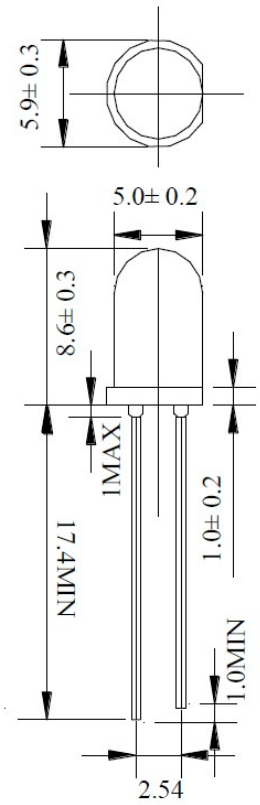
HB-5RCBUV39000-S0

1.外形尺寸 Dimensions

单位(Units):毫米(mm)



芯片材料 Chip Material	发光颜色 Emission Color	胶体颜色 Lens Color
InGaN	UV	Clear

Notes:

1. All dimensions in mm tolerance is ±0.2mm unless otherwise noted
2. An epoxy meniscus may extend about 1.5-2.0mm down the leads
3. Burr around bottom of epoxy may be 0.5mm max.
4. Specifications are subject to change without notice.

HB-5RCBUV39000-S0

2. 光电特性 Electrical / Optical characteristics

(1) 最大绝对额定值 Absolute Maximum Ratings (TA=25° C)

项目 Item	符号 Symbol	最大绝对额定值 Absolute Maximum Rating	单位 Unit
正向电流 Forward Current	IF	30	mA
正向脉冲电流 Pulse Forward Current	IFP	100	mA
反向电流 Allowable Reverse Current	IR	85	mA
功率消耗 Power Dissipation	PD	105	mW
工作温度 Operating Temperature	Topr	-40 ~ +110	°C
贮藏温度 Storage Temperature	Tstg	-40 ~ +110	°C
芯片温度 Dice Temperature	Tj	125	°C
焊接温度 Soldering Temperature	Tsld	Reflow Soldering : 260°C Hand Soldering : 350°C	for 10sec. for 3sec.

1/10周期, 0.1 msec脉宽

IFP Conditions : 1/10 Duty Cycle, 0.1 msec Pulse Width.

(2) 热量特性Thermal Characteristics

项目 Item	符号 Symbol	规格值 Typ.	单位 Unit
耐热性 Heat resistance	Rja	360	°C/W
	Rjs	180	°C/W

½ Rja = Heat resistance from Dice to Ambient temperature (Ta)

Rjs = Heat resistance from Dice to Solder temperature of Cathode Side (Ts)

(3) 原始光电参数Initial Electrical/Optical Characteristics (TA=25° C)

符号 Symbol	项目 Item	单位 Units	最小值 Min.	规格值 Typ.	最大值 Max.	测试条件 Test Conditions
VF	正向电压 Forward Voltage	V	3.0	3.2	3.4	IF=20mA
IR	反向电流 Reverse Current	uA	-	-	10	VR=5V
-	发光角度 Viewing Angle	°	-	30°	-	IF=20mA
Iv	发光强度 Luminous Intensity	Mcd	800	-	1200	IF=20mA
WL	波长 Wave Length	nm	390	-	395	IF=20mA

允许误差± 0.01

Measurement allowance is ± 0.01.

HB-5RCBUV39000-S0

3.可靠性 RELIABILITY

(1)测试项目及结果 Test Items and Results

Test Item	Standard Test Method	Test Conditions	Note	Number of Damaged
Resistance to Soldering Heat (Reflow Soldering)	JEITA ED-4701 300 301	Tsld=260℃, 10sec. (Pre treatment 30℃,70%,168hrs)	2 times	0/50
Solderability (Reflow Soldering)	JEITA ED-4701 300 303	Tsld=215±5℃, 3sec. (Leader Solder)	1time over 95%	0/50
Thermal Shock	JEITA ED-4701 300 307	-40℃~100℃ 5min. 5min.	100cycles	0/50
Temperature Cycle	JEITA ED-4701 100 105	-40℃~25℃~100℃~25℃ 30min. 5min. 30min. 5min.	100cycles	0/50
Moisture Resistance Cycle	JEITA ED-4701 200 203	25℃~65℃~-10℃ 90%RH 24hrs./1cycle	10 cycles	0/50
High Temperature Storage	JEITA ED-4701 200 201	Ta=100℃	1000 hrs	0/50
High Temperature High Humidity Storage	JEITA ED-4701 100 103	Ta=60℃, 90%RH	1000 hrs	0/50
Low Temperature Storage	JEITA ED-4701 200 202	Ta=-40℃	1000 hrs	0/50
Steady State Operating Life		Ta=25℃, IF=20mA	1000 hrs	0/50
Steady State Operating Life of High Temperature		Ta=85℃, IF=5mA	1000 hrs	0/50
Steady State Operating Life of High Humidity Heat		60℃, 90%RH, IF=15mA	500 hrs	0/50
Steady State Operating Life of Low Temperature		Ta=-30℃, IF=20mA	1000 hrs	0/50
Drop		H=75cm	3 cycles	0/50
Substrate Bending	JEITA ED-4702	3mm, 5 ± 1 sec.	1 time	0/50
Stick	JEITA ED-4702	5N, 10 ± 1 sec.	1 time	0/50

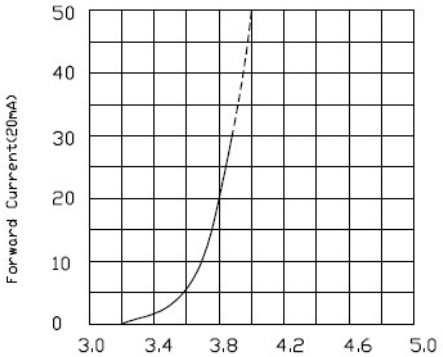
(2) 损伤判断标准 Criteria For Judging Damage

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	VF	IF=60MA	-	U.S.L.*)X1.1
Reverse Current	IR	VR=5V	-	U.S.L.*)X2.0
Luminous Intensity	Iv	IF=60MA	L.S.L.**)X0.7	-

*) U.S.L.: Upper Standard Level **) L.S.L.: Lower Standard Level

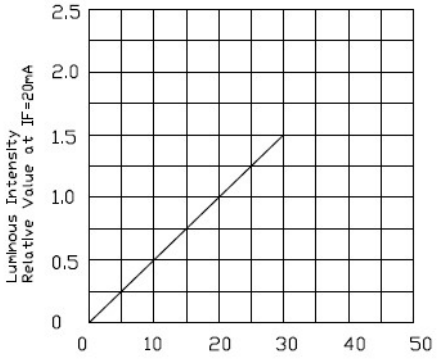
HB-5RCBUV39000-S0

4.特性曲线 Characteristic curve



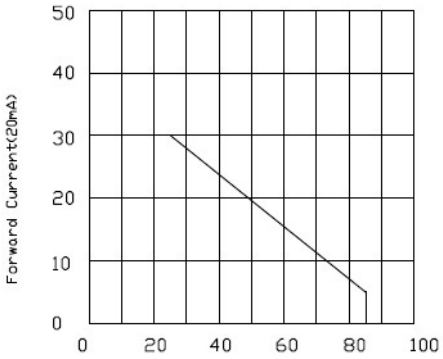
FORWARD CURRENT Vs FORWARD VOLTAGE

正向电流与正向电压关系曲线图



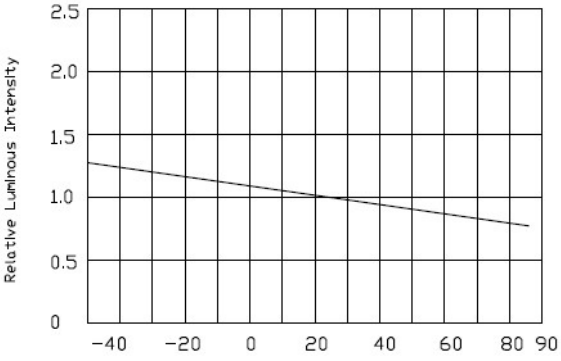
LUMINOUS INTENSITY Vs FORWARD CURRENT

亮度与正向电流关系曲线图



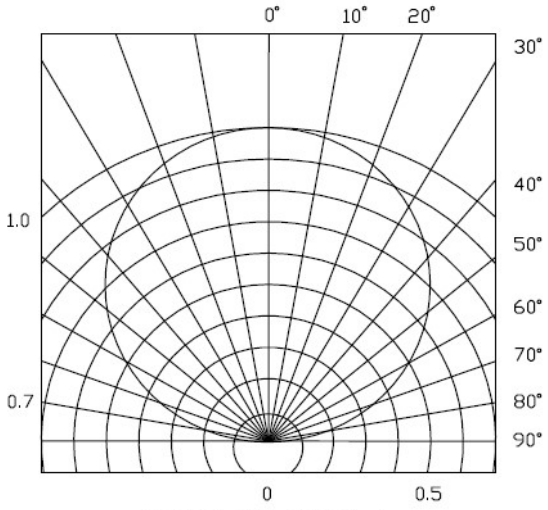
FORWARD CURRENT DERATING CURVE

正向电流递减曲线图



LUMINOUS INTENSITY Vs AMBIENT TEMPERATURE

亮度与环境温度关系曲线图



SPATIAL DISTRIBUTION

发光角度图解

HB-5RCBUV39000-S0

5.注意事项 Cautions

(1) 焊接条件 Soldering Conditions

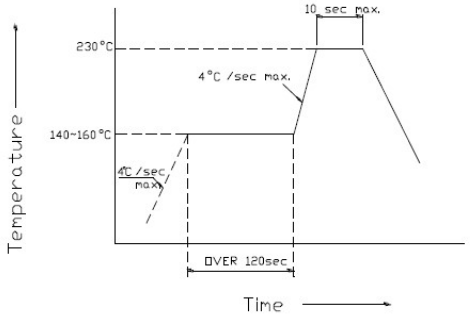
本产品最多只可回焊两次,且在首次回焊后须冷却至室温之后方可进行第二次回焊.

Number of reflow process shall be less than 2 times and cooling process to normal temperature is required between first and Second soldering process.

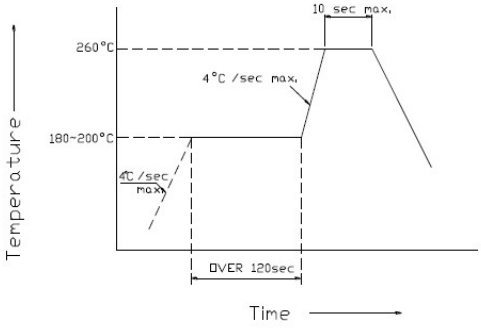
推荐焊接条件(Recommended soldering conditions)

回流焊接 Reflow Soldering			手工焊接 Hand Soldering	
	有铅Lead Solder	无铅 Lead-free Solder	温度Temperature	350°C Max.
预热温度Pre-heat	140 ~ 160°C	180 ~ 200°C	焊接时间Soldering time	3 sec. Max. (one time only)
预热时间Pre-heat time	120 sec. Max.	120 sec. Max.		
峰值温度Peak temperature	230°C Max.	260°C Max.		
焊接温度Soldering time	10 sec. Max.	10 sec. Max.		
条件Condition	参考下图	参考下图		

有铅回焊（Lead Solder）



无铅回焊 (Lead-Free Solder)



(2)静电 Static Electricity

触摸 LED 时,推荐使用防静电手腕带或防静电手套.

