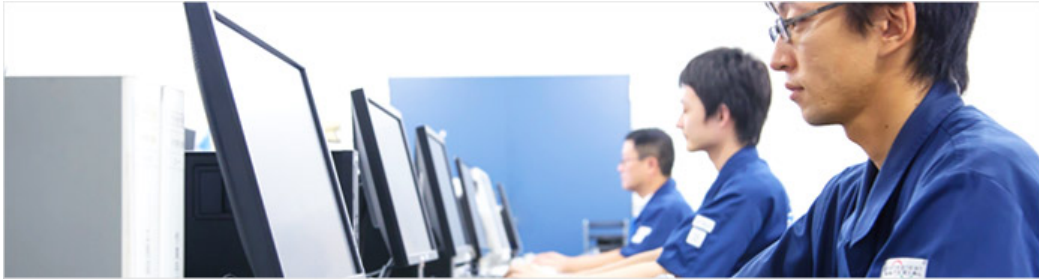




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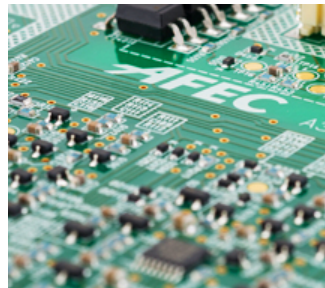
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Compact design, the smallest in the industry

Asahi Kasei FDK Energy Device Co., Ltd. (AFEC) brings together the technological strengths of FDK, with industry-leading implementation technology for power modules and circuits including power products and DC/DC converters, and of Asahi Kasei, with brilliantly unique design for power devices and sensor products.



AFEC conducts integrated development with from cells to modules that has led the way in commercializing practical lithium-ion capacitors (LICs). AFEC's wide-ranging expertise in circuit and mechanical design technologies has produced some of the most compact modules in the industry, with excellent performance, reliability, and safety.

The LIC market is expanding, and the demand level are growing. AFEC works to maintain and supply high quality and reliable modules in a timely manner by building our own unique design supervision system and minimizing numbers of parts by common parts and optimizing their placement.

Our Module Technologies

> Circuit technologies

> Mechanical design technology

> Simulation technology

> Verification and evaluation technology

Circuit technologies

Our module circuits bring out the full performance of LICs. We ensure excellent performance, including low power consumption, high noise resistance, and long life, with functions such as cell monitoring, cell balance, and communication with applications (e.g. CAN, RS485). Meanwhile, we shrink circuit boards as small as possible using high-density mounting

technology.

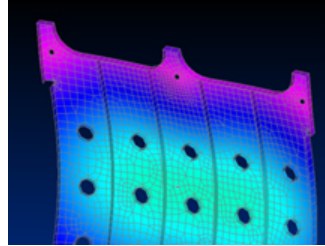
Mechanical design technