



Shenzhen ERALED Optoelectronics Co., Ltd.

Mainstream of LED Display in Future



ERALED
Optoelectronics



ERALED

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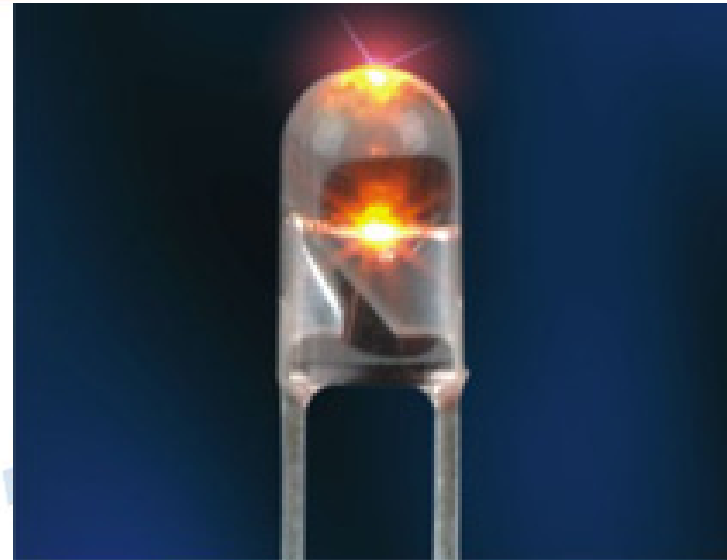
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LED Advantages

Green

- A. There is no heat, no radiation and absence of ultraviolet and infrared in the spectrum of LED light;
- B. Non-toxic - no mercury and other toxic heavy metals;
- C. Recyclable waste



Efficiency

LED converts electrical energy into light energy as high as 90% conversion rate and requires very little electricity supply, consumption and energy efficient than incandescent light with 80% reduction





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Long life

LED life can be more than one hundred thousand hours, compared to incandescent light bulbs life span of only 1,000 hours.



Fast response

Response speed of LED is nanoseconds which is 1000 times than LCD TV's ,that is also why the brake lights are using LED more and more than ever before.

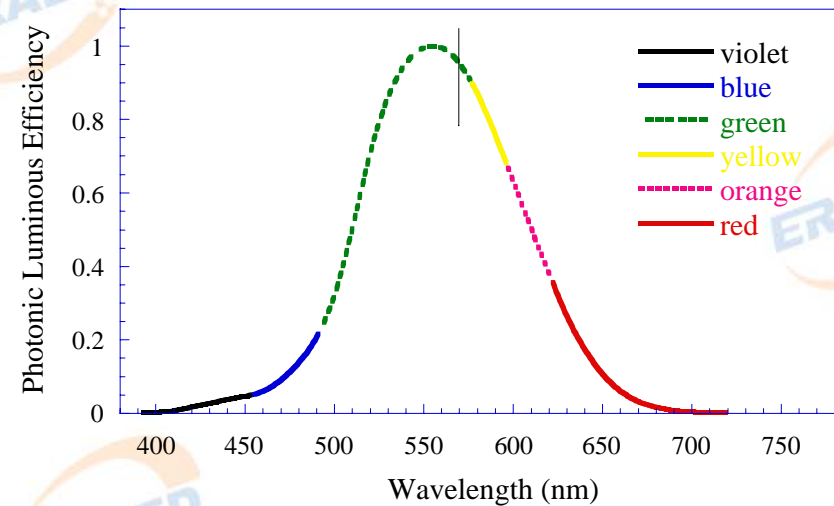




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Controllable

LED lamps can achieve a variety of colors transformation and brightness change



Security & stability & shockproof

LED is completely encapsulated inside of epoxy resin and there is no loose parts in light body

These features make the LED not easy to damage





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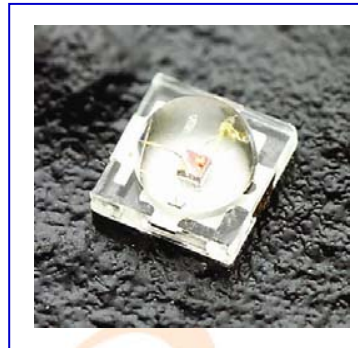
Introduction of SMD and DIP technology

SMD & DIP are two major technology in LED display area nowadays.

SMD (Surface Mounted Devices)

Most indoor screens on the market are built using SMD technology—a trend that is now extending to the outdoor market.

An SMD pixel consists of red, green, and blue diodes mounted in a chipset, main model for indoor is SMD3528 while SMD5050 for outdoor.

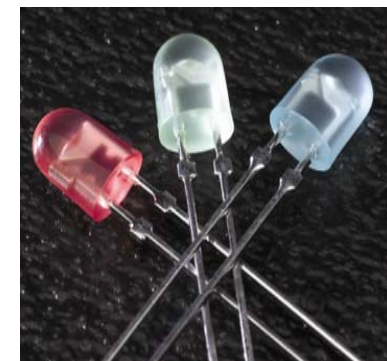
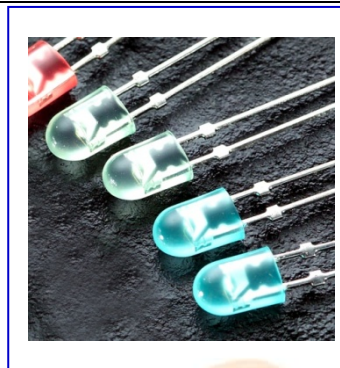


3 diodes mounted in 1 chipset

DIP (Dual In-line Package)

The most widely used packaging technologies currently. Most common models for indoor display screen are p6mm & p7.62mm.

P10mm & p16mm & p20mm are main models for outdoor displays.



3 lamps mounted in 1 pixel



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SMD display





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DIP display





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SMD technology trends

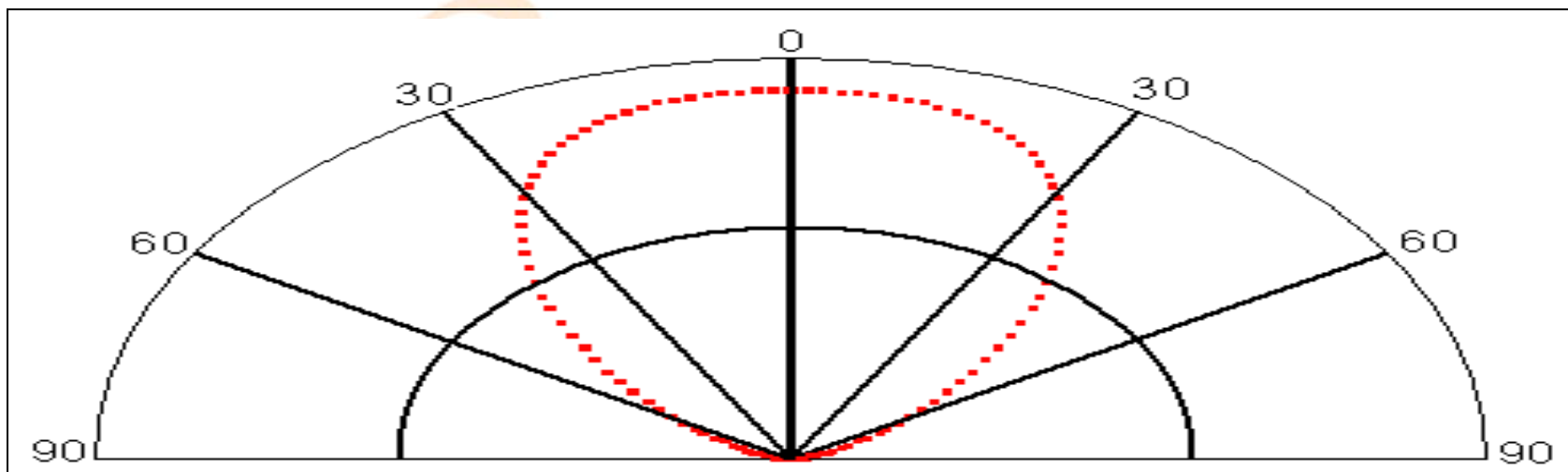
Although the current main technology in LED area refers to DIP, SMD indeed has two advantages that DIP can not go beyond which make SMD to become the mainstream of the future.

★ Better color mixture effect

Since one pixel of SMD already has three color of chips in sealed container, the color comes out is much more soft and blended.

★ Broader viewing angle

Lamps in DIP pixel are protruding than SMD chips, this feature directly lead to the result that viewing angle of DIP is 120° (60° off center) in horizontal and Vertical: 70° ($+25^\circ/-45^\circ$ off center) in vertical, but for SMD, that is 160° (80° off center) in horizontal and 160° (80° off center) in vertical





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Brands of LED chip:



Main brands:

- ★ Nichia
- ★ Cree
- ★ Siland
- ★ Taiwan

1> Nichia chip has the best quality: highest brightness, longest lifetime, lowest brightness depressing rate & most stable brightness level.

2> Cree chip is the 2nd class quality, cost also lower than Nichia.

3> Silan is the Chinese brand, it is most cost effective solution in the market now.

4> Taiwan chip has the lowest price, also poorest quality.

If you buy from mainland China, we suggest you choose Silan since the high cost effective characteristic.

For Nichia, Cree, and other brands, all need to pay for 47 duty in total. that's the main reason why they are not cost effective.