It is recommended that a wrist band or an anti-electrostatic glove be used when handling the LEDs.

所有装置、设备、机器均应接地.

All devices, equipment and machinery must be properly grounded.

静电损坏的 LED 会显示出异常特征:正向电压变低或在低电流时死灯.标准: I_F=0.5mA 时, V_F > 2.0V

Damaged LEDs will show some unusual characteristics such as the forward voltage becomes lower, or the LEDs do not light at the low current. Criteria : (V_F > 2.0V at I_F=0.5mA)

(3)防潮包装 Moisture Proof Package

使用防潮包装

It is recommended that moisture proof package be used .

(4)储藏 Storage

打开包装袋之前,LED 在温度为 30°C 或更低湿度 70%RH 以下,可保存一年.

Before opening the package ,The LEDs should be kept at 30°C or less and 70%RH or less. The LEDs should be used within a year.

（5）打开包装之后,应在 24hrs 内焊接完毕.

After opening the package, The LEDs should be soldered within 24 hours (1days) after opening the package. If

unused LEDs remain, they should be stored in moisture proof packages, such as sealed containers with packages of moisture absorbent material (silica gel).

下列情况发生时，须要在焊接前重新烘烤 60 ± 5°C,24 小时以上。

A．当包装袋破损漏气

B．打开包装后在 24hrs 内未焊接完毕

C．LED 超过存储时间。.

If the moisture absorbent material (silica gel) has faded away or the LEDs have exceeded the storage time, baking treatment should be performed using the following conditions Baking treatment : more than 24 hours at 65 ± 5°C.

(6)发热性 Heat Generation

高温会降低产品的性能及可靠性,请远离发热源.

High temperature reduces device performance & reliability. Please keep away from heat source.

最终产品的散热设计是极为重要的因素.系统设计时请考虑 LED 产生的热量.

Thermal design of the end product is of paramount importance. Please consider the heat generation of the LED when making the system design.