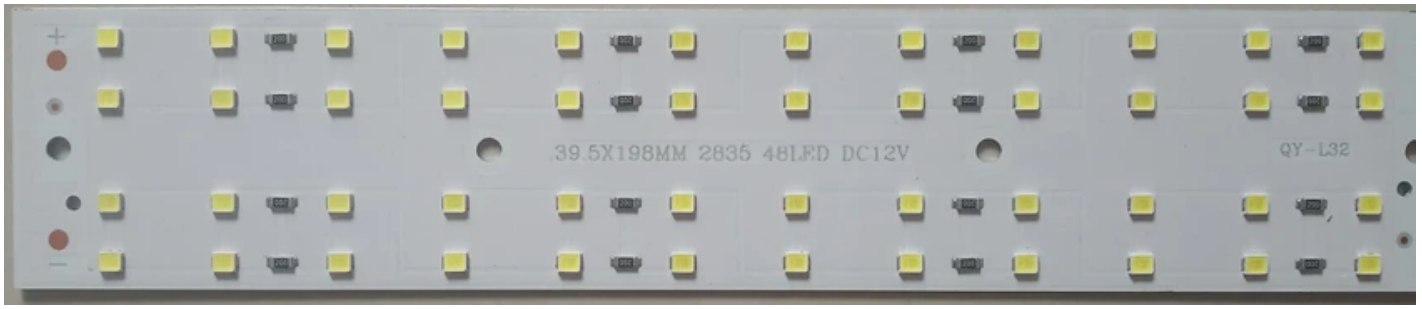
# Top 5 LED PCB Assembly Manufacturer in China - Hitech Circuits

## What is the LED Circuit Board assembly?

Generally, LED PCB assembly is considered to be a circuit board that has the LED components soldered to it. The LED is soldered to the printed circuit board and features a chip that creates the light as electrically connected. A thermal heat sink and a ceramic base are used to bond the chip. Not all the PCB products can be used in Led industry, as an LED PCB is easy to create a high volume of heat, but making it hard to cool with traditional methods. For this reason, metal core PCB is widely used in LED application because of their enhanced ability to dissipate heat, especially aluminum pcb is often used to fabricate PCB for LED lights. We've had great LED PCB assembly experiences with top LED chips to brand such as Cree, Luxeon, Osram, Nichia, Lumileds, MLS, EVERLIGHT, Samsung, LG, Seoul., etc. PCB LED lights can be incorporated into numerous lighting applications due to their combination of excellent energy efficiency, low cost and maximum design flexibility.




## Application of LED PCB Assembly

Hitechpcba serves customers in different industries, providing highly reliable and innovative LED PCBs for various applications:

- Horticulture light LED PCB Assembly
- LED controller PCB Assembly
- Computer LED display and indicators

• LED lights PCB Assembly for medical use
• Automotive LED PCBs Assembly include PCBs for brake lights and headlights
• Street lighting LED PCB Assembly
• Flashlights and camping accessories
• Traffic light PCB Assembly
• Commercial lighting LED PCB Assembly

## LED PCB Assembly specification

Number of layers for LED PCB
These layers are made up of aluminum and magnesium, but now have Copper base material and Ceramic base materials for LED PCB industry, we can meet it.
Aluminum LED PCBs stand out among other PCBs because it has a good insulation characteristic and has a better machinery performance, the cheap cost is one important factor too.

Types of layers for LED PCB Assembly
Normally, the base layer is made using aluminum alloy metal.

This aluminum alloy substrate used in making the base makes it ideal for through-hole technology which transfers and dissipates heat.

A thermal insulation layer is made using some ceramic polymer which has good viscoelasticity characteristics.

It is highly heat resistant and protects the PCB against heat and mechanical stress.

The circuit layer, which is covered by a copper foil which can range from one to ten ounces.

LED Board type- single or in panel
Some boards are shapeless. For this reason, LED PCB panels are used. This reduces time, labor production and testing time.

Some LED PCB Assembly is done on a single board while others are done on panel boards.


# LED PCB Assembly Process

Roughly, the PCBA process can be divided into theses phases: soldering paste printing > SMT (surface mounted technology) > reflow soldering > AOI (automated optical inspection)> THT (through-hole technology) > wave soldering > touch-up and cleaning > IC-programming > FCT (functional tests) > aging testing.
Below we show you the process.

**Step1. Summarizing Project Information**
Before contacting your supplier, make sure you have all the project information. Suppliers will need info following for quoting LED PCB assembly:

Gerber
BOM
LED PCB specification
Quotation quantity
Once you have gathered these information, you can contact us and request for a quote.
Of course, you can also provide the schematic, LED PCB Assembly pictures and even samples to us. The more details they have, the more accurate the supplier’s quotation will be.

**Step2. Discussion and details about custom LED PCB Assembly**

Different projects will have different requirements. Remember the special requirements mentioned in step 1? That's going to be the focus of this session. Equipment and engineering capacity will not be identical between suppliers. Make sure your supplier has the equipment to produce and assemble major components and the corresponding testing capabilities.

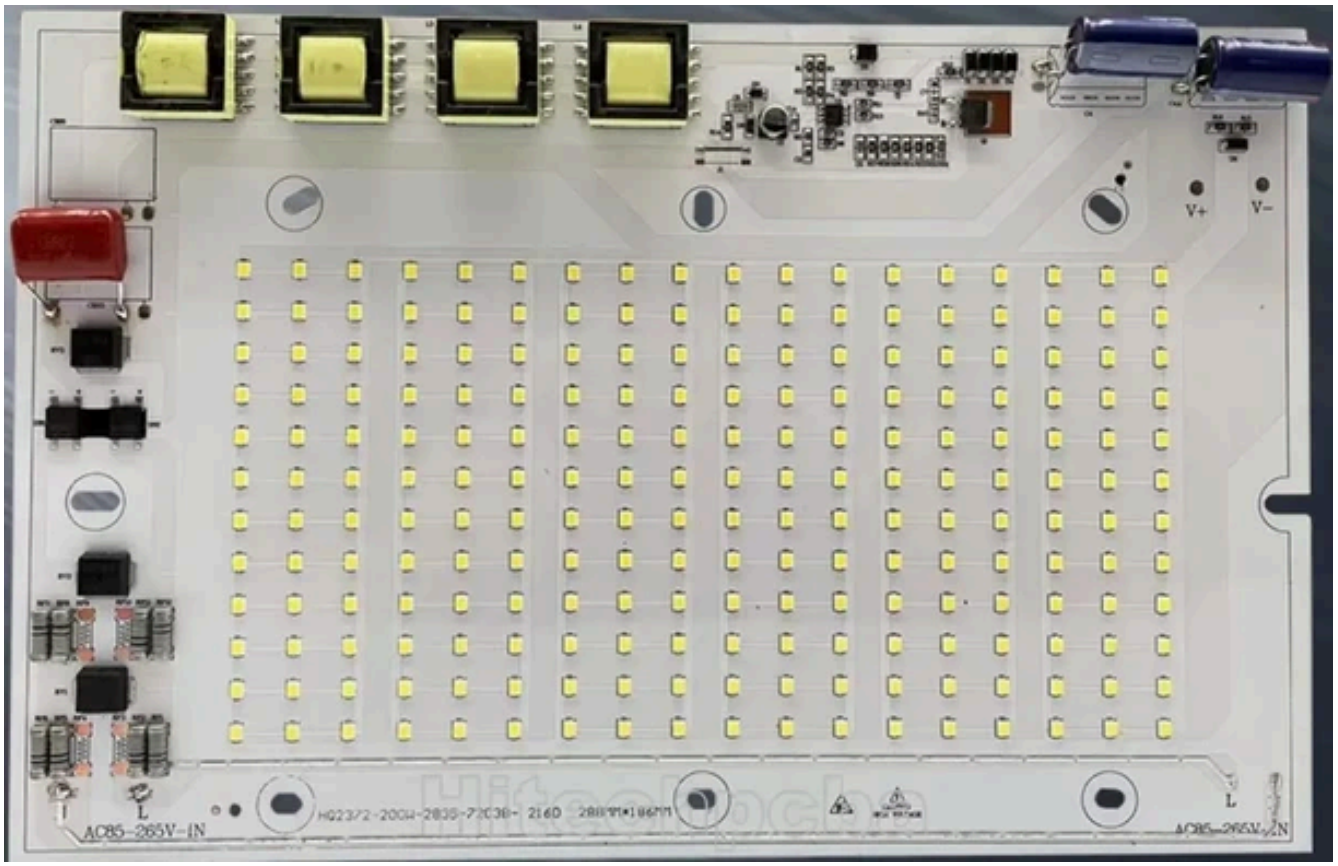
For example, some vendors don't have X-ray testing equipment, which means they can't check the mount quality of BGA chips. Outsourcing this step will increase risk and cost. That's what you don't want.

Also, pay attention to time taken by the supplier to quote. Motherboards often contain hundreds or even thousands of components, and they are supplied by different manufacturers. To ensure the quality of the components, the supplier sourcing team will make multi-inquiries from these manufacturers or authorized suppliers to match customer's requirement, which usually takes 2-3 business days, and even longer for some scarce chips. Therefore, if your project is complex and the supplier quotes you within few hours, double check with them.

**Step3. Sample and feedback**

After confirming the PI, the supplier will usually provide pre-production samples for your approval. At the same time, the supplier will also confirm with you the logistics plan of the bulk goods. Make sure they understand your shipping requirements, including details on packaging, customs clearance, taxes, etc.

For us to have a successful LED PCB Assembly process, its functions must be defined.
Compliance requirement is defined to reduce the effect when components are selected.
The Bill of Materials is then generated from the information installed on the LED PCB.
All this information is used to assemble components which are identified from MOB to the LED PCB.
After that, the routing of traces is determined to each component, based on the size, shape of the circuit board and location of connectors.




Hitech Circuits is trusted by thousands of electronic engineers on their LED PCB assembly projects, from consumer, led bulb to precisely medical LED light, we can help you from the beginning of design stage; From commercial flood LED to industrial high power LED, from automotive LED to military LED, Venture is the perfect place for your LED PCB assembly requirement.

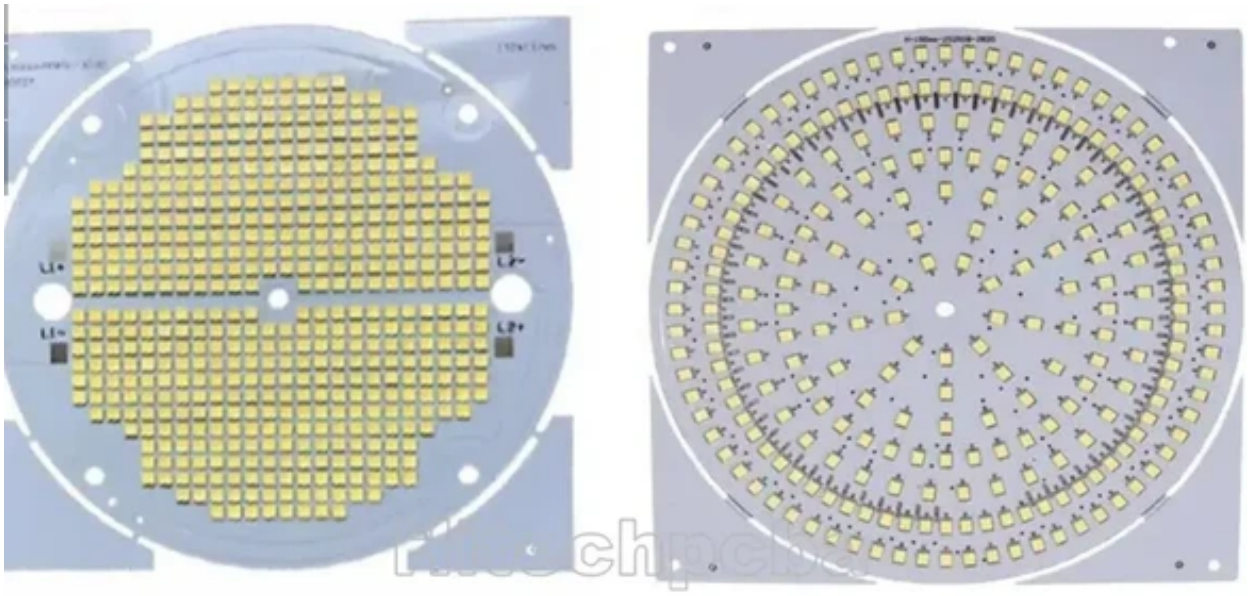
Hitech Circuits has been participated in hundreds and thousands of LED lighting projects, by providing LED PCB and also LED PCB assembly service.

