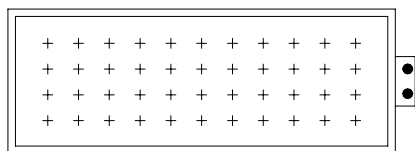
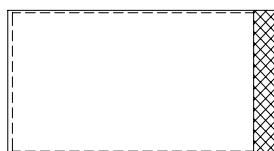




LED backlight is made of by lighted diode. There are two kind of backlight according to the different LED position, bottom light source and side light source(as the following picture).



bottom light source

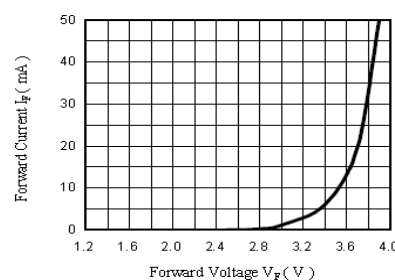


side light source 1



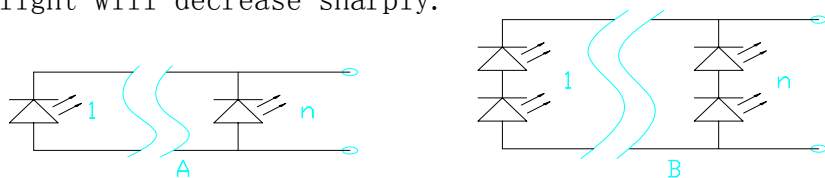
Side light source 2

Because LED backlight use LED as its light source, so we must comply with LED photoelectric function when use it. LED is current driving element, as the illustration, we could see that when LED forward voltage reached on-voltage, voltage will have big change as the current slight change. So the backlight should adopt constant current. If there is no constant current we must control the backlight current strictly to avoid high current damaged LED chip.



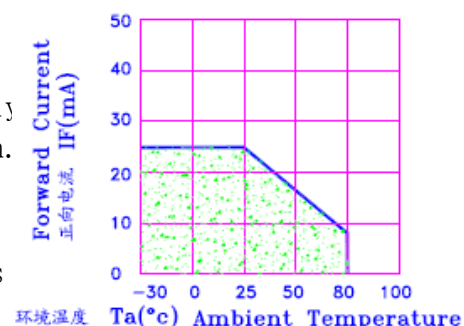
The backlight inner circuit always has two forms A and B.

In side light source form A is common used. To assure the lifetime of backlight, the current must be controlled in 15 mA/chip. In bottom light source form B is common used. Its current should be controlled in 10 mA/chip. If exceed the controlled current, the life of backlight will decrease sharply.



Relation of limited current and temperature.

The PN temperature directly related to the life of Backlight. And the reason effect the PN temperature usually is LED working current and the thermal distribute function. To the confirmed LED, the reason effected the thermal distributing is environment temperature. The relation of LED single light limited current and the temperature as the right illustration.



Usually, when the temperature exceed 25°C , the approved current decrease rate for single LED change as the temperature increase is: $-0.36\text{mA}/^{\circ}\text{C}$ (below 25°C , the current refer to constant, which would not change with temperature).

Static electricity protection.

LED is sensitive to static, would be damaged easily by it. So in the process of using, moving and storing, static protection is very important. The common protection is paralleling a reverse-forward diode and backlight electrode near the power supply.