High Power LED: 5X5mm. 635nm 740nm 850nm 940nm Red、 Infrared

(高功率 LED：5X5mm 635nm 740nm 850nm 940nm 850nm 红光、红外线)

Part No(部件型号）:**YL-4D5050D-RIR**

PRODUCT DESCRIPTION：(产品描述：)

■Features: 特点：

- High radiant intensity （高辐射强度）
- High reliability （高可靠性）
- High output power at （高输出功率）

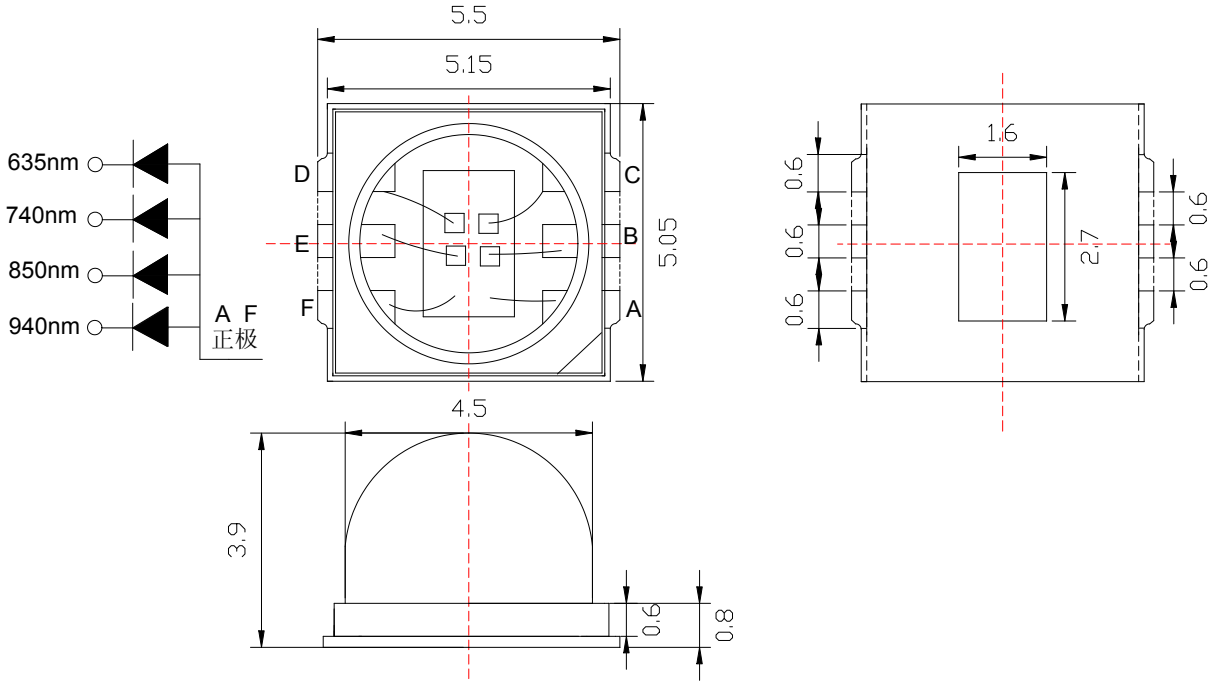
■Descriptions: 说明：

The series is specially designed for application requiring higher brightness. （该系列产品是为高亮之应用需求所专门设计的 ）

■Applications: 应用范围：

- Free air transmission system （自由空气传输系统）
- Infrared remote control units with high power requirement （高功率要求的红外遥控器）
- IR searchlight CCD lighting （CCD 的红外探照灯照明）
- night vision light source （夜视光源）
- Smoke detector Infrared applied system （烟雾探测器红外应用系统）

■ Package Dimension:



PART NO(產品型號)	Chip Material （芯片材料 ）	LED Emitted Color （LED 的发光颜色）	LensColor （镜片颜色）
YL-4D5050D-RIR	AIGaAs Silicon Substrate	Red Infrared （红色 红外线）	Water Clear （无色透明）

Notes:

1. All dimensions are in millimeters (所有尺寸以毫米為單位)
2. Tolerance is ±0.25mm unless otherwise noted..(未標注公差為：±0.25.，另有標注除外).
3. Specifications are subject to change without notice(規格若有變動，恕不另行通知).

