Specification

规 格 书

Customer Name：

客户名称：

Customer P/N：

客户品号：3mm 透明 4.2 有边长脚 940 发射管

Factory P/N：

公司品号：204IRC45-4.2-10-940

Part Number：

料号代码：L-34MMI-009

Client approval 客户审核			Approval		
Approval 核准	Audit 确认	Confirmation 制作	Approval 核准	Audit 确认	Confirmation 制作
☐ Qualified 接受		☐ Disqualified 不接受	DATE: 日期：		

Features(特征）

- Choice of various viewing angles(选择不同的视角)
- High radiant intensity （高辐射强度）
- Reliable and robust（质量可靠）
- The product itself will remain within RoHS compliant version.（产品本身仍将在通过 RoHS 认证版本）
- Compliance with EU REACH（遵守欧盟 REACH）

注意：操作时应注意静电敏感

Description（描述）

- The series is specially designed for applications requiring higher brightness（更高的亮度呈现）
- The led lamps are available with different colors, intensities.（不同的光强和不同的颜色可选）

Applications（应用）

■ Optical indicator（光学指示）

■ Indoor display（室内显示）

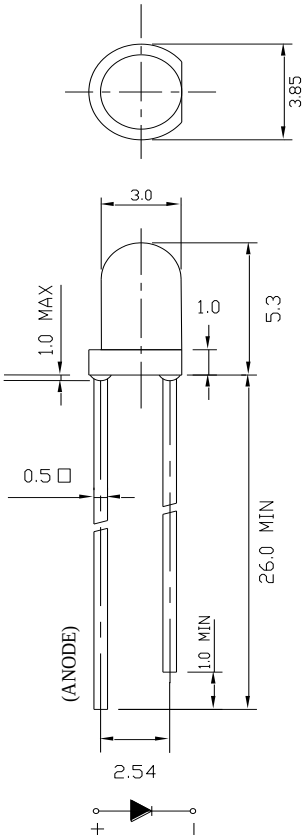
■Floppy disk drive（软盘驱动器）

■Infrared applied system（红外应用系统）

■Optoelectronic switch（光电开关）

■ General use（一般应用）

Package Dimensions（封装尺寸）



Notes:（备注）

1. All dimension units are millimeters.（所有标注尺寸单位为毫米）

2.All dimension tolerance is ±0.15mm unless otherwise noted.（除特别标注外，所有尺寸允许公差±0.15㎜ ）

Selection Guide（选择指南

Part No. 型号	Dice	Lens Type 胶体类型	Viewing Angle 角度
			2q1/2
204IRC45-4.2-10-940	IR	Water clear	40°

Note:(备注）

1. 2θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 the optical centerline value.

   2θ1/2 是半值角, 指光强是光学中心线光强的 1/2 处到光学中心线的角度

2. The above luminous intensity measurement allowance tolerance is ±10%.

   上述发光强度的测试允许公差为±10%

Electrical / Optical Characteristics at Ta=25°C 电性与光学特性

Parameter（参数）	Symbol（符号）	Min.（最小）	Typ.（平均）	Max.（最大）	Units（单位）	Test Conditions 测试条件
Forward Voltage 正向电压	VF	1.1	- --	1.5	V	IF=20mA
Reverse Current 反向电流	IR	- -	- --	10	uA	VR = 5V
radiant intensity（辐射强度)	Ee	----	7.6	---	mw/sr	IF=20mA
Peak Wavelength (峰值波长)	λ p	--	940	--	nm	IF=20mA

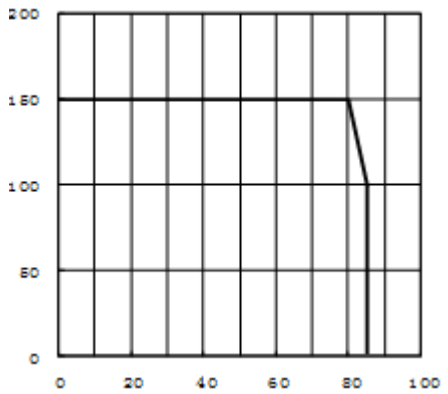
Absolute Maximum Ratings at Ta=25°C 绝对最大额定值