Our LED PCB assembly had covered both ends of the Lighting Class LED size spectrum, assembling some of the largest (2 meter long boards) and some of the smallest LED Lighting applications which used in Medical Endoscopes.

LED PCB Assembly is very crucial in the current industrial development. Many electrical devises are being innovated and the old once being improved.
LED PCBs are useful due to the fact that they are made using materials that can transfer and dissipate heat. This characteristic increases device durability.

The world is changing with new technology, especially PCB technology that plays an essential role in the application of LED circuits. And the LED industry is taking advantage of this technology and growing faster.

As a full feature PCB solutions provider with more than a decade of experience, we're capable to provide LED PCB fabrication, components procurement and LED PCB assembly all under one roof. We can work with you to develop metal core PCB, aluminum circuit boards customized to your specific applications. We feature competitively priced PCBs made with standard FR-4 material that includes a thermal aluminum clad layer that will efficiently dissipate heat, keep all LED PCB components cool and significantly enhance the performance of your products.



## LED Pcb Board, LED pcb Assembly

LED with its advantages of high brightness, high efficiency, low heat, long life, is considered the most development potential in the 21st century lighting. In the market and policy driven by the rapid development of the domestic LED industry blowout has formed a relatively complete industrial chain, including the production of epitaxial wafers, chip preparation, packaging, integration, LED application. In 2010, China's LED industry scale, up from $ 827 billion in 2019 to 220 billion yuan, an annual growth rate of over 70%, higher than the 50% level of growth of the global LED lighting industry output value. Among them, the middle and lower reaches of the most complete industrial chain, accounting for 90% of the overall percentage of the GDP.Chinahas become the world's leading LED manufacturing base and important application market.

To further promote the technological innovation of the LED industry, construction and wide application of independent industry chain, China Electronic Appliance Corporation and industry

associations to organize the theme of "Focus on the core energy LED Exhibition will be held November 9-11, 2010  in Shanghai International Expo Center and the 78th China Electronics Fair over the same period will be held will create from raw materials, epitaxial wafers, chip, LED bracket, LED accessories, LED packaging and supporting materials, the LED backlight upstream firm to the upstream and downstream enterprises of the display, lighting, landscaping, decorative lighting, traffic lights, automotive lighting, special lighting, to the equipment, instrumentation, software, finance, consulting and other service enterprises and technological exchanges and market trading platform, help the domestic industry sustained and healthy development, and promote the steady expansion of the LED application market.

In the LED industry chain upstream of the epitaxial wafers and LED chips accounted for 70% of the profits of the whole industry, and technology-intensive, capital-intensive, where the core technology of the LED. Well-known epitaxial wafer and chip production enterprises will be exhibited a number of energy-efficient, low heat, cost-effective LED products, many of whom have excellent products of international advanced level.

LED electronic pcb assembly manufacturing 100% Original LED Chip with one-stop in-house pcba services