SPECIFICATION
(产品规格承认书)

CUSTOMER : （客　户）

PART NO : （产品型号） **F10W614TE- 321Z - W**

SPEC NO : （规格书编号） **F-SPEC-14080504**

Description : （产品描述） 10W正白光集成

DATE : （日　期） **2014/08/05**

R&D DEPARTMENT （ 开 发 部 ）		
APPROVED （核 准）	**CHECKED** （审 核）	**PREPARED** （制 定）
	兰小平	黄恩金

Customer Affirm （客户确认）		
Approve （核准）	Assessor (审核)	Affirm (确认)

PART NO. : F10W614TE-321Z-W （产品型号）	SPEC NO. : F-SPEC-14080504 （编　号）	REV NO. : A （版 次）

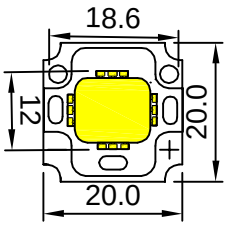
Feature
（特 性）

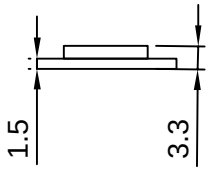
- 10W High PowerLED
  （10瓦集成）
- Package:SMT Package
  （贴片式外型）
- Half Angle
  （视角：140度）
- colloid color:yellow fog
  （胶体颜色：黄色雾状）

Applications
（应 用）

- General Lighting
  （普通照明）
- Advertisement
  （广告灯）
- Architectural Lighting
  （建筑照明）
- Commercial Lighting
  （商业照明）

Package Dimensions
（外 观 尺 寸）





Internal circuit
（内 部 电 路）

Notes :

1.All dimensions are in millimeters.
（所有尺寸以毫米为单位 。）

2.Tolerance is ± 0.25 unless otherwise noted.
（未注公差为± 0.25。）

Part No. （产品型号）	LED Chip		LED Emitted Color (LED发光颜色)	Package Type (封装形式)	LED Colloid Color (LED胶体颜色)
	Material （材 质）	Emitted Color （发光颜色）			
F10W614TE-321Z-W	InGaN/GaN	Blue （蓝色）	Daylight White （正白光）	Flat Package (平面封装)	Yellow Fog （黄色雾状）

■ **Device Selection Guide （物料选用指南）**

ITEM（项目）	MATERIAL（物料）
IResin（胶体）	Silicone（硅胶）
Bonding wire （焊接）	Φ1.2mil 金线
Colloid Color （胶体颜色）	yellow fog （黄色雾状）
Dice（芯片）	InGaN/ GaN
Support structure （支架结构）	Patch type（贴片式）

Electrical /Optical Characteristics (At T_A =25° C)
（光 电 参 数）

Parameter (参 数)	Symbol (符 号)	Conditions (测试条件)	Min. (最小值)	Typ. (典型值)	Max. (最大值)	Units (单 位)
Luminous Intensity (光通量)	Φ	I =350mA	450	– –	550	Lm
Color Temperature (色 温)	T_C	I_F =350mA	6000	– –	6500	K
Forward Voltage (顺向电压)	V_F	I_F =350mA	26	28	30	V
Thermal Resistance Junction To Board (热阻)	$R\theta_{J-B}$	I_F =350mA	– –	10	– –	° C/W
Temperature Coefficient of Forward Voltage (顺向电压之温度系数)	$\Delta V_F/\Delta T$	I_F =350mA	– –	-2	– –	mV/° C
Reverse Current (反向漏电流)	I_R	V_R =5V	– –	– –	20	μA
Viewing Angle (发光角度)	2θ1/2	I_F =350mA	– –	120°	– –	Deg

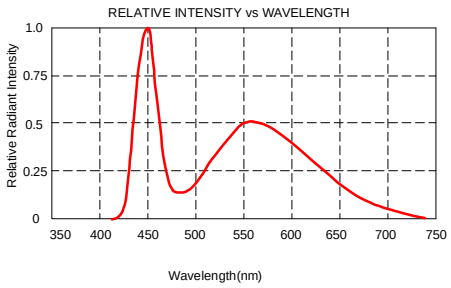
Absolute Maximum Ratings (At T_A =25° C)
（极 限 参 数）