Parameter（参数）	Symbol（符号）	Rating（值）	Units（单位）
Power Dissipation（功耗）	Pd	100	mW
Forward Current（正向电流）	IF	30	mA
Peak Forward Current [1]（峰值正向电流）	IFP	100	mA
Reverse Voltage（反向电压）	VR	5	V
Electrostatic Discharge (HBM)（静电）	ESD	1000	V
Operating Temperature（操作温度）	Topr	-40～+85	℃
Storage Temperature（保存温度）	Tstg	-40～+100	℃

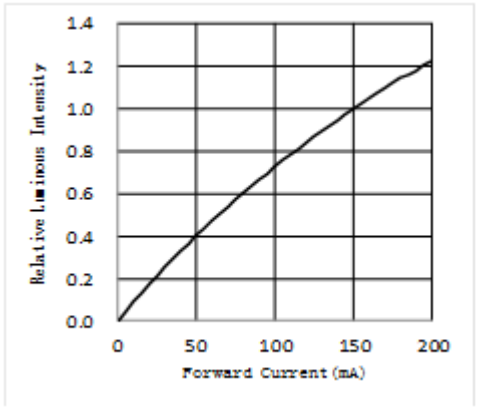
Note:（备注）
1. 1/10 Duty cycle, 0.1ms pulse width.（脉宽 0.1ms, 周期 1/10）
2. The above forward voltage measurement allowance tolerance is ±0.1V.（以上所示电压测量误差±0.1V）
3. The above dominate wavelength measurement allowance tolerance is ±1nm.（以上所示波长测量误差±1nm）

Typical optical characteristics curves 典型光学特性曲线

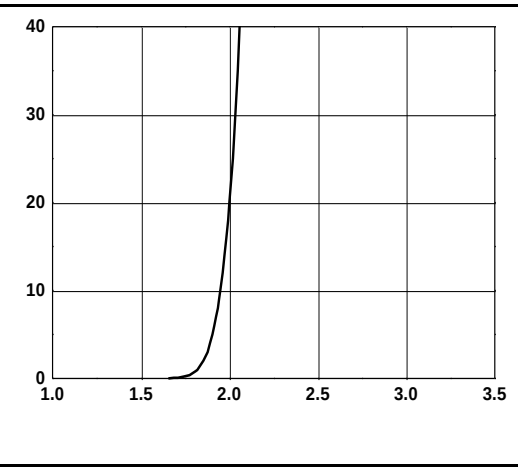
Ambient Temperature vs. Forward Current
环境温度与正向电流特性曲线



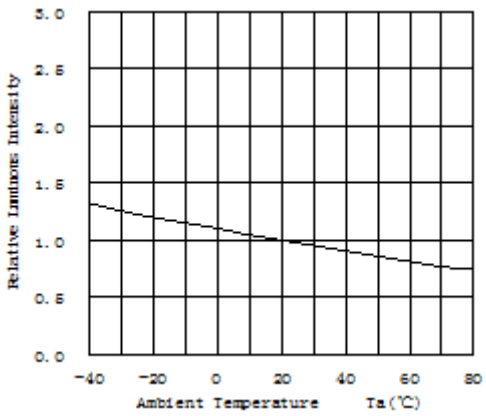
Forward Current VS. Relative Intensity
正向电流与相对光强特性曲线



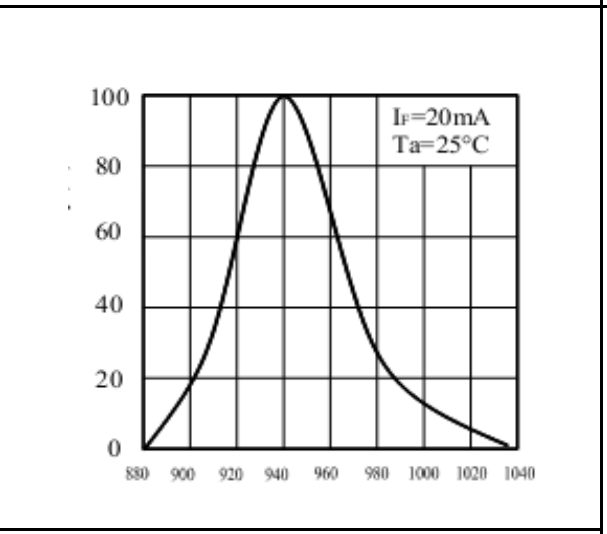
Forward Voltage VS. Forward Current
正向电压与正向电流特性曲线



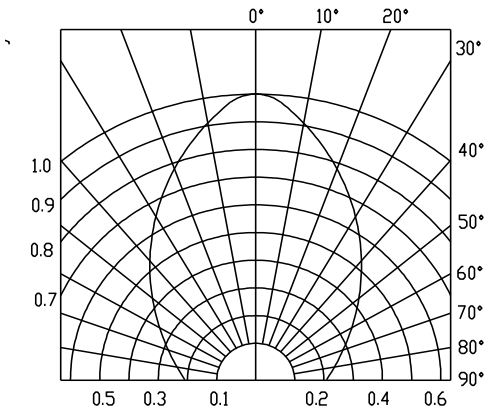
Ambient Temperature VS. Relative Intensity
环境温度与相对光强特性曲线



Relative spectral emission
相对光谱分布特性曲线



Radiation diagram
辐射图特性曲线



Reliability Test Items And Conditions 信赖性测试项目及条件

Test Items 项目	Ref. Standard 参考标准	Test Condition 测试条件	Time 时间	Quantity 数量	Ac/Re 接收/拒收
Reflow 回流焊	JESD22-B106	Temp:260℃max T=10 sec	3 times.	22Pcs.	0/1
Temperature Cycle 温度循环	JESD22-A104	100 ℃ ±5 ℃ 30 min. ↑↓5 min -40 ℃ ±5 ℃ 30 min.	100 Cycles	22Pcs.	0/1
High Temperature Storage 高温保存	JESD22-A103	Temp:100℃±5℃	1000Hrs.	22Pcs.	0/1
Low Temperature Storage 低温保存	JESD22-A119	Temp:-40℃±5℃	1000Hrs.	22Pcs.	0/1
Life Test 常温通电	JESD22-A108	Ta=25℃±5℃ IF=20mA	1000Hrs.	22Pcs.	0/1
High Temperature High Humidity Life Test 高温高湿通电	JESD22-A101	85 ℃ ±5 ℃ / 85%RH IF=100mA	1000Hrs.	22Pcs.	0/1

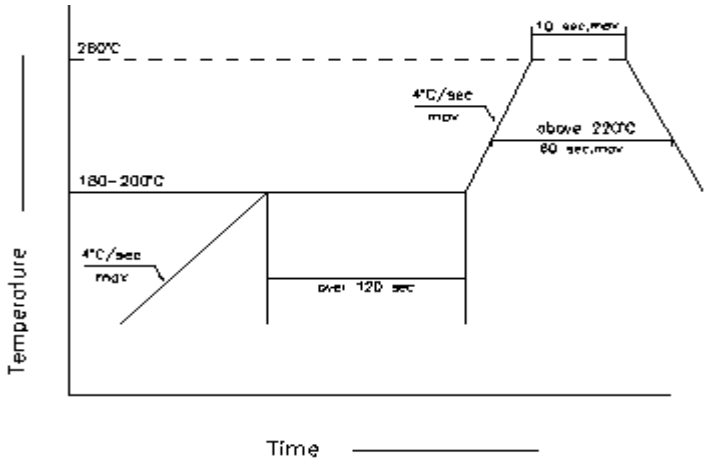
Failure Criteria 失效判定标准

Test Items 项目	Symbol 符号	Test Condition 测试条件	Failure Criteria 判定标准	
			Min. 最小	Max. 最大
Forward Voltage 正向电压	VF	IF=20mA	- -	U.S.L*)x1.1
Reverse Current 反向电流	IR	VR = 5V	- -	U.S.L*)x2.0
Luminous Flux 光通量	mcd	IF=20mA	L.S.L*)x0.7	- -

U.S.L: Upper Specification Limit 规格上限 L.S.L: Lower Specification Limit 规格下限

*The technical information shown in the data sheets is limited to the typical characteristics and circuit examples of the referenced products. It does not constitute the warranting of industrial property nor the granting of any license.
数据工作表中所示的技术信息仅限于典型特征和电路实例引用的产品. 它既不构成工业特性的保证, 也不构成任何许可的授权.

