



深圳匡通电子有限公司
SHENZHEN KENTO ELECTRONICCO.,LTD

SPECIFICATION FOR APPROVAL

Product Name: LED 0603 Bule color

Product number: KT-0603-B

Customer Name: _____

Version number: A.2

Date Prepared: 2017-1-10

APPROVED SIGNATURES			

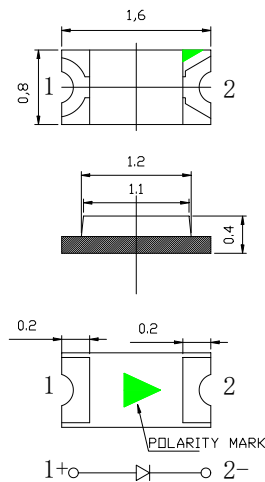
Features (特征)

- 1) 1.6mmx0.8mm SMD LED, 0.4mm THICKNESS.
(1.6mmx0.8mm SMD 发光二极管, 总高 0.6mm)
- 2) LOW POWER CONSUMPTION.
(低功率消耗)
- 3) WIDE VIEWING ANGLE.
(宽角度发光)
- 4) IDEAL FOR BACKLIGHT AND INDICATOR.
(背光源和指示灯的理想选择)
- 5) VARIOUS COLORS AND LENS TYPES AVAILABLE.
(多种发光颜色及胶体颜色可供选择)
- 6) PACKAGE: 4000PCS/REEL.
(装带:4000 个/卷)

Description (说明)

The White source color devices are made with GaN Light Emitting Diode.
(此种蓝光之光颜色来源于由 GaN 化合物制成的发光二极管.)

Package Dimensions(封装尺寸)



Notes:

1. All dimensions are in millimeters (inches).
(单位: 毫米<英寸>)
2. Tolerance is ± 0.1 (0.004") unless otherwise noted.
(允差: ± 0.1 <0.004" >,另有标注除外.)
3. Specifications are subject to change without notice.
(规格若有变动, 恕不另行通知.)

Part No. (产品型号)	Dice (发光颜色)	Lens Type (胶体颜色)	IV(mcd) @5mA (亮度)			Viewing Angle (发光角度)
			Min (最小值)	Typ (规格值)	MAX (最大值)	2 θ 1/2
KT-0603-B	Blue <GaN> (蓝色)	Water Clear (无色透明)	32	50	-	120°

Note:

1. $\theta 1/2$ is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

($\theta 1/2$ 是指当亮度减到一半时与发光特性曲线相交所对应的角度值.)

Electrical / Optical Characteristics at T_A=25° C (25° C 环境下之电性/光学特性)

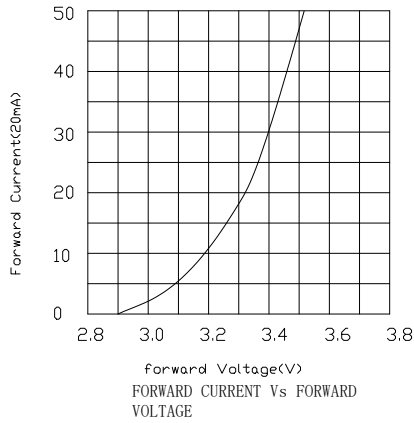
Symbol (符号)	Parameter (参数)	Device (发光颜色)	Min. (最小值)	Typ. (规格值)	Max. (最大值)	Units (单位)	Test Conditions (测试条件)
λ_{peak}	Peak Wavelength (峰值波长)	Blue (蓝色)	/	470	/	nm	IF=5mA
λ_D	Dominate Wavelength (主波长)	Blue (蓝色)	457	465	475/	nm	IF=5mA
$\Delta \lambda_{1/2}$	Spectral Line Half-width (波宽)	Blue (蓝色)	/	25	/	nm	IF=5mA
C	Capacitance (电容)	Blue (蓝色)	/	105	/	PF	VF=0V;f=1MHz
VF	Forward (正向电压)	Blue (蓝色)	2.6	2.8	/	V	IF=5mA
IR	Reverse Current (反向电流)	Blue (蓝色)	/	/	1	uA	VR=8V

Absolute Maximum Ratings at T_A=25° C (在 25° C 环境下之绝对最大额定值)

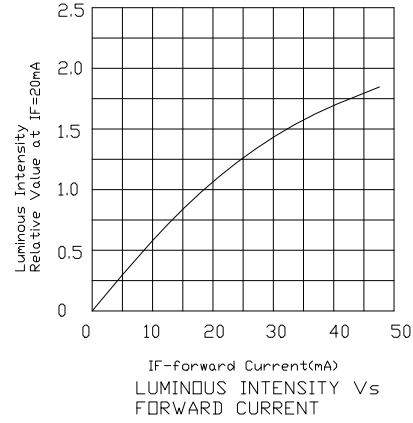
Parameter (参数)	Blue (蓝色)	Units (单位)
Power dissipation (功率消耗)	75	mW
DC Forward Current (正向直流电流)	25	mA
Peak Forward Current (1) (正向电流峰值)	100	mA
Reverse Voltage (反向电压)	5	V
Operating/Storage Temperature (操作/贮藏温度)	-40° C To +85° C	

