



JABIL

Power Electronics

Revolutionizing Power Electronics

The market for power electronics has grown rapidly in recent years due to a number of trends. Technology breakthroughs in lithium batteries, high-power transistors, digital signal processors, and permanent magnet motors have dramatically increased power capabilities and features, reduced sizes and costs, and made new applications feasible.

In addition, environmental concerns and grid-capacity issues are driving the demand for renewable and distributed energy sources. Rapid urbanization is increasing the adoption of electric vehicles and high-speed rail, increasing energy demand. And the shifting of global economic power and energy proliferation is increasing reliability expectations and the growth of microgrids.

Power electronics are found in all industries and markets. At the heart of power electronics is the conversion of electricity between alternating current (AC) and direct current (DC). AC is found in the electric grid, electric car motors, and wind turbines. Direct current is associated with batteries, solar panels (before the inverter), and low-voltage electronics. AC/DC conversion is often the primary purpose of a power electronics product. However, power electronics can also be found as a subsystem within a device, conditioning the power to drive LEDs or varying the speed of a motor within an appliance.

Jabil's power electronics development team consists of highly experienced, focused engineers specializing in power conversion, thermal management, photovoltaic solar inverters, battery management, and motor control. Combining their deep technical expertise with the broad industry experience of Jabil design engineers, they partner with customer development teams to quickly get feature-rich, high-performance products to market quickly.

Jabil power electronics enable:

- Fast, digital signal processor controls for precise control of loads, supplies, and motion.
- Software and integrated circuits to eliminate belts, gears, hoses, pumps, and valves typically used to distribute power. We can also often resize or eliminate large coils and transformers.
- Implementation of new, more efficient battery and motor technologies.
- Retrofitting products for greater efficiency such as with variable speed HVAC, direct-drive washers, and backup generators.
- Replacing mechanical/hydraulic functions with electric motors such as with vehicle electrification.
- Enabling new technologies and components such as solar panels, LED light bulbs, smaller laptop power supplies, and e-bikes.

Learn about all Jabil design, engineering, manufacturing, packaging, and supply chain capabilities at www.Jabil.com.