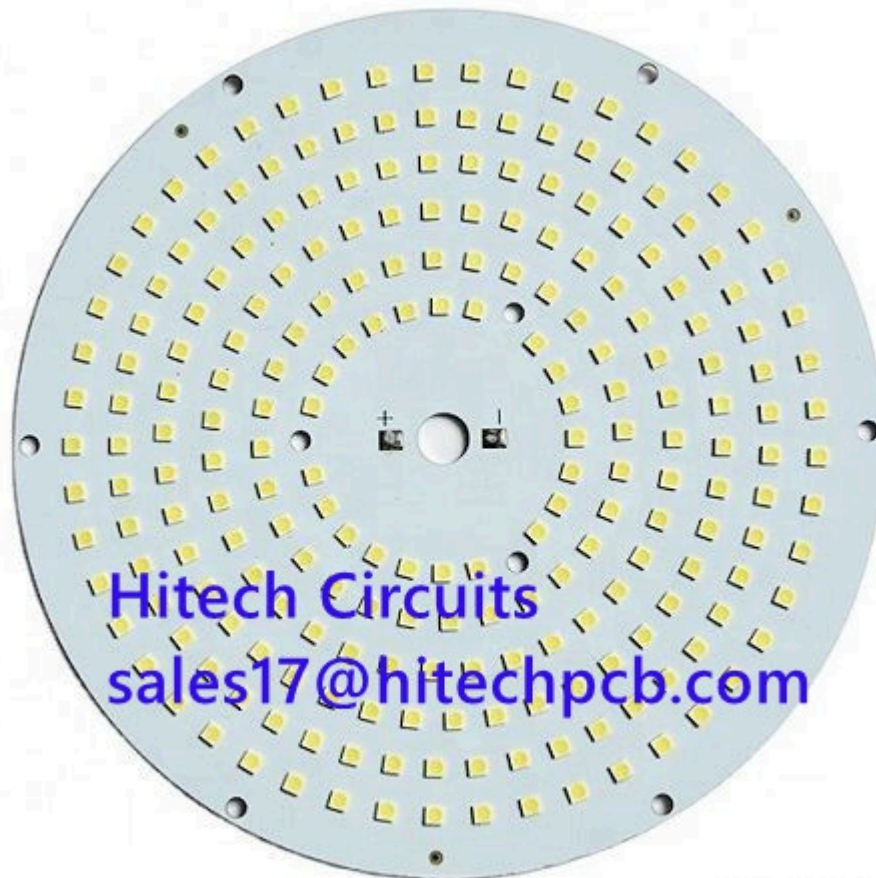




What is LED PCB and what are the application areas of LED PCB?



LED stands for [Light Emitting Diode](#), or Semiconductor Diode. LEDs are soldered to a printed circuit board with a chip that produces light through an electrical connection. A heat sink and a ceramic base are used to connect the chip. There is no doubt that the LED PCB is the core of LED lighting. An LED PCB tends to generate a lot of heat, but it is difficult to cool it with conventional methods. Metal core PCBs are widely used in LED applications because of their heat dissipation ability, especially aluminum is often used in PCB fabrication for LED lights. Usually, aluminum PCB contains a thin layer of thermally conductive dielectric material that can transfer and dissipate heat much more efficiently than traditional [rigid PCBs](#).

Currently SMD packaging is the most widely used form of packaging for LED applications. Generally speaking, the light emitted by a single LED component is limited. Therefore, a luminaire will use multiple LED components to get enough light. As with other

semiconductor devices, PCBs are the best way to electrically connect LED components. PCBs with LED components are often referred to as "LED PCBs".

Advantages of LEDs

Lower Power Consumption: Replacing incandescent lamps with LEDs can reduce power consumption by more than 80%.

Longer life: LEDs generally have a life expectancy of more than 20,000 hours and can be used 24/7 for up to 3 years, 25 times longer than incandescent lamps. Not only does this save money, but it also reduces the frequency of replacement.

Higher efficiency: incandescent lamps emit more heat. LED lamps can reduce this by up to 20%. This means that unnecessary heating can be reduced while using more powerful LED lights.

Smaller size: Due to their small size, LED lights can come in a variety of sizes and can be used in separate applications. Manufacturers can incorporate LEDs into anything, be it electronic devices or cars, and even traffic signals as well as signs on the road incorporate LED lights.

Environmentally friendly: In contrast to other bulbs, [LED lights](#) do not contain mercury. Therefore, LEDs have less impact on the environment and are easier to dispose of.

Where can LED PCBs be used?

PCB LED lights offer excellent energy efficiency, low cost and maximum design flexibility, so it can be incorporated in many lighting applications.

Telecom: LED indicators and displays are always used in telecom equipment due to the surrounding machinery and they have a high heat transfer capacity. Therefore, aluminum based LED pcb plays an important role in their applications.

Automotive: Aluminum pcb led is also used in cars for indicator lights, brake lights and headlights, among other applications. There are some factors that make aluminum pcb ideal in the automotive industry such as durability and competitive pricing.

Computers: LED displays and indicators are becoming increasingly popular in computer applications. Due to the heat sensitive nature of computer machinery, aluminum pcb led is an ideal solution. In addition to LED applications, [aluminum pcb's](#) are also used in computer

components such as power supply units and CPU boards because of their ability to dissipate and transfer heat.

Medical: [Lighting tools](#) used in surgical procedures and medical examinations often use high-power LED lights, and these LED lights often use aluminum PCBs, largely due to the durability and heat transfer capabilities of aluminum PCB LEDs - this ensures that the medical equipment operates correctly regardless of the number of patients circulating in the infirmary. In addition to lighting tools, medical scanning technology often uses aluminum PCBs.