



## SMD SPECIFICATION

Part No./型号 0603KRCT



**ATTENTION**  
OBSERVE PRECAUTIONS  
FOR HANDLING  
ELECTROSTATIC  
DISCHARGE  
SENSITIVE  
DEVICES

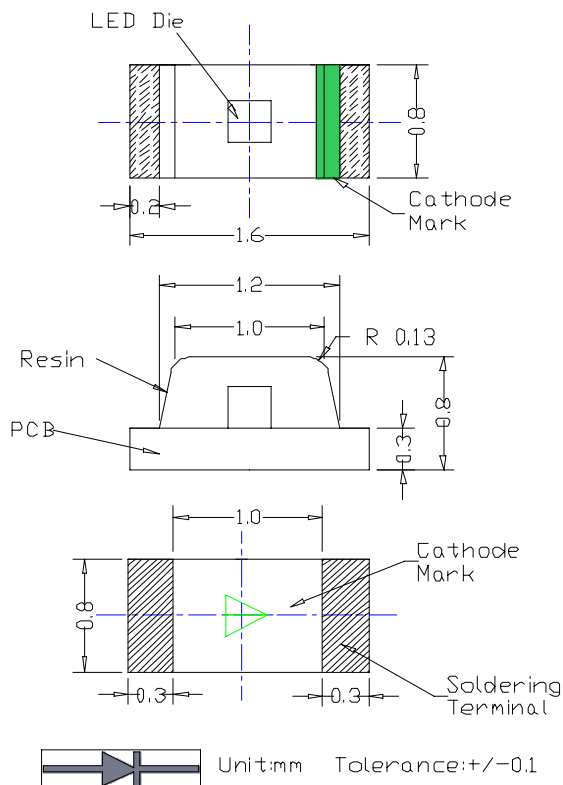
### 1、Features/特征:

- Emitting Color/发光颜色: RED
- Lens Type/封装特性: Water Clear
- Device Outline/外形特征: 1.6×0.8×0.8mm

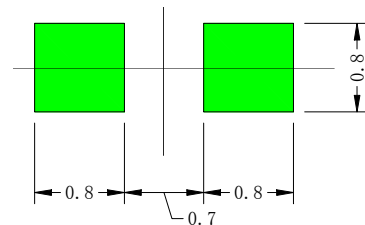
### 2、Applications/应用:

- Backlight for Mobile, Machine Vision, LCD Display/手机、电话、显示屏背光源
- Backlight in Dashboard and swith of Automive/汽车仪表盘、记程器背光源

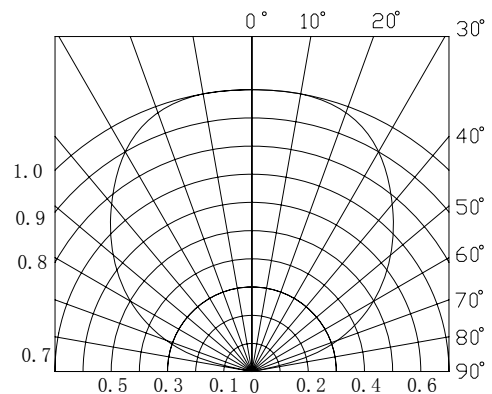
### 3、Outline Dimensions/产品外形尺寸:



被推荐的回焊焊盘尺寸:  
Recommended Pad Size



SPATIAL DISTRIBUTION





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### 4、Absolute maximum ratings/极限参数 (Ta = 25℃)

| Parameter<br>参数                 | Symbol<br>符号 | Test Condition<br>测试条件 | Value 参数 |      | Unit<br>单位 |
|---------------------------------|--------------|------------------------|----------|------|------------|
|                                 |              |                        | Min.     | Max. |            |
| Power Dissipation<br>损耗功率       | Pd           | —                      | —        | 50   | mW         |
| Reverse Voltage<br>反向电压         | VR           | IR = 30 μ A            | 5        | —    | V          |
| Pulse Current<br>正向峰值电流         | IFp          | Duty=0.1, 1kHz         | —        | 100  | mA         |
| Forward Current<br>正向工作电流       | IFm          | —                      | —        | 20   | mA         |
| Operating Temperature<br>工作温度范围 | Topr         | —                      | -40      | +85  | ℃          |
| Storage Temperature<br>储存温度范围   | Tstr         | —                      | -40      | +85  | ℃          |

### 5、Electrical and optical characteristics/光电参数 (Ta = 25℃)

| Parameter<br>参数                  | Symbol<br>符号 | Test Condition<br>测试条件 | Value 参数 |      |      | Unit<br>单位 |
|----------------------------------|--------------|------------------------|----------|------|------|------------|
|                                  |              |                        | Min.     | Typ. | Max. |            |
| Forward Voltage<br>正向电压          | VF           | IF = 20mA              | —        | 2.0  | 2.5  | V          |
| Reverse Current<br>反向电流          | IR           | VR = 5V                | —        | —    | 30   | μ A        |
| Dominate Wavelength<br>主波长       | λ d          | IF = 20mA              | —        | 620  | —    | nm         |
| Peak Wavelength<br>峰值波长          | λ p          | IF = 20mA              | —        | 632  | —    | nm         |
| Spectral Line half-width<br>半波宽度 | Δ λ          | IF = 20mA              | —        | 20   | —    | nm         |
| Luminous Intensity<br>发光强度       | IV           | IF = 20mA              | —        | 90   | —    | mcd        |
| Viewing Angle<br>发光指向角           | 2 θ 1/2      | IF = 20mA              | —        | 120  | —    | Deg.       |



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### 6、Intensity bin limits (亮度等级)

#### (1) Intensity bin limits (IF=20mA)

| Rank | IV (mcd) |      |
|------|----------|------|
|      | Min      | Max  |
| J    | 52       | 72.8 |
| K    | 72.8     | 102  |
| L    | 102      | 145  |
| M    | 145      | 200  |

Tolerance:  $\pm 10\%$

#### Forward voltage bin limits (IF=20mA) <VF 值等级>

| Rank | VF (V) |     |
|------|--------|-----|
|      | Min    | Max |
| V2   | 1.8    | 2.0 |
| V3   | 2.0    | 2.2 |
| V4   | 2.2    | 2.4 |

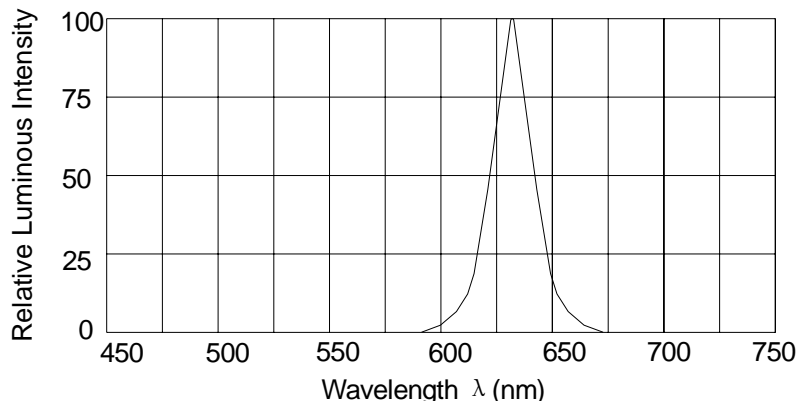
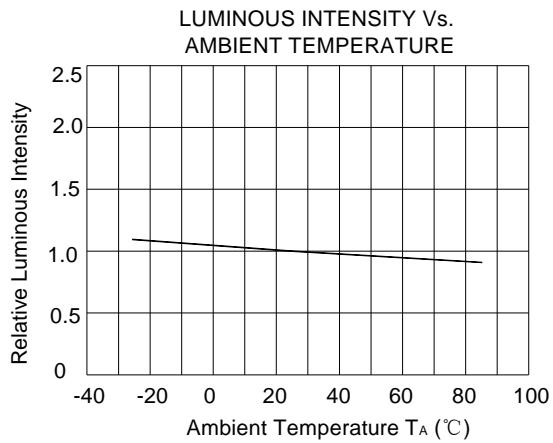
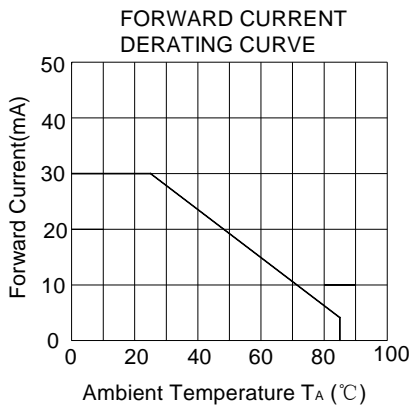
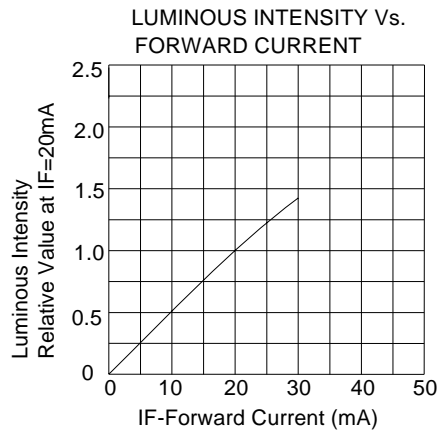
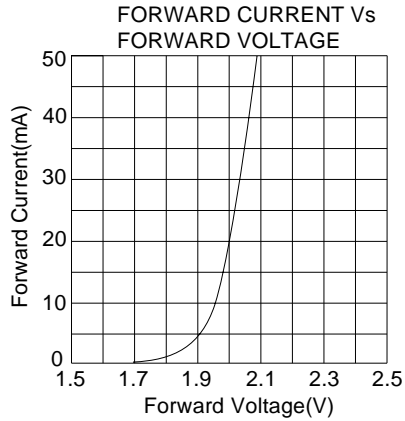
Tolerance:  $\pm 0.1V$