■Absolute Maximum Ratings at Ta=25℃（绝对最大额定值在 Ta=25℃）

Parameter 参数	Symbol 符号		Rating 额定值	Unit 单位
Forward Current 正向电流	I_F	635nm	50	mA
		740nm	70	
		850nm	70	
		940nm	70	
Operating Temperature 工作温度	Topr		-40 to +85	℃
Storage Temperature 储存温度	Tstg		-40 to +85	℃
Soldering Temperature 焊接温度	Tsol		240 ±5 for 5sec	℃
Electrostatic Discharge 静电	ESD		8000	V
Peak Forward Current (Duty 1/10@1KHz) 峰值正向电流	IF(Peak)		150	mA
Reverse Voltage 反向电压	V_R		5	V

■Electronic Optical Characteristics :（电子光学特性）

Parameter	Condition	Symbol	Values				Unit
			635nm	745nm	850nm	940nm	
Luminous Intensity	I_F=20mA	I_V (min)	8.0	8	8	8	mW
		I_V (typ)	10	10	12	12	
		I_V (max)	13	13	15	15	
Viewing Angle	I_F=20mA	2θ 1/2	60				deg
Peak Wavelength	I_F=20mA	λ p(min)	625	730	840	930	nm
		λ p (typ)	635	745	850	940	
		λ p (max)	645	755	860	950	
Forward Voltage	I_F=20mA	V_F (min)	1.7	1.4	1.4	1.2	V
		V_F (typ)	2.0	1.6	1.5	1.4	
		V_F (max)	2.6	2.0	1.8	1.6	
Reverse Current	V_R=5V	I_R			10 uA		V

■ Typical electro-optical characteristics curves :(典型的光电特性曲线:)635nM

Fig.1 Forward current vs.Forward voltage

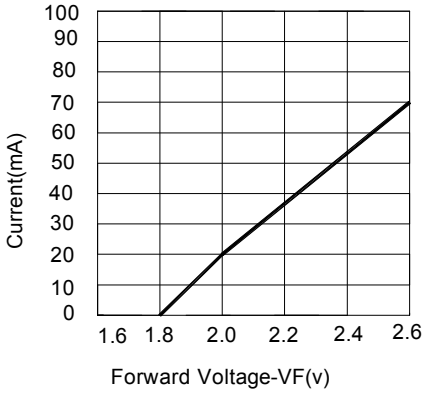


Fig.2 Relative intensity vs. Wavelength

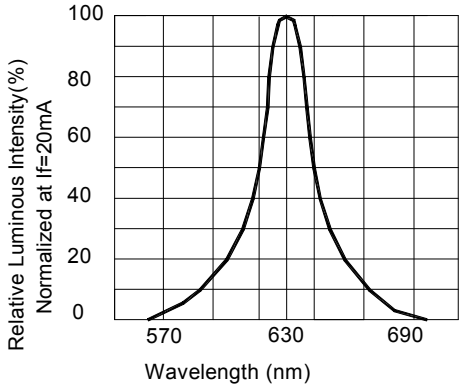


Fig.3 Relative Radiant Flux vs.Forward current

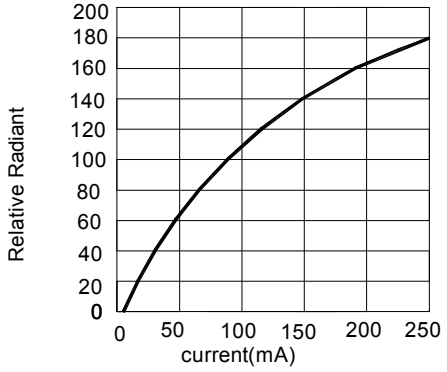


Fig.4 Forward Voltagevs
Ambient temperature

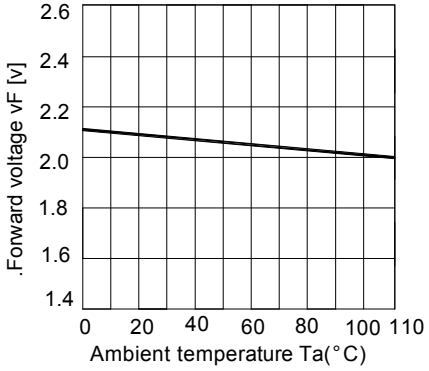


Fig.5 Relative RadiantFlux(vs.
Ambient temperature

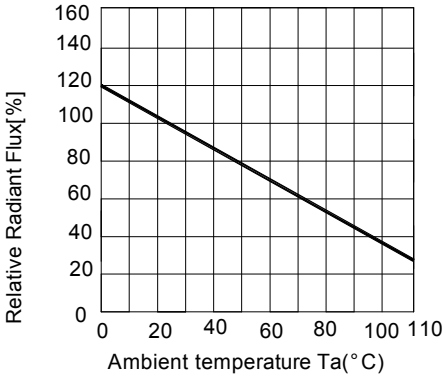
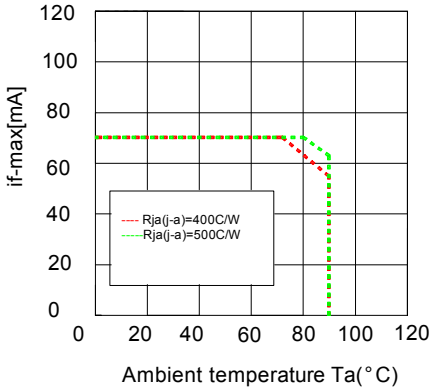


Fig.6 Maximum Driving Forward DC Current vs.
Ambient Temperature(Derating based on Tj
max.=125°C



■ Typical electro-optical characteristics curves :(典型的光电特性曲线:)740nM

Fig.1 Forward current vs.Forward voltage

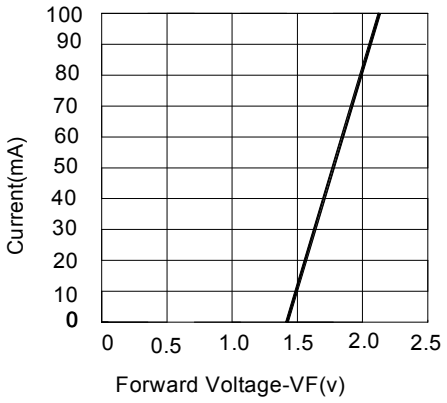


Fig.2 Relative intensity vs. Wavelength

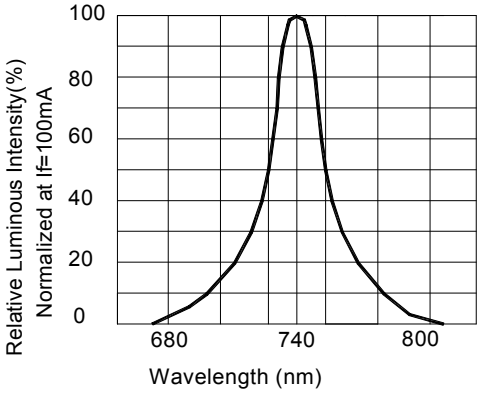


Fig.3 Relative Radiant Flux vs.Forward current

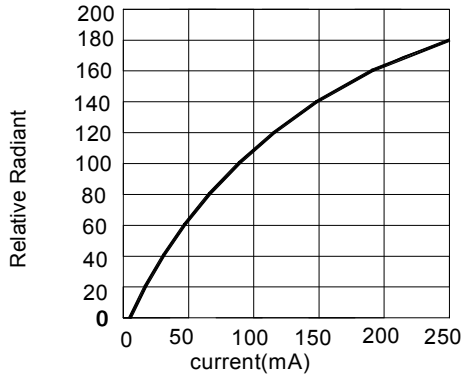
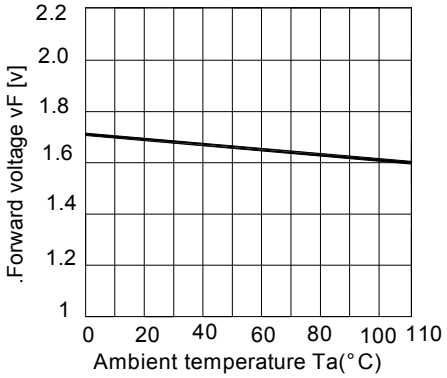