SMT Reflow Soldering Instructions　SMT 回流焊说明



1.Reflow soldering should not be done more than two times.　回流焊不可以做两次以上

2.When　soldering , do not put stress on the LEDs during heating

当焊接时，不要在材料受热时用力压胶体表面

Soldering iron　烙铁焊接

1.When hand soldering, keep the temperature of　iron below less 300℃　less than 3 seconds

当手工焊接时，烙铁的温度必须小于 300℃，时间不可超过 3 秒

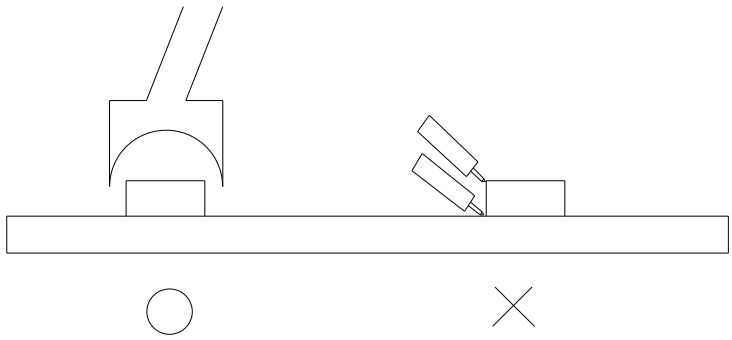
2.The hand solder should be done only one times

手工焊接只可焊接一次

Repairing　修补

Repair should not be done after the LEDs have been soldered. When repairing is unavoidable, a double-head soldering iron should be used (as below figure). It should be confirmed in advance　whether the characteristics of LEDs will or will not be damaged by repairing.

LED 回流焊后不应该修复，当修复是不可避免时，必须使用双头烙铁（如下图），但必须事先确认此种方式会或不会损坏 LED 本身的特性。



Cautions　注意事项

The encapsulated material of the LEDs is silicone. Therefore the LEDs have a soft surface on the top of package. The pressure to the top surface will be influence to the reliability of the LEDs. Precautions should be taken to avoid the strong pressure on the encapsulated part. So when use the picking up nozzle, the pressure on the silicone resin should be proper.

LED 封装为硅胶，故 LED 胶体表面较软，用力按压胶体表面会影响 LED 可靠性，因此应有预防措施避免在封装的零件上的强大压力，

当使用吸嘴时，胶体表面的压力应是恰当的。

Handling Precautions　处理防备措施

3.the lead pitch of the LED must match the pitch of the mouning holes on th PCB during component placement ,Lead-forming may be required to insure the lead pitch matches the hole pitch ,Refer to the figure below for proper Lead forming procedures.

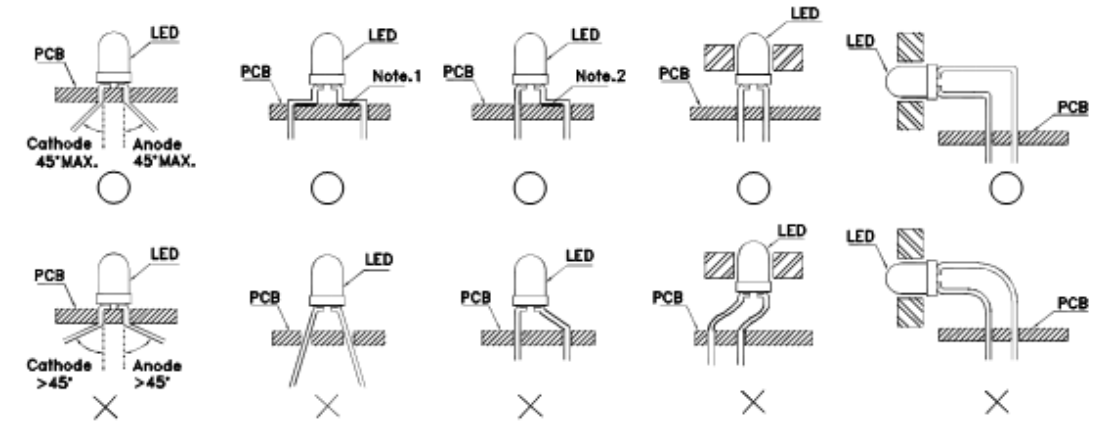


Fig.1

4.When soldering wire to the LED ,use individual heat-shrink tubing to insulate the exposed leads to prevent accidental contact short-circuit.(Fig.2)

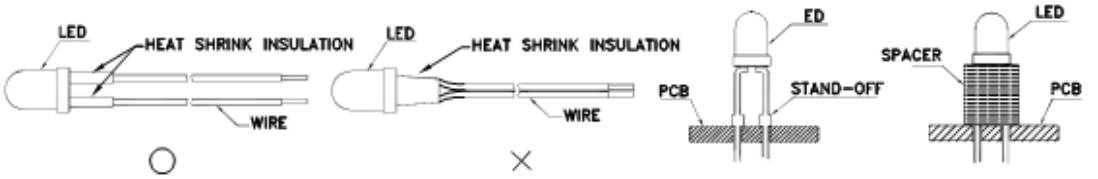


Fig. 2　Fig. 3　Fig. 4

5.Use stand-offs(Fig.3)or spacers(Fig.4)　to securely paseition the LED above the PCB.

6.Maintain a minmum of 2mm clearance between the base of the LED lens and the first lead bend.(Fig.5 and 6)

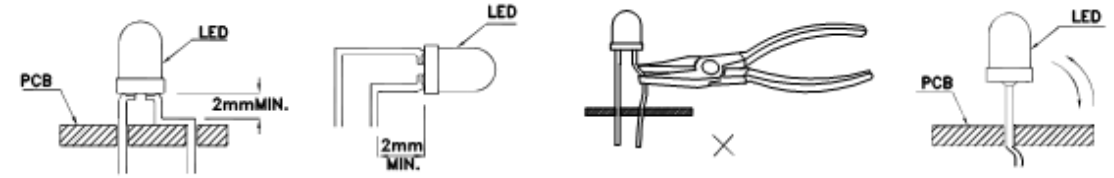
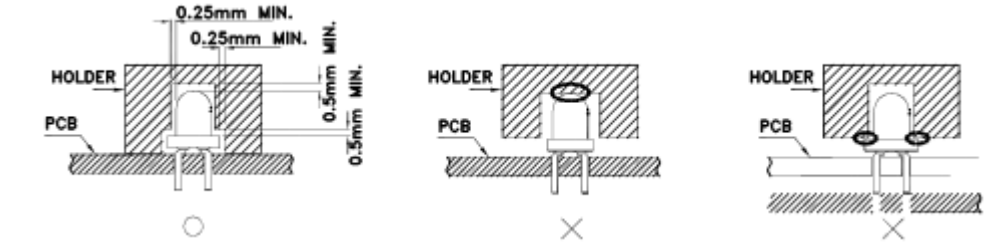


Fig. 5　Fig. 6　Fig. 7　Fig. 8



4.Other points for attention, please refer to our LED user manual.

其它注意事项请参照我们的 LED 使用手册

Label 标签

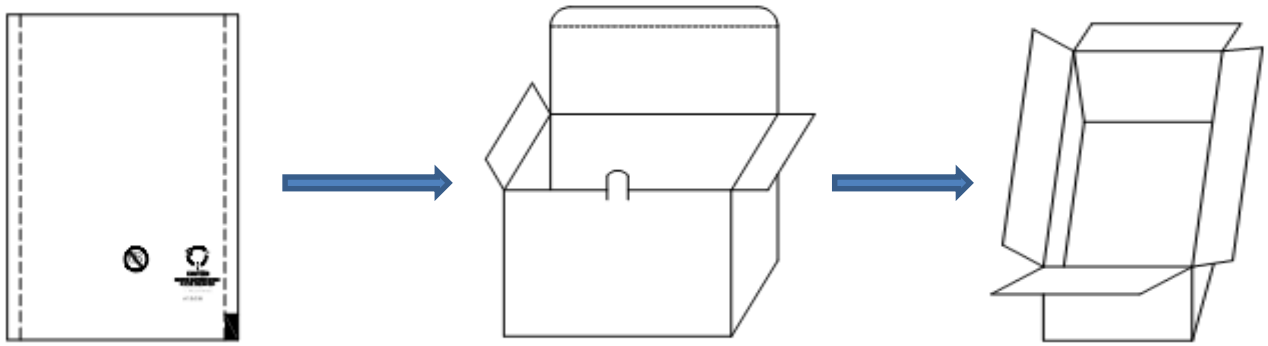
IV: Luminous intensity rank 亮度等级

WD: Dominate Wavelength 波长等级

VF: Forward voltage rank 电压等级

Tape Specifications (Units : mm) (1000PCS/Bag) 载带规格（单位：mm）

■ Anti-electrostatic bag ■ Inner Carton ■ Outside Carton



Note: The tolerances unless mentioned is ±0.1mm , Unit: mm 注：标注公差为±0.1mm ，单位：mm