Parameter (参 数)	Symbol (符 号)	Ratings (数 值)	Units (单 位)
Power Dissipation (消 耗 功 率)	P_D	10	W
Continuous Forward Current (顺 向 电 流)	I_F	350	mA
Peak Forward Current [1] (顺向脉冲电流)	I_F(Peak)	400	mA
LED Junction Temperature (结点温度)	T_j	125	° C
Reverse Voltage (反向电压)	V_R	5	V
Operating Temperature Range (工 作 温 度)	T_{OPR}	-30° C To +60° C	
Storage Temperature Range (贮 存 温 度)	T_{STG}	-40° C To +85° C	
Manual Solding Temperature (手工焊 接 温 度)	T_{SOL}	350° C± 20° C For 3 Seconds	
ESD Sensitivity (抗静电能力)	ESD	2000V HBM	

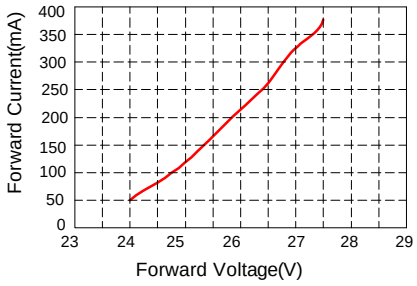
Notes :

[1].1/10 Duty Cycle 0.1ms Pulse Width.
（脉冲宽度0.1ms，占空比1/10。）

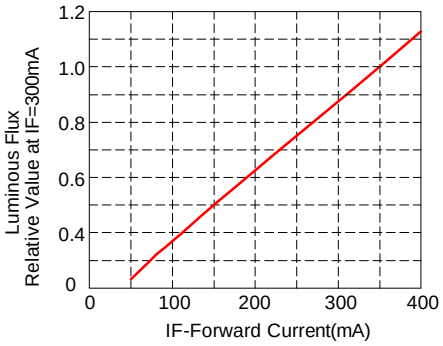
Spectrum Distribution
（光谱分析图）



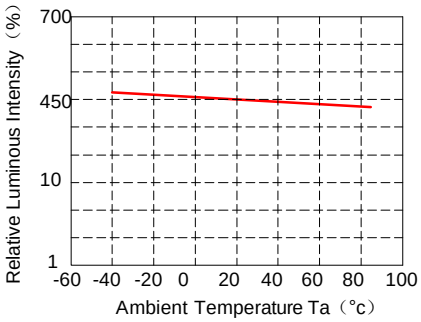
Foward current-Forward Voltage
（正向电流-电压曲线图）



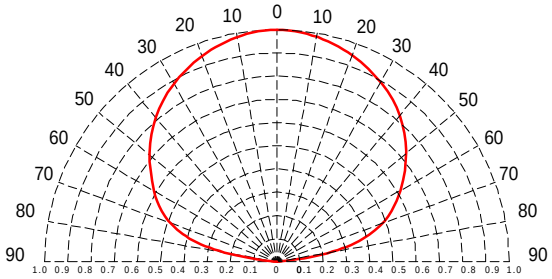
Foward current VS Luminous Flux
（正向电流-发光强度图）



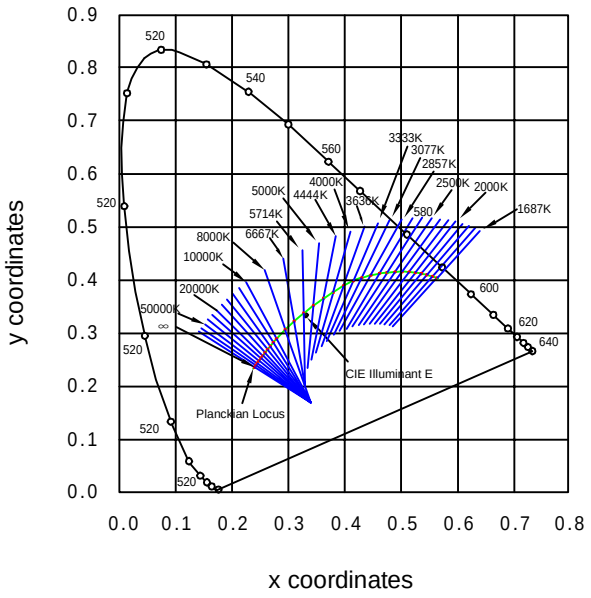
Relative Luminous Intensity VS Ambient Temperature
（温度-光通量曲线图）