Note:

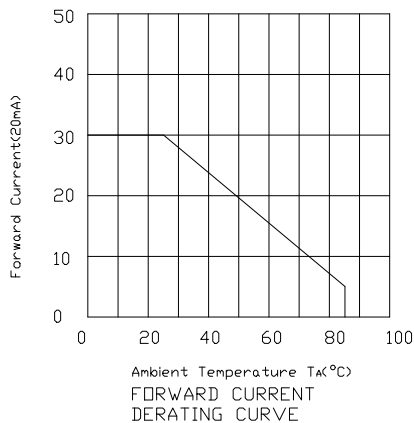
1. 1/10 Duty Cycle, 0.1ms Pulse Width. (1/10 周期, 0.1ms 脉宽)



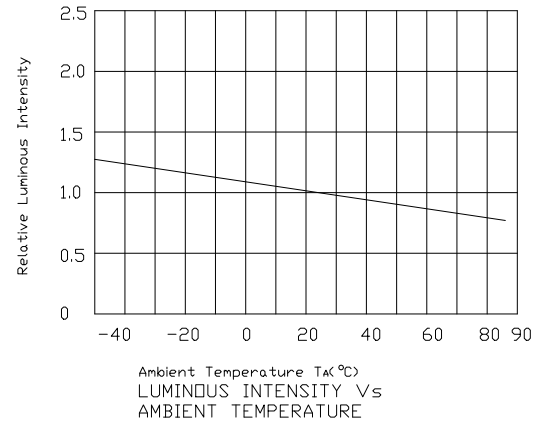
正向电流与正向电压关系曲线图



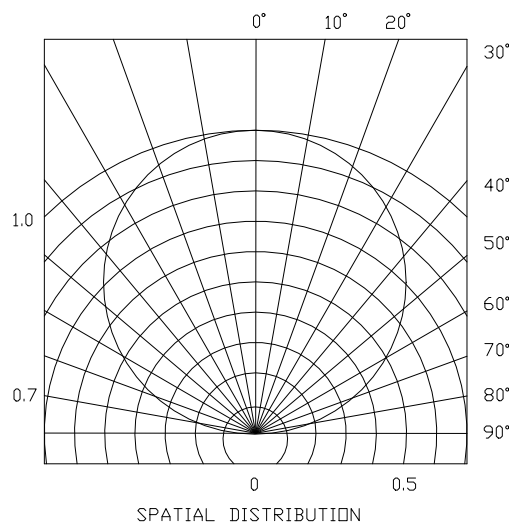
亮度与正向电流关系曲线图



正向电流递减曲线图



亮度与环境温度关系曲线图



发光角度图解

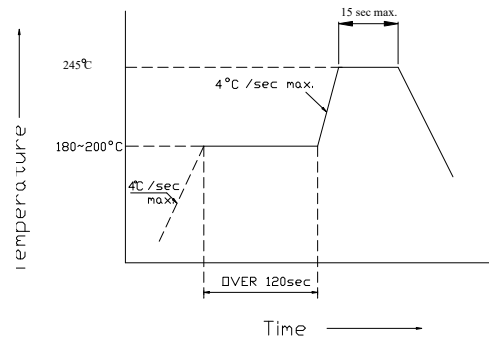
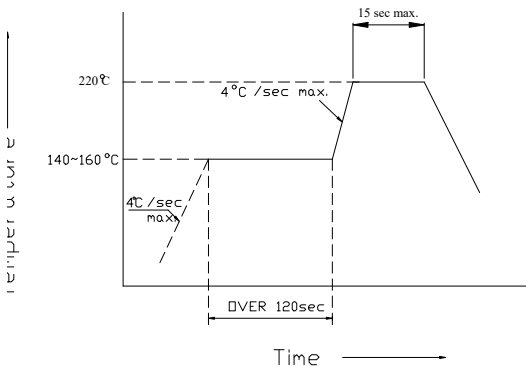
SMT Reflow Soldering Instructions (SMT 回流焊说明)

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

(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.)

