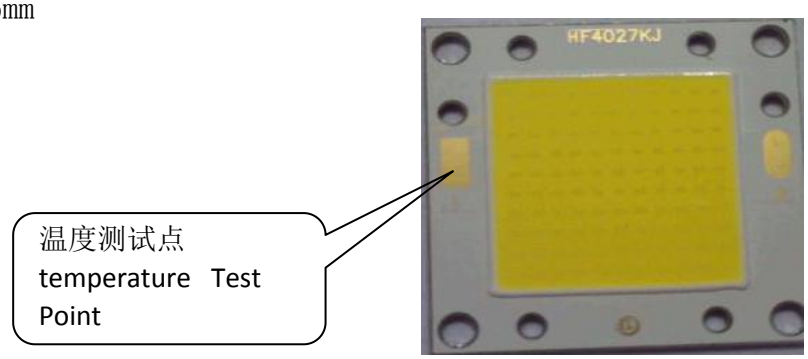
●外观尺寸：40mm×40mm×1.6mm
Package Dimensions:40mm×40mm×1.6mm

●发光角度：120°
Beam Angle:120°

●符合ROHS标准
RoHS Approved

● 适合手工焊接
Suitable for manual welding

● 抗硫化
Anti-sulfur

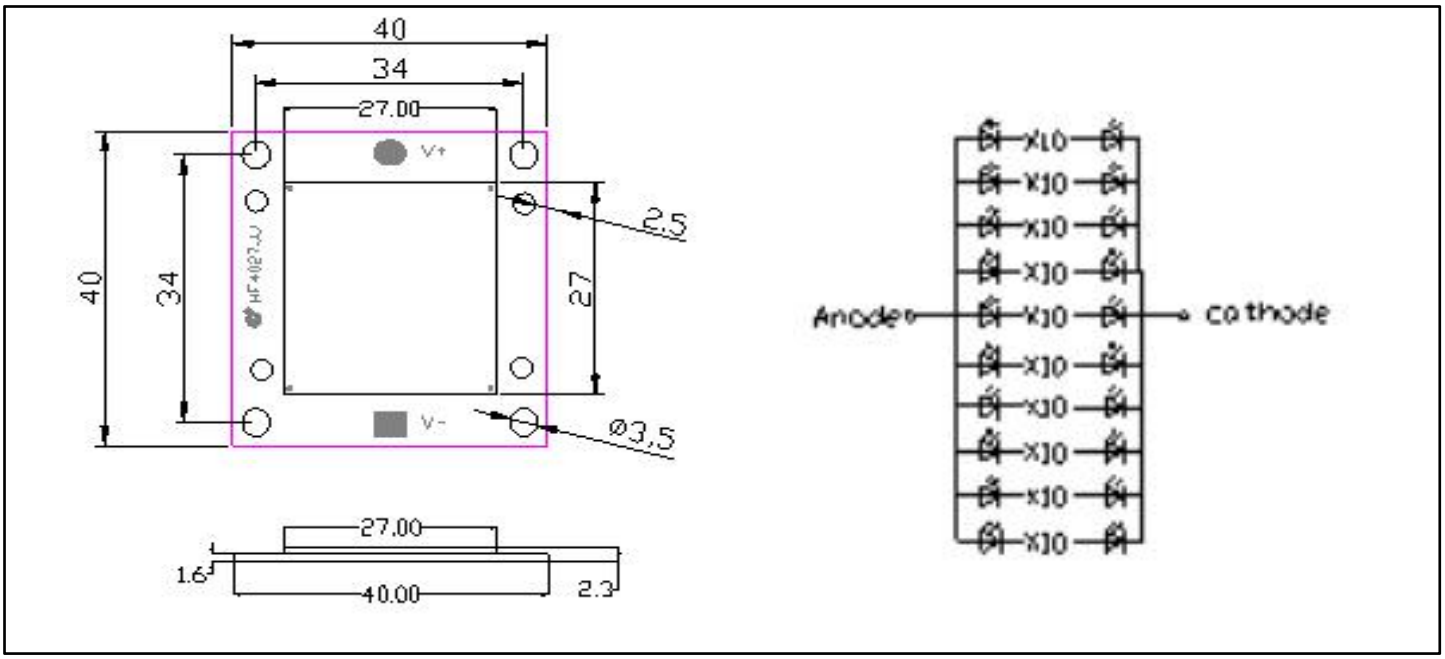


1.2主要用途：照明

Main application: Lighting

2. 外部尺寸和等效电路

Demension and Circuit



单位：mm 所有未标注公差为：+-0.2mm 底板材质超导铝基板
Unit:mm Tolerance:+-0.2mm Base material:Aluminium