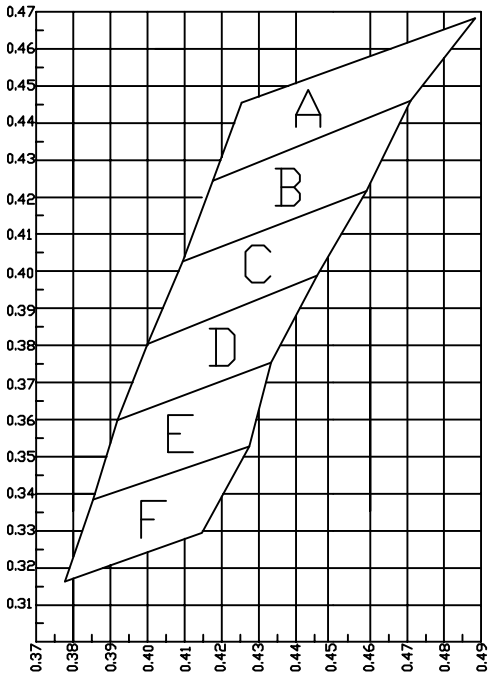


Radiation Diagram
（角度图）



Chromaticity Diagram
（色度图）





Color Bins

A				
X	0.4255	0.4175	0.484	0.4715
Y	0.4452	0.4238	0.4692	0.4456

D				
X	0.4014	0.3934	0.4463	0.4337
Y	0.3809	0.3595	0.3986	0.375

B				
X	0.4175	0.4095	0.4715	0.4589
Y	0.4238	0.4024	0.4456	0.4221

E				
X	0.3934	0.3854	0.4337	0.4275
Y	0.3595	0.3774	0.375	0.353

C				
X	0.4095	0.4014	0.4589	0.4463
Y	0.4024	0.3809	0.4463	0.3986

F				
X	0.3854	0.3381	0.4275	0.4143
Y	0.3774	0.3167	0.353	0.3293

Color Coordinates Measurement allowance is ±0.01.
色坐标测量允许误差　±0.01(仅供参考)

Lumious Intensity Combin (At TA=25° C @ IF=350mA) unit: Lm

（发光强度分布） Lm Bin Code List

NO.(序号）	Min（下限）	Max（上限）	Code（代码）
1.	240	300	18
2.	300	400	19
3.	400	600	20
4.	600	1000	21
5.	1000	-----	22

Tolerance on each Intensity Bin is ±3％

（每BIN允许误差 ±3％）

Reliability 可靠性

（1） Test Items And Condition 检测项目与检测条件

NO. （序号）	Items (项目)	Test Condition (测试条件)	Test Hours/Cycles 测试时间/周期	Sample Size 抽样数	Ac/Re 允许标准
1	DC Operating Life 常温点亮	Ta=25° C IF=350mA	1000H	22	0/1
2	Reflow Soldering 回流焊	Temp. 260° C± 5° C 5sec. Min	------	-----	----
3	Thermal Shock 冷热冲击	- 40℃/30min + 100℃/30min	50 Cycles	22	0/1
4	High Temperature Storage 高温保存	100° C	168H	22	0/1
5	High Temperature High Humidity 高温高湿	85° C/85%RH	168H	22	0/1
6	Low Temperature Storage 低温保存	- 40 ° C	168H	22	0/1
7	ESD(HBM) 抗静电(人体模式)	2000V HBM	1 Time	10	0/1

CAUTIONS：

The LED's are devices which are materialized by combining Blue LED's and special phosphors. Consequently the color of the LED's is changed a little by an operating current . Care should be taken after due consideration when using LED's.

(1) Moisture Proof Package:
When moisture is absorbed into the SMT package it may vaporize and expand during soldering .There is a possibility that this can cause exfoliation of the contacts and damage to the optical Characteristics of the LED's . For this reason , the moisture proof package is used to keep Moisture to a minimum in the package.

(2) Storage
Storage Conditions
Before opening the package:
The LED's should be kept at 30 ℃ or less and 60 %RH or less. The LED's should be used With in a year. When storing the LED's. moisture proof packaging with absorbent material (silica gel)is recommended.
After opening the package:
The LED's should be kept at 30 ℃ or less and 50 %RH or less. The LED's should be soldered Within 168 hours (7days) after opening the package . If unused LED's remain, they should be Stored in moisture proof packages, such as sealed containers with packages of moisture Absorbent material (silica gel).It is also recommended to return the LED's to the original moisture proof bag and to reseal the moisture proof bag again.
If the moisture absorbent material (silica gel) has faded away or the LED's have exceeded the storage time , baking treatment should be performed using the following conditions. Baking treatment : more than 48 hours at 60 ±5℃ / 4h~10h (Humidity in accordance with the different environments)

(3) Heat Generation
Thermal design of the end product is of paramount importance. Please consider the heat generation of the LED when making the system design. The coefficient of temperature increase per input electric power is affected by the thermal resistance of the circuit board and density of LED placement on the board ,as well as other components.
The operating current should be decided after considering the ambient maximum temperature of LED's

（4）Cleaning
It is recommended that Ethanol alcohol be used as a solvent for cleaning the LED 's. when using other solvents, it should be confirmed beforehand whether the solvents will dissolve The package and the resin or not . Freon solvents should not be used to clean the LED's because of worldwide regulations.