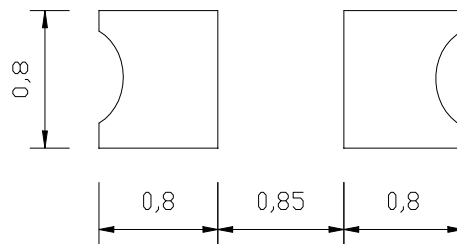
1>Lead Solder (有铅回焊)

2>Lead-Free Solder(无铅回焊)



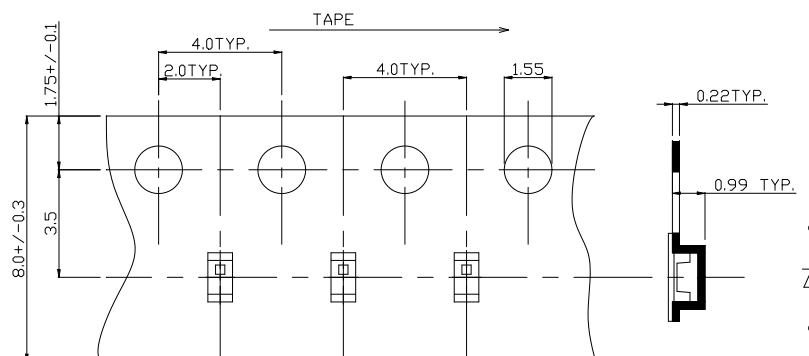
Recommended Soldering Pattern (推荐焊盘式样)

<Units:mm>(单位:毫米)



Tape Specifications (装带规格)

<Units:mm>(单位:毫米)



Adhesion Strength of Cover Tape : Adhesion strength to be 0.1 – 0.7N when the cover tape is turned off from the carrier at 10° angle to be the carrier tape.(盖带力度: 当盖带与载带成 10 度角时力度为 0.1 – 0.7N)

RELIABILITY (可靠性)

(1) TEST ITEMS AND RESULTS (测试项目及结果)

Test Item	Standard Test Method	Test Conditions	Note	Number of Damaged
Resistance to Soldering Heat (Reflow Soldering) 回流焊试验	JEITA ED-4701 300 301	Tsld=260°C, 10sec. (Pre treatment 30°C, 70%, 168hrs)	2 times	0/50
Solderability (Reflow Soldering) 可焊性试验	JEITA ED-4701 300 303	Tsld=215±5°C, 3sec. (Leader Solder)	1 time over 99%	0/50
Thermal Shock 冷热冲击	JEITA ED-4701 300 307	-40°C~85°C 5min. 5min.	100cycles	0/50
Temperature Cycle 温度循环	JEITA ED-4701 100 105	-40°C~25°C~85°C~25°C 30min. 5min. 30min. 5min.	100cycles	0/50
High Temperature Storage 高温保存	JEITA ED-4701 200 201	Ta=100°C	1000 hrs	0/50
High Temperature High Humidity Storage 高温高湿保存	JEITA ED-4701 100 103	Ta=80°C, 80%RH	1000 hrs	0/50
Low Temperature Storage 低温保存	JEITA ED-4701 200 202	Ta=-40°C	1000 hrs	0/50
Steady State Operating Life 常温点亮		Ta=25°C, IF=20MA	1000 hrs	0/50
Steady State Operating Life of High Temperature 高温点亮		Ta=85°C, IF=5mA	1000 hrs	0/50
Steady State Operating Life of High Humidity Heat 高温高湿点亮		60°C, 90%RH, IF=15mA	500 hrs	0/50
Steady State Operating Life of Low Temperature 低温点亮		Ta=-30°C, IF=20MA	1000 hrs	0/50

(2) CRITERIA FOR JUDGING THE DAMAGE

Item	Symbol	Test Conditions	Criteria for Judgement	
			Min.	Max.
Forward Voltage	V _F	I _F =20MA	-	U.S.L.*)X1.1
Reverse Current	I _R	V _R =8V	-	U.S.L.*)X2.0
Luminous Intensity	I _V	I _F =20MA	L.S.L.***)X0.7	-

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

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

Intensity And Color Bin Limits(亮度及波长等级)
(1) Intensity Bin Limits (I_F=5mA)

SELECTION CODE FOR SUPER BRIGHT LEDS		
Group	Light intensity in mcd(5mA) BLUE	
	Min.	Max.
1	32	38
2	38	42
3	42	50
4	50	60
	60	72

Tolerance for each Bin limit is $\pm 10\%$.

(2) Color Bin Limits (I_F=5mA)

COLOR CODE FOR BLUE LEDS + DISPLAYS		
Group	Dom. WaveLength (nm)	
WB2	457	460
WB3	460	463
WB4	463	466
WB5	466	469
WB6	469	472
WB7	472	475

Tolerance for each Bin limit is $\pm 1\text{nm}$.

Forward Voltage Bin limits(I_F=5mA)< V_F 值等级>

Grade (等级)	B9	B10	B11	B12	B13
Range (范围)	2.6-2.7	2.7-2.8	2.8-2.9	2.9-3.0	3.0-3.1

Tolerance for each Bin limit is $\pm 0.1\text{v}$.