Fig.4 Forward Voltagevs
Ambient temperature



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Ambient temperature

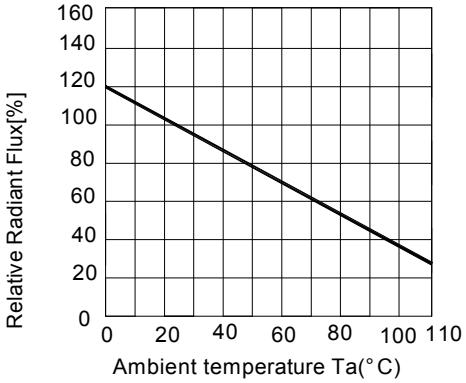
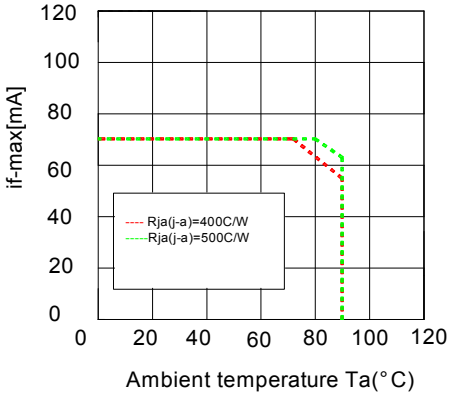


Fig.6 Maximum Driving Forward DC Current vs.
Ambient Temperature(Derating based on Tj
max.=125°C



■ Typical electro-optical characteristics curves :(典型的光电特性曲线:)850nM

Fig.1 Forward current vs.Forward voltage

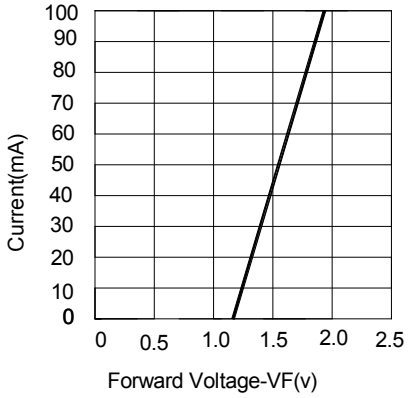


Fig.2 Relative intensity vs. Wavelength

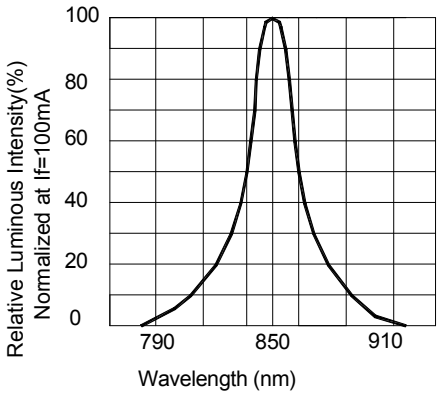


Fig.3 Relative Radiant Flux vs.Forward current

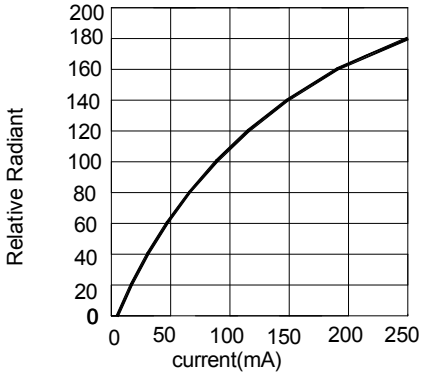


Fig.4 Forward Voltagevs
Ambient temperature

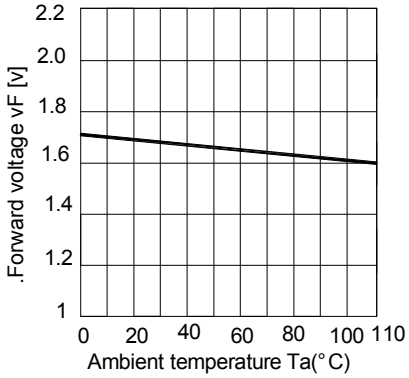


Fig.5 Relative RadiantFlux(vs.
Ambient temperature

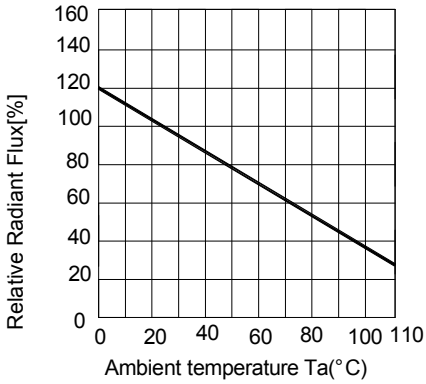
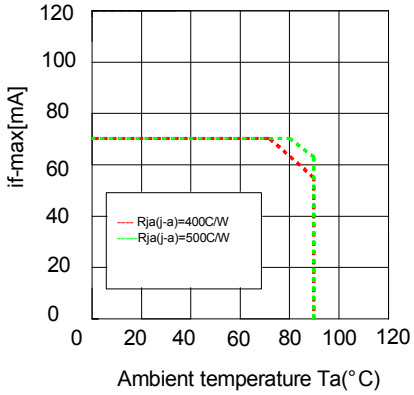


Fig.6 Maximum Driving Forward DC Current vs.
Ambient Temperature(Derating based on Tj
max.=125°C



■ Typical electro-optical characteristics curves :(典型的光电特性曲线:) 940nM

Fig.1 Forward current vs.Forward voltage

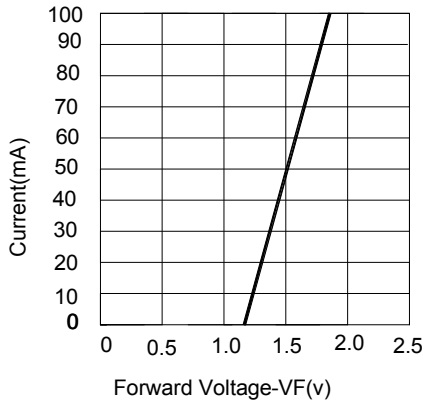


Fig.2 Relative intensity vs. Wavelength

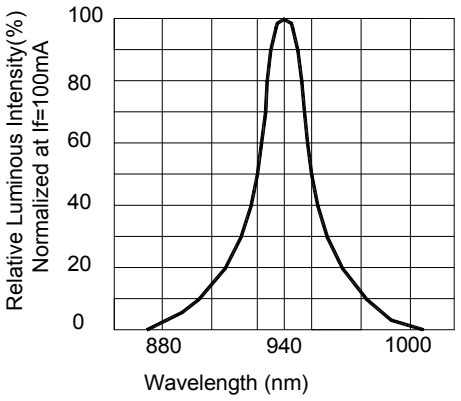


Fig.3 Relative Radiant Flux vs.Forward current

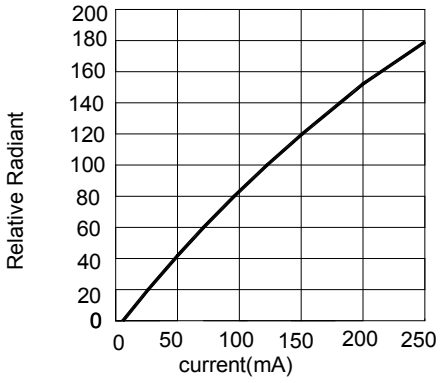


Fig.4 Forward Voltagevs
Ambient temperature

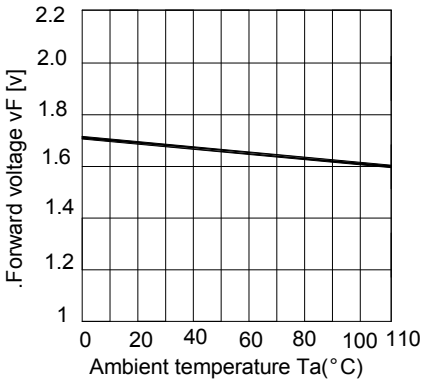
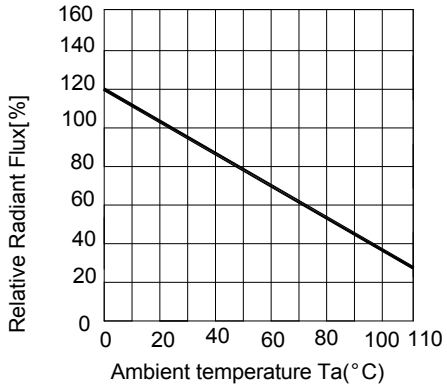