(5) Static Electricity
Static electricity or surge voltage damages the LED's .
It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LED's.
All devices ,equipment and machinery must be properly grounded. It is recommended That measures be taken against surge voltage to the equipment that mounts the LED's .
When Inspecting the final products in which LED's were assembled, It is recommended to check. Whether the assembled LED's are damaged by static electricity or not . It is easy to find Static-damaged LED's by a light -on test or a VF test at a lower current (below 20 mA is recommended).
Damaged LED's will show some unusual characteristics such as the leak current Remarkably increases, the forward voltage becomes lower , or the LED's do not light at the low Current.

(6) Others
Care must be taken to ensure that the reverse voltage will not exceed the absolute maximum rating when using the LED's with matrix drive.
The LED light output is strong enough to injure human eyes .Precautions must be taken to prevent looking directly at the LED's with unaided eyes for more than a few seconds.
The LED's described in this brochure are intended to be used for ordinary electronic equipment （Street Lights 、Tunnel Lights 、Flashlight lamp 、miner's lamp and more) The maximum ambient temperature should be taken into consideration when determining the operating current.
User shall not reverse engineer by disassembling or analysis of the LED's when defective LED's are found ,the User shall inform .
The appearance and specifications of the product may be modified for improvement without Notice.

注意事项：

发光二极体是蓝光结合特殊荧光粉实现出光的装置，LED 的工作电流的改变可干扰出光颜色，所以在使用时应适当考虑。

（1） 防潮包装：

当水分吸收到SMT封装,其蒸发和扩大在焊接时作用。这可能会导致损坏到发光二极体的光学特性。出于这个原因，防潮包装是用来抑制外部水气的.

（2） 存储

贮藏条件

开封前的包装:

发光二极体应保持在30 ℃或以下，相对湿度60 %或更少的状态。发光二极体的使用应在一年内。

遵照防潮包装中吸水材料（硅胶）的建议.

开封后的包装：

发光二极体的应保持在30 ℃或以下，相对湿度50 %或更少的状态。发光二极体的焊接应在打开防潮包装后168H(7天)内完成。如果有未使用完的发光二极管体，应重新将它们存放在防潮包装内，遵照防潮包装中吸水材料（硅胶）的建议.建议未使用完的发光二极管体,重新封装入防潮袋的一次。

当储存的发光二极体(LED)已经超过了合理的存储时间，应采用下列条件进行烘干处理.

烘烤处理：超过48小时，在 60±5℃ / 4H~10H (按照的不同环境湿度）.

(3) 产生的热量

最终散热设计是应用产品至关重要的。请系统设计时考虑到LED工作时产生的热量,输入的电功率 ,温度系数的增加,热传导电路装置设置及其他组件.这些都是非常必要的.

工作电流决定后，LED所能承受的最高的环境温度也应当得到保证.

(4) 清洗

建议使用浓度低的乙醇酒精作为LED的清洗溶剂. 当使用其它溶剂时，应当事先确认是否会对封装结构及硅胶产生危害.依照世界各地的法则及规定, 氟利昂溶剂是不能用来清洁LED的.

(5) 静电

静电或浪涌电压是可以对LED产生致命伤害的。

建议使用及处理发光二极体时佩戴防静电手腕带或防静电手套。

所有设备和机械必须妥善接地。这个措施适用于所有安装了 LED的设备，完全考虑到组装的最终产品.

在LED的组装过程中，建议检查是否有对发光二极体器件造成了静电损伤.人们能够很容易找到静电对器件造成了破坏.(建议:在低的电流环境下 <20mA)受损了的ED将显示一些不寻常的特点，如漏电流值的增加得注意，正向电压变低，或LED死灯。

(6) 其它

必须注意，使用的LED的矩阵驱动器，要确保反向电压不会超过最大额定值，

LED的光输出强度足以让人的眼产生不适.必须采取预防措施.以保障直视LED不超过几秒钟。

这本发光二极体规格书中所描述的器件是用于普通的电子设备（路灯、隧道灯、手电筒灯、矿灯等等）

运行在最高环境温度下，应考虑合适的工作电流。

用户不得进行LED的发光二极体的反向工程，解剖及分析. 有缺陷被发现后，应告知用户。产品的外观和规格可进行修善，恕不另行通知.