3. 级别和特性Characteristics:

3-1. 绝对最大等级 Absolute Maximum Ratings

项目 Item	符号 Symbol	值 Value	单位 Unit
极限功率 *1 Max power	P	119	W
正向直流电流*1 DC Forward Current	IF	3500	mA
反向直流电压*2 Reverse Current	V_R	-50	V
结温 Junction	Tj	130	℃
工作温度*3 Operating	T_{OPR}	-30~+60	℃
储藏温度 Storage	T_{STG}	-35~+100	℃
热阻 Thermal Resistance	RθJ-B	0.22	℃/W
静电承受极限 Electrostatic	ESD	2000	V
引线焊接温度 Soldering		350℃/3-5S	

补充说明 Additional Remarks

1.极限功率和正向电流 是指模块温度通过使用合适的散热体下的最大设置数值。

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

2.最初连接错误的反向电压，超出将可能损坏模组。

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

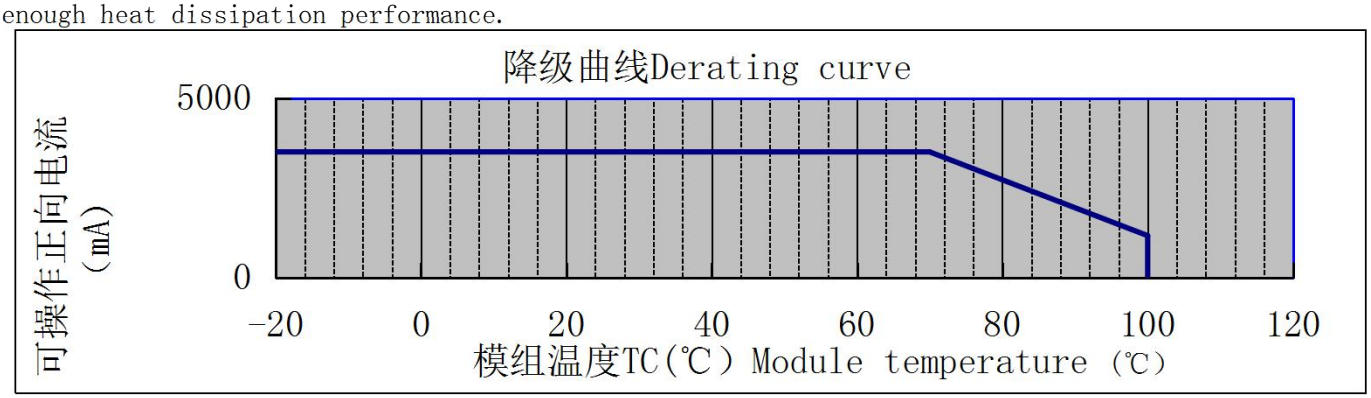
3.不一样的温度 (温度测试点)表示模块要按照降级曲线进行对应数据操作。

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

3-2.降级曲线 Derating curve:

注：为了保持温度低于额定，需要确保散热器有足够的散热性能。

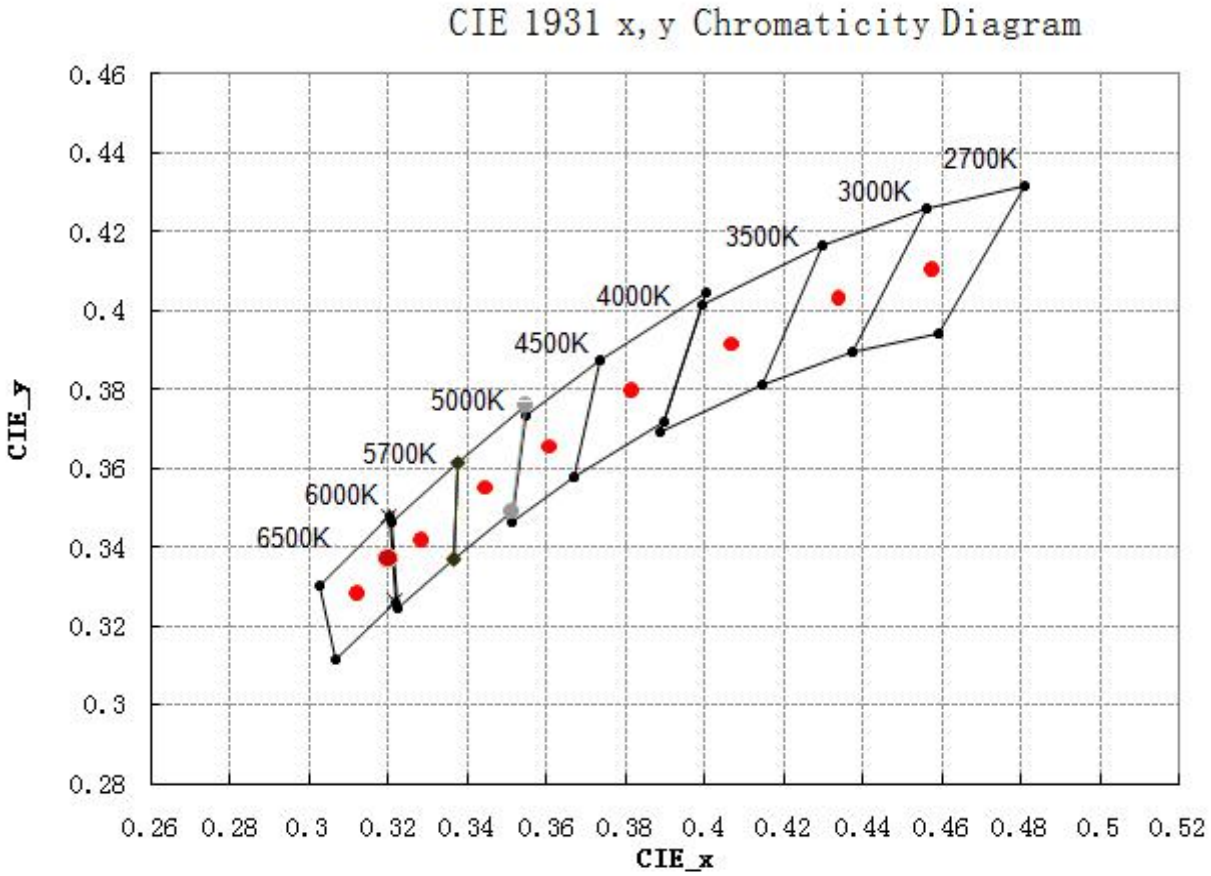
Note : In order to keep the temperature below the rated , you should make sure that the radiator has enough heat dissipation performance.



3-3.光电特征Optical Characteristics:

参数 Parameter	符号 Symbol	条件 Condition	显色 CRI	Min.	Typ.	Max.	LM/W	单位 Unit
正向电压 voltage	VF	IF=3500mA /Tc=25 ℃	/	30	32.5	34	/	V
光通量 Luminous flux	Φ_V	CCT：6000-6500K	RA：80					Lm
			RA：70	14000		15000	>140	
		CCT：5000-5500K	RA：80					
			RA：70					
		CCT：4000-4300K	RA：80					
			RA：70					
		CCT：3000-3200K	RA：80					
			RA：70					

3-4.产品色域分布 Color Area：



中心色温	2725K	3045K	3560K	3985K	4550K	5028K	5665K	5990K	6530K
X	0.4578	0.4338	0.4082	0.3818	0.3607	0.3447	0.329	0.3202	0.3123
Y	0.4101	0.403	0.3918	0.3797	0.3675	0.3553	0.3417	0.3385	0.3282

注意Attention：

1.测试环境温度25 ℃,若使用不同电流或不同的环境温度测试，会引起色温及电压的变化。

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

2.不同标准测试仪正常测试允许公差：电压±3% ， 流明±10% ,显指±3,色坐标±0.005。

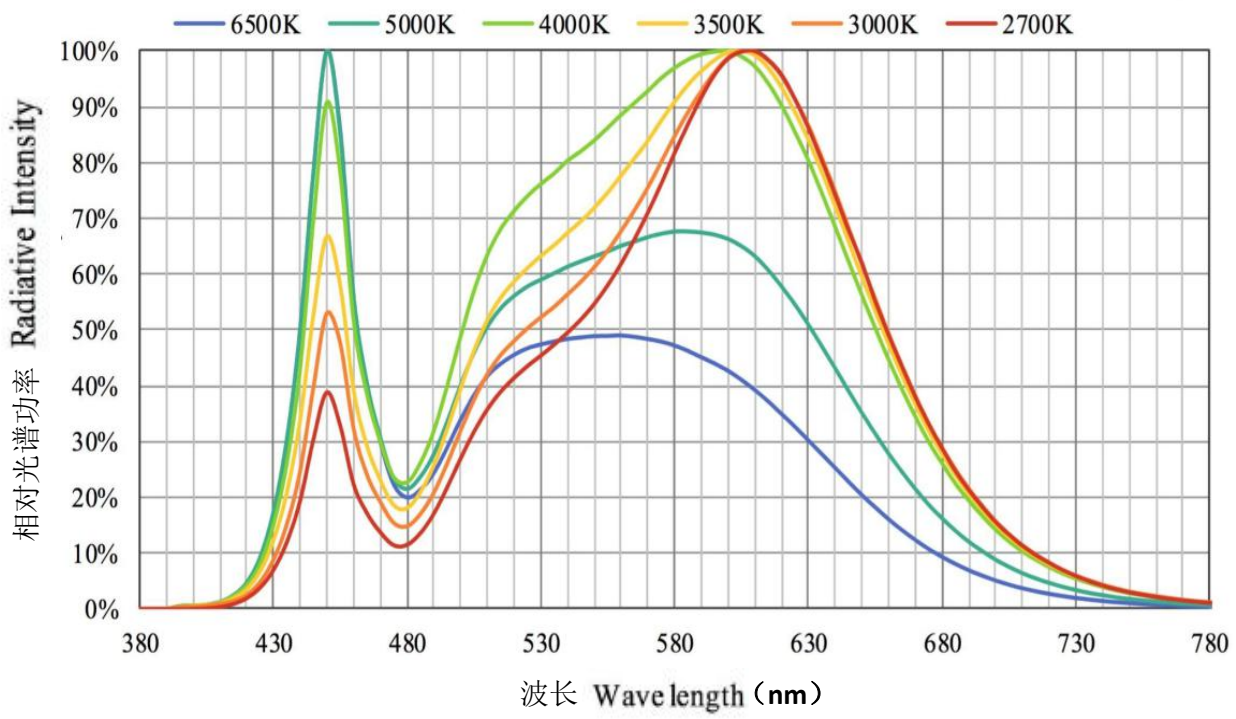
Tolerance among different testing machine: Voltage:±3%, Lumen±10%, CRI±3, Color coordinate ±0.005.