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### 7、Typical electrical/optical characteristic curves/光电特性曲线:





## 8、Relibility Analysis/可靠性分析

### 8.1 Test Items And Results/测试项目和结果

| No. | Item/项目                            | Test Condition/测试条件  | Spec. / 引用标准       | Q' ty/ 数量 | Time/时间            | Standard/判定   |
|-----|------------------------------------|--|--------------------|-----------|--------------------|---------------|
| 1   | IR Reflow (Reflow Soldering) /回流焊接 | Tsld=260°C, 10sec  | GB/T 4937, II, 2.2 | 20        | 2times             | ALL PASS      |
| 2   | Solder ability/可焊性                 | Tsld=235±5°C, 3sec   |                    |           | 1times<br>Over 95% | ALL PASS      |
| 3   | Temperature Cycle/ 高低温循环           | -40°C—— 100°C<br>30min ~ 30min<br>The cut is not more than 1 min | GB/T 4937, III, 1  | 20        | 50cycles           | ALL PASS      |
| 4   | Moisture Resistance Cyclic /湿热循环   | 25°C/12hr~ 55°C/12hr<br>95%RH                                    | GB/T 4937, III, 4  | 20        | 6cycles            | ALL PASS      |
| 5   | High Temperature Storage /高温储存     | Ta=100°C   | GB/T 4937, III, 2  | 20        | 1000hrs            | ALL PASS      |
| 6   | Low Temperature Storage /低温储存      | Ta=-40°C   | GB/T 4937, III, 2  | 20        | 1000hrs            | ALL PASS      |
| 7   | Steady State perating Life /电耐久性   | IF=20mA Ta=25°C  | GB/T18904.3 Part A | 20        | 1000hrs            | Iv decay <30% |

### 8.2 Criteria For Judging Damage/判断标准

| Item/项目               | Symbol/ 符号 | Test conditions /测试条件 | Criteria for Judgement /判断标准 |             |
|-----------------------|------------|-----------------------|------------------------------|-------------|
|                       |            |                       | Min./最小值                     | Max./最大值    |
| Luminous Intensity/亮度 | Iv         | IF=20mA               | Iv*0.7                       | /           |
| Forward Voltage/正向电压  | VF         | IF=20mA               | /                            | U. S. L*1.1 |
| Reverse current/反向电流  | IR         | VR=5v                 | /                            | U. S. L*2   |

\*U.S.L.: Upper Standard Level / 上限

\*L.S.L.: Lower Standard Level / 下限