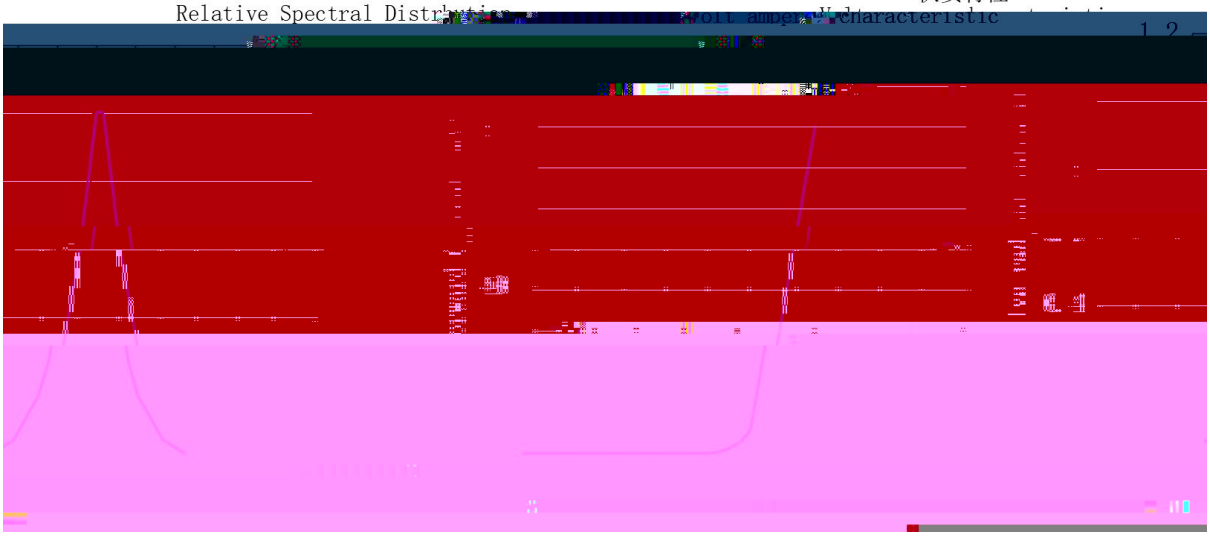
典型特性曲线

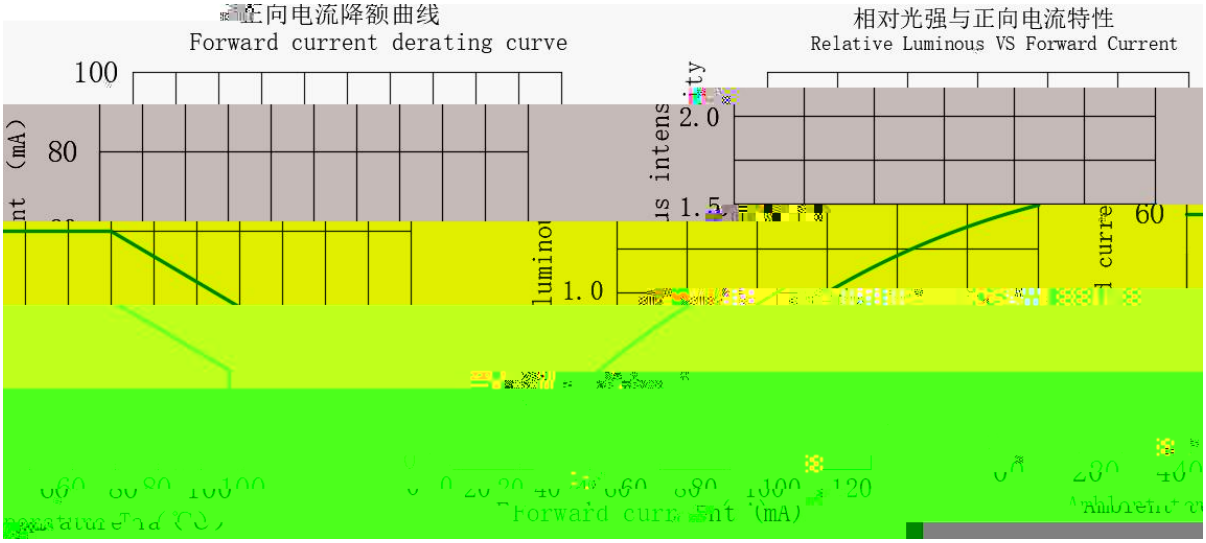
Typical Characteristics Curves

光谱分布曲线
Relative Spectral Distribution



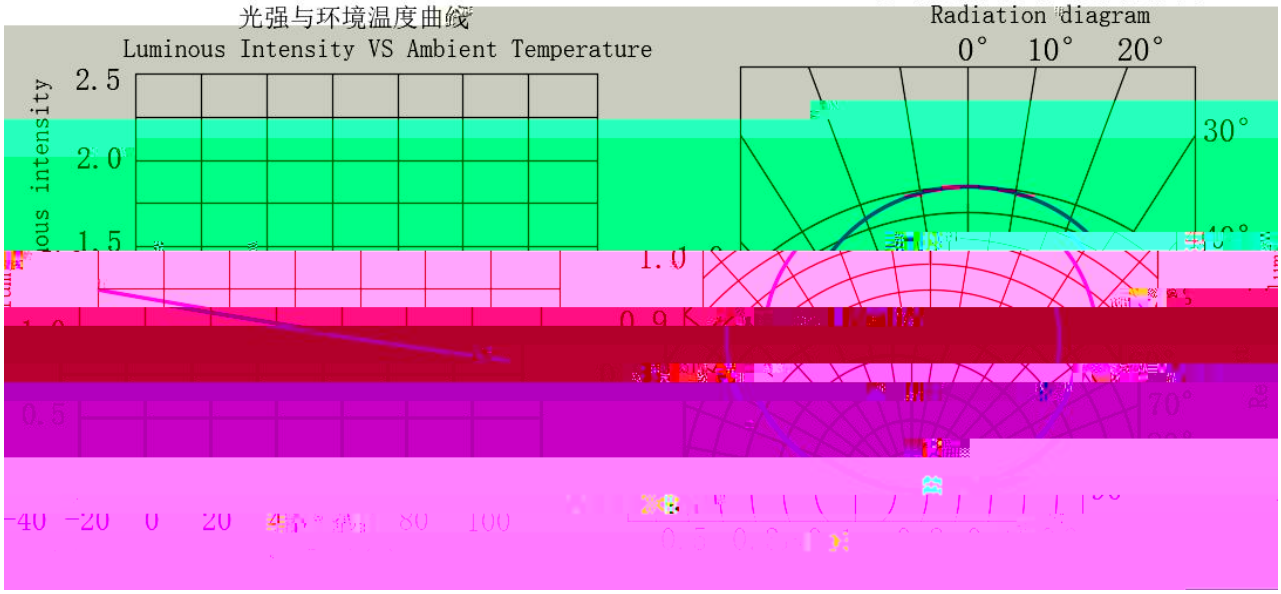
伏安特性
Volt ampere characteristic

正向电流降额曲线
Forward current derating curve



相对光强与正向电流特性
Relative Luminous VS Forward Current

光强与环境温度曲线
Luminous Intensity VS Ambient Temperature



相对辐射强度与空间角度关系
Radiation diagram

25 ± 5 /Note If not otherwise indicated the test environment temp erature is 25 ± 5

可靠性试验

Reliability Test Items And Conditions

Class	Test item	Testing environment	Testing time	Reference standard
Endurance test	Working life	20mA Continuous lighting at the maximum rated current at room	1000 hours +72 -24hours	MIL-STD-750D:1026 MIL-STD-883D:1005 JIS C 7021:B-1
	High temperature and high humidity	IR-Reflow In-Board, 2 Times Ta= 85±5 , RH= 90 95%	240hours) ± 2hours)	MIL-STD-202F:103B JIS C 7021:B-11
	High-temperature storage	Ta= 85±5	1000 hours -24 +72)	MIL-STD-883D:1008 JIS C 7021:B-10
	Low temperature	Ta= -40±5	-24hours+72hours	JIS C 7021:B-12