3.色域可控制在色温中心坐标的4-6阶麦克亚当椭圆之内，色温分bin参考ANSI C78.377-2008。

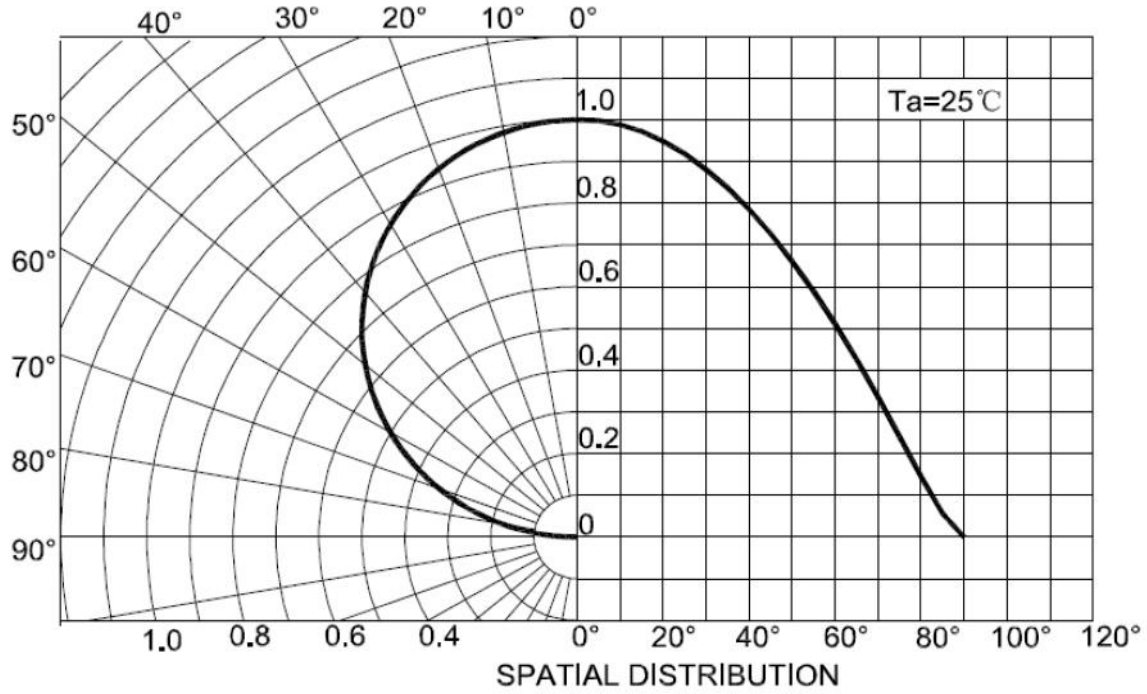
Color area can be controled 4-6 steps within MacAdam Ellipse.Bin of color temperature refers to ANSI C78.377-2008.

3-5.特性图表(TYP) Characteristics Diagram(TYP)

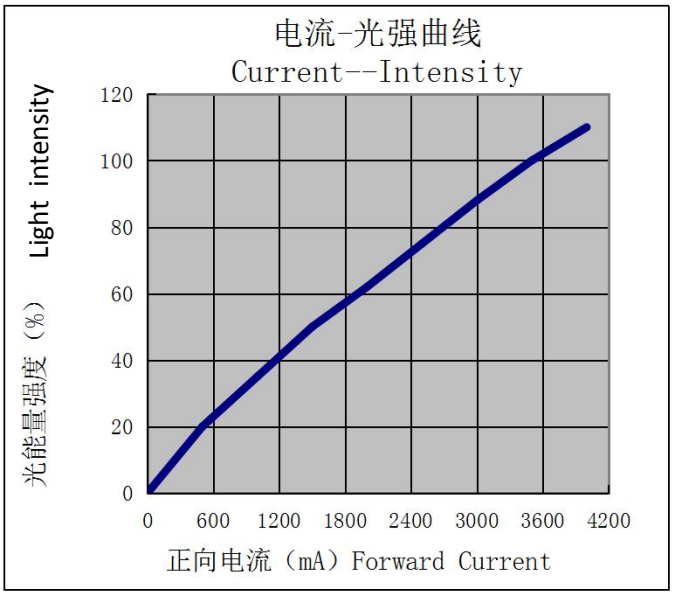
3-5.1相对光谱分布曲线图 Relative Spectral Distribution Graph:

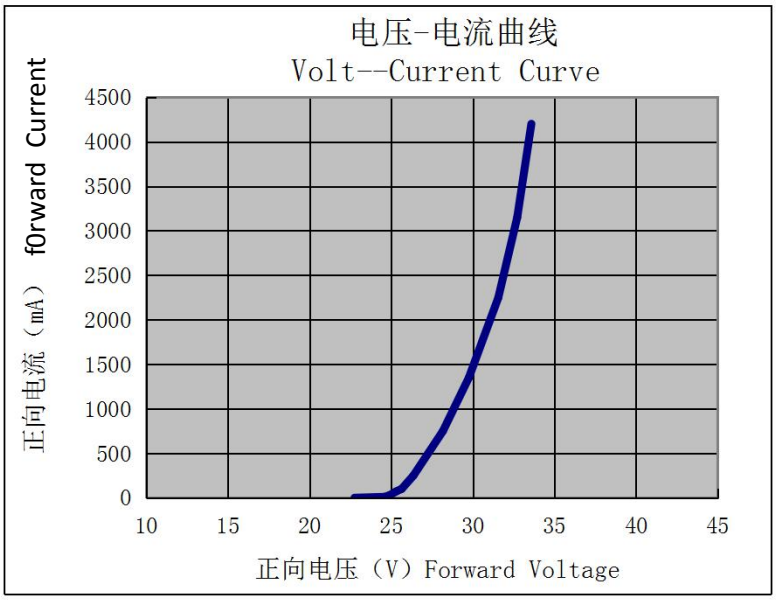


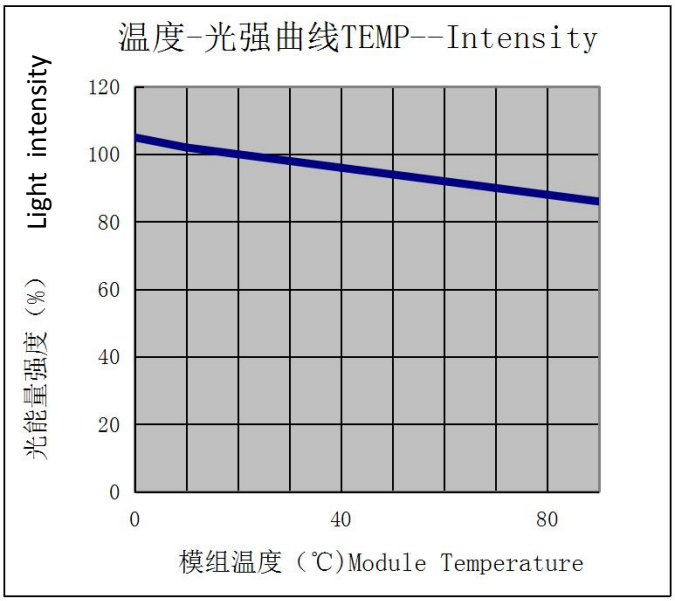
3-5.2光通量分布图 Luminous Flux Distribution

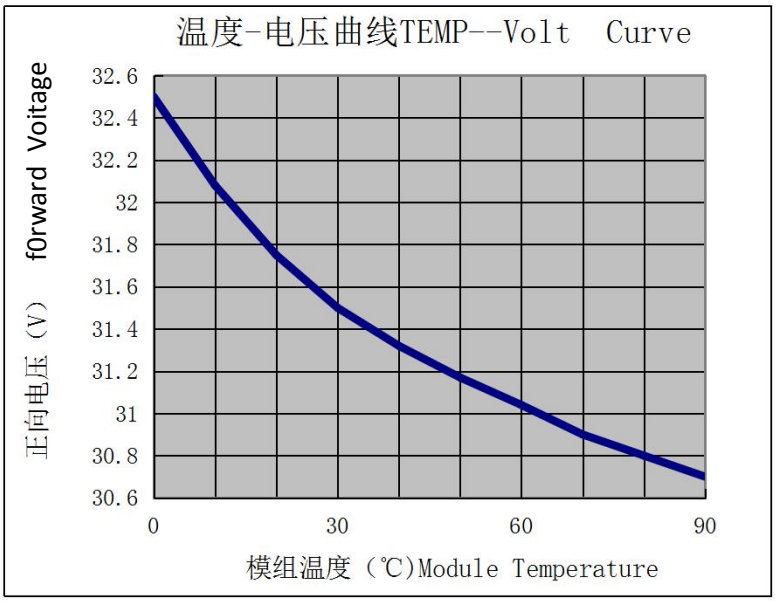


3-5.3其他相关曲线图 Other optical Curves









注：此页所表述之特性数据仅供参考(非保证数据)
Attention:The characteristics of data described by this page are for reference only(Unassured Data)

4. 可靠性 Reliability

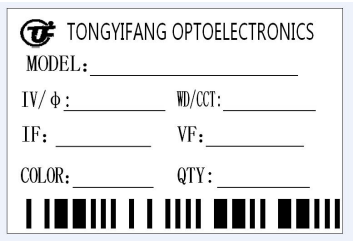
产品可靠性将满足下列项目 Reliability will meet the following items

4-1. 测试项目和测试条件 Testing items and testing conditions

序号 Serial	试验项目 TestItem	试验条件 Test condition	样品数量 Sample Quantity	失效数量 Failure Quantity
1	高低温冲击 Thermal shock	-40℃(30min)-----+100℃(30min), 100cycles	22	0
2	高温存放 HighTemperature	+85℃，1000h	22	0
3	低温存放 Low Temperature	-40℃，1000h	22	0
4	高温高湿存放 Humidity Heat	T=+85℃,RH>=85%,1000h	22	0
5	高温操作 High-temperature	T=+85℃, IF=3500mA, 1000h	22	0
6	低温操作 Low temperature	T=-40℃, IF=3500mA, 1000h	22	0

5. 包装规格 Packing Standard

5.1标签 Label

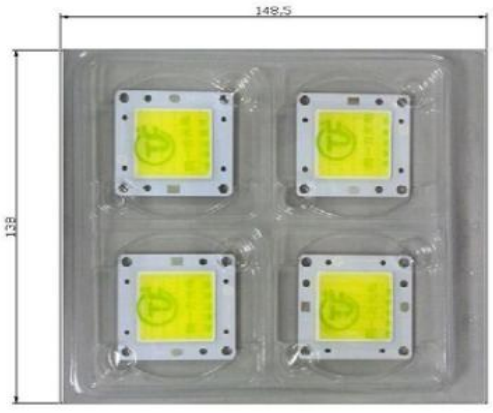


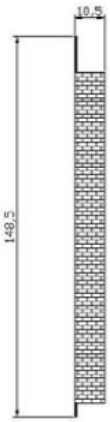
标签说明:MODEL-- 产品型号 Model of products
LabelIntr IV/Φ--亮度/光通量范围 Range of luminance/Lumen
VF--正向电压范围 Range of Forward voltage
WD/CCT--波长/色温范围 Range of wavelength/CCT
IF--正向电流大小 Forward of Current
COLOR --颜色
QTY --数量(Quantity)

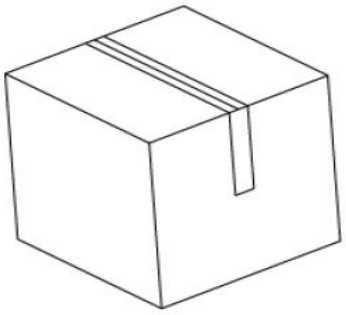
5.2包装

产品按照规定方向放置在吸塑盒凹槽里,上面盖上透明的防护塑料盖子,避免产品胶面受外力挤压。每盘吸塑盒放置的标准数量根据支架规格分为1-15PCS不等（吸塑盒外观标准尺寸为138*148.5），如图所示，包装好的材料放置在纸箱中用透明胶带封好。

The product is packed in fluted plastic box with protection cover, preventing from ourside force.1-15pcs in one plastic box according to different model(Outside demension of the plastice box is 138*148.5mm). Packed plastic box will be stored in carton and sealed,which is showed as the picture.







6.使用注意事项 Caution

6.1储藏条件 :打开前:温度为5~30℃，相对湿度低于60%。（打开后模组应在15天之内使用完毕），如未用完之产品，请进行除湿并抽真空后密封保存。除湿条件：60° C±5° C，24H。产品密封保存有效使用期为一年。

Storage condition: Before opening: the temperature is 5 ~ 30 ℃, relative humidity less than 60%. (After opening the led light source should be used within 15 days.)For Unused Product,Please dehumidification vacuum sealed.Dehumidifying conditions: 60 ° C ± 5 ° C, 24H. Effective use of the product sealed for one year

6.2组装注意事项 Attention:

（1）灯珠用导热膏（导热系数3.0-4.0MK/W左右）与散热体连接。为保证接灯珠底部与散热体良好接触，公司强烈建议用螺丝将灯珠锁紧，不可存在空洞现象。

Using thermal paste (Thermal Conductivity 3.0-4.0MK/W) connected to the radiator.To ensure the access lamp beads connect to bottom radiator well, the company is strongly recommended to use locking screws lamp beads, hollow phenomenon not exist.

（2）焊接时注意使用防静电恒温洛铁，焊接引线温度控制在350℃，时间3-5S内；焊锡要饱满，严禁助焊剂接触胶体，且在组装过程中避免外力作用于胶体表面（如压力，摩擦或锋利金属钉等）。

Note when welding using antistatic thermostat iron,Soldering wire temperature control in 350℃,within 3-5S;Soldering to the full, It is forbidden to flux contact colloid,Assembly process to avoid external force on the colloid surface (such as pressure, friction or sharp metal nails, etc.)。

（3）产品正常工作温度：TS点（负极焊盘）小于80度，胶体表面温度小于180度（热电偶测试）或130度（热成像仪测试），如果超出我司给定要求，客户必须做产品可靠性评估，风险由客户承担。

Product normal operating temperature: TS point (negative pad) is less than 80 degrees, the colloid surface temperature less than 180 degrees (Thermocouple test),Or 130 degrees (Thermal imager test), if exceeded our requirements for a given customer must make reliability assessment, resulting loss must be borne by the customer.

（4）电源驱动选取：本产品需使用恒流源进行驱动，且输出电流符合规格书上的功率使用范围，如需使用恒压源或其他使用条件，请进行使用效果风险评估。

Power Supply 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

（5）防静电：LED为静电敏感器件，灯具组装过程中注意防静电措施。

SD protection is needed.

6.3其他注意事项 Other Instructions:

（1）LED灯不能用于含硫或者被暴露于腐蚀性气体(如 C12,H2S、NH3、SOx、NOx等)、潮湿环境中使用，此环境会导致产品中反光层变色，发生相应化学反应导致灯珠失效。

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.)

（2）LED胶体表面脏污，可用酒精清洗，不可用丙酮等腐蚀性的清洗溶剂清洗。

LED colloid surface dirt, use alcohol to clean.Can't use acetone caustic cleaning solvent to cleaning

7.使用兼容性 Using Compatibility

7-1.灯具中气体的化学成分以及光源周围的环境对灯具的寿命至关重要，特别是当您选择在灯具设计中使用化学成分时尤为重要。考虑使用任何材料之前，务必先咨询产品供应商或LeD制造商。使用某种材料前获取的信息越多，灯具寿命期内的性能越高。

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.

7-2.很多常见化学品都会释放气态芳香烃化合物（即芳烃），而且，即使这些化学品量很少，其所释放出的气体也往往会导致LeD变色或损坏。实验证明表1中所列的常见化学品会对LeD造成损坏，因此，建议不要在基于LeD的固态照明系统中或其周围任何地方使用这些化学品。

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 test report Table 1 will cause damage of LED. Therefore, it is not recommended to use these chemicals in a solid state lighting system of Led or anywhere around the LED .

已知具有LeD相容性问题的常见化学品 Common chemicals with LED compatibility issues

可除去烃类气体的化学品（如甲苯、苯、二甲苯） Chemicals removing hydrocarbon gas (such as toluene, benzene, xylene)
乙酸甲酯或乙酸乙酯（例如卸甲油） Methyl acetate or ethyl acetate (such as resurrection oil)
氰基丙烯酸盐（例如“强力胶”） Cyanoacrylate (such as "glue")
乙二醇醚和二丙二醇单甲醚（例如电子设备清洁剂） Ethylene glycol ether and dipropylene glycol monomethyl ether (such as electronic equipment cleaner)
甲醛或丁二烯（例如pLIoBoND®粘合剂） Formaldehyde or butadiene (such as pLIoBoND® adhesive)
氯，包括含漂白剂的清洁剂和喷雾剂 Chlorine, including detergent and sprays with bleach

7-3.下表是电子器件和电气设备中常见的基础材料和商业产品清单,其中有些材料会导致LeD光输出损失严重或导致其光出现色移的现象,下表对相关材料进行风险评估结果:

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	Rubber / 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 oxide	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			
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