Fig.5 Relative RadiantFlux(vs.
Ambient temperature



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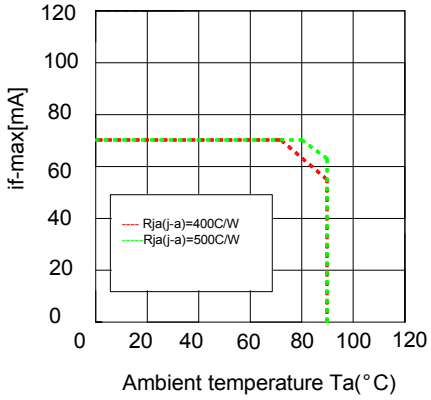
Ambient Temperature(Derating based on Tj
max.=125°C



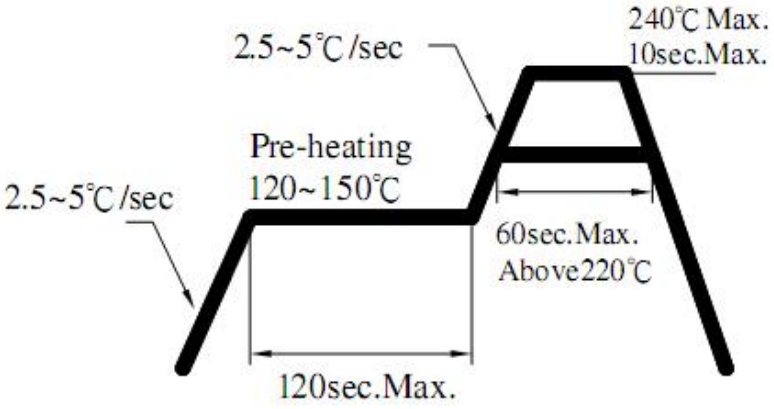
■Reliability Test Items And Conditions:（可靠性测试项目及条件：）

No. ion	Items 项目	Test Condition 测试条件	Test Hours/Cycles 测试时间/周期	Sample Size 样本数	Ac/Re
1	Reflow Soldering 回流焊	Temp. : 240℃±5℃ Min. 5sec.	5sec.	22 PCS.	0/1
2	Temperature Cycle 温度循环	H : +100℃ 15min ∫ 5 min L : -40℃ 15min	100Cycles	22 PCS.	0/1
3	Thermal Shock 热冲击	H : +100℃ 5min ∫ 10 sec L : -10℃ 5min	100 Cycles	22 PCS.	0/1
4	High Temperature Storage 高温存储	Temp. : 100℃ 。	1000 Hrs.	22 PCS.	0/1
5	Low Temperature Storage 低温贮藏	Temp. : -40℃	1000 Hrs.	22 PCS.	0/1
6	DC Operating Life 直流工作寿命	IF =70 mA / 25℃	1000 Hrs.	22 PCS.	0/1
7	High Temperature / High Humidity 高温/高湿度	85℃/ 85%RH	1000 Hrs.	22 PCS.	0/1

■ Precautions For Use　使用注意事项

Soldering Condition：焊接条件：

Pb-free solder temperature profile无铅焊料的温度曲线



1. Reflow soldering should not be done more than two times.回流焊不可做两次以上。
2. When soldering, do not put stress on the LEDs during heating.
   焊接时，在加热过程中勿对 LED 施加压力。
3. After soldering, do not warp the circuit board.焊接后，勿弯曲电路板。

备注：

!请注意洗板水的使用，劣质的洗板水有可能会造成发光区及外观的伤害。