	Cold and hot cycle	105 25 -55 25 30mins 5mins 30mins 5mins	100 100 Circles	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1010
	Hot and cold impact	IR-Reflow In-Board, 2 Times 100± 5 -40 ± 5 20mins 20mins	100 100 Circles	MIL-STD-202F:107D MIL-STD-750D:1051 MIL-STD-883D:1011
	Anti-tin test	T.sol= 260 ± 5	10 ± 1secs 2 2times	MIL-STD-202F:210A MIL-STD-750D:2031
Environmental testing	Infrared reflowwelding There is lead process	heat up speed(183) 3 / keep temperature 125(±25) 120 keep temperature 183 60-150 maximum temperature 235 +5/-0 keep 235 +5/-0 10-15 cooling rate	--------	MIL-STD-750D:2031.2 J-STD-020C
	Infrared reflow welding Lead-free process	heat up speed(217) 3 / keep temperature 175(±25) 180 keep temperature 217 60-120 maximum temperature 255 +0/-5 keep 255 +0/-5 5-10 cooling rate 6	--------	MIL-STD-750D:2031.2 J-STD-020C
	Weldability test	Soldering temperature T.sol= 235 ± 5 Immersion speed 25±2.5 mm/ 95% Tin loading rate ≥ 95% pad area Immersion time: 2 ± 0.5 seconds	Immersion æo	

使用注意事项（2）

Precautions (2)

3. 设计建议

Design Consideration

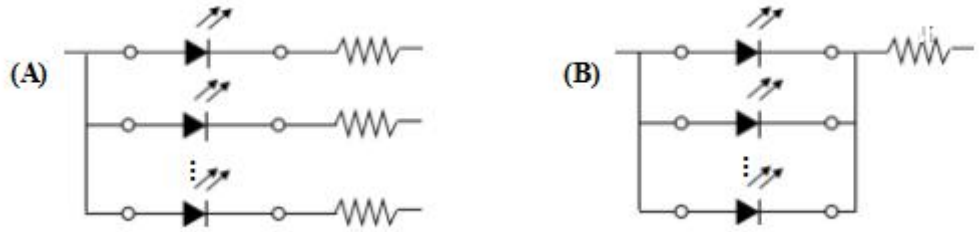
LED

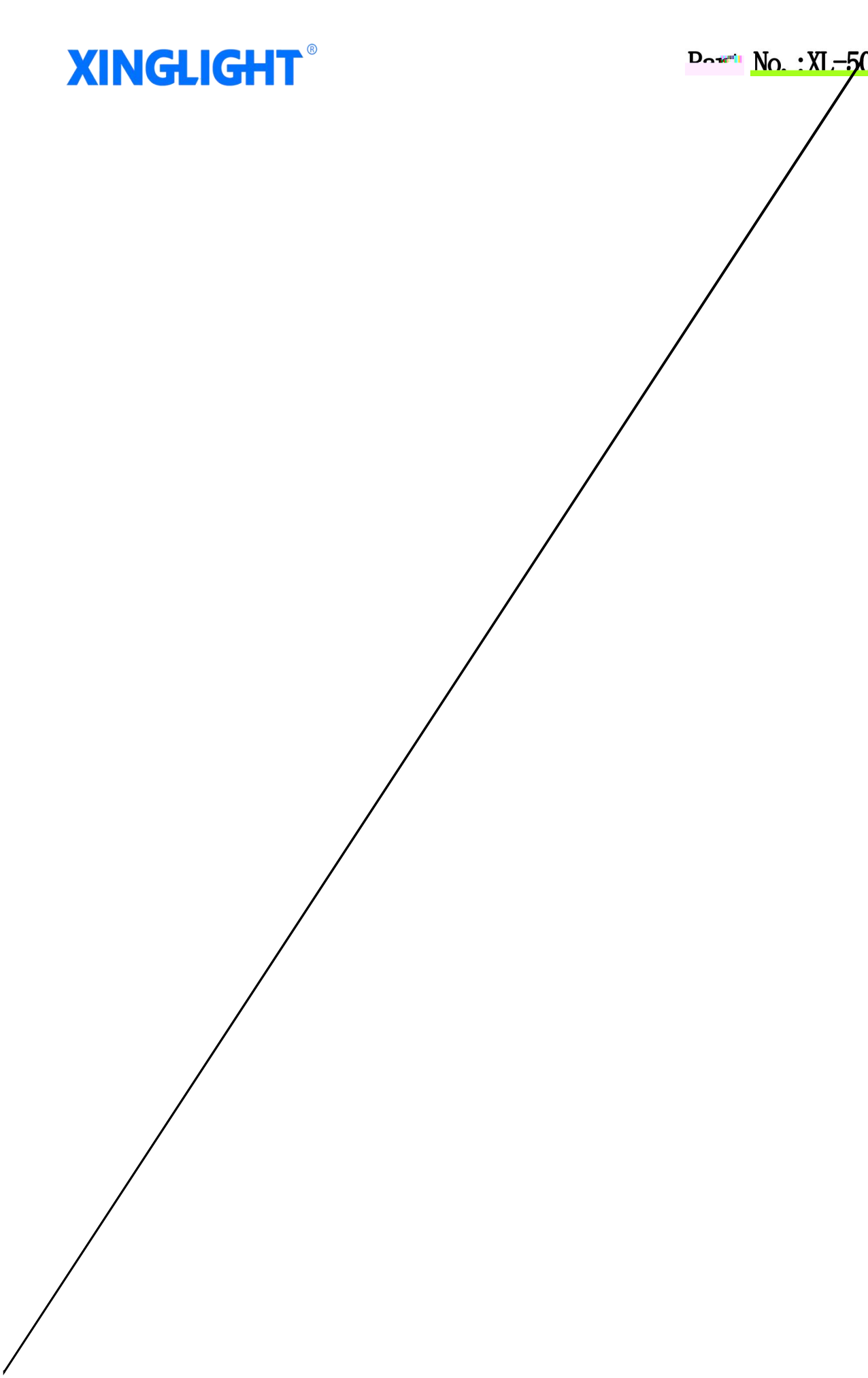
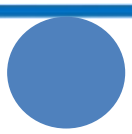
A LED B

LED V_F LED

In designing a circuit, the current through each LED must not exceed the absolute maximum rating specified for each LED. In the meanwhile, resistors for protection should be applied, otherwise slight voltage shift will cause big current change, burn out may happen.

It is recommended to use Circuit A which regulates the current flowing through each LED rather than Circuit B. When driving LEDs with a constant voltage in Circuit B, the current through the LEDs may vary due to the variation in Forward Voltage(V_F) of the LEDs. In the worst case, some LED may be subjected to stresses in excess of the Absolute Maximum Rating.



LED LED

Thermal Design is paramount importance