



AURORACIRCUITS
North American Technology Solutions Provider for Printed Circuits



Electric Vehicles & Charging Solutions

While the excitement builds for the future of the electric vehicle (EV) and charging market, a problem arises: How do we deal with emerging technologies that require solutions for thermal runaway, energy/power density, degradation and more? From where we stand, it appears that the pressure comes down to PCB Manufacturers, like Aurora Circuits, to provide cutting edge, innovative, and improved electrical construction designs to provide EV and charging stations manufacturers a solution.

Combating the Heat:

Our team of engineers have constructed processes to build printed circuit boards that can handle immense amounts of heat and power. These processes were developed and perfected over time and have allowed us to produce:

- Ultra-heavy copper circuit boards with copper weights ranging from 5-20oz (150 μ -700 μ) and thicker.
- Over 5 million ultra-heavy copper boards containing 800 tons of copper.
- Capacity to produce multi-layer, double-sided and single-sided varied copper weight circuit boards.

Choosing the Right Materials:

It is critical that boards are designed and manufactured on the proper material. Materials needed for EV and charging stations need to be able to withstand incredibly high current/power. For these vehicles to charge in an adequate amount of time, it calls for high current which can result in high temperatures. Without the "right stuff" and proper design, the future of EV mass consumption hangs in the balance.

Insulated Metal Substrates (IMS) are known for their ability to withstand and draw out heat from the top layer circuits

Material selected should be rated to withstand very high temps such as Teflon, IMS, Polytetrafluoroethylene (PTFE), Polyimide substrates, ceramic filled dielectrics, and epoxy based.

If the maximum temperature is maintained low enough then lower cost FR-4 materials could be used. If higher operating temperatures are required, then a high performance material is necessary.

About Aurora Circuits

Over 70 years' experience in Printed Circuit Fabrication providing Advanced Thermal Management and Interconnect Technology Solutions for Printed Circuit Designs and Specialty Products.

As one of the trailblazers and longest established, domestic manufacturers in the printed circuit board industry, (formerly known as Kalmus & Associates), Aurora Circuits is known as an industry leader in innovation, customer service and engineering. Let us partner with you to maximize profitability and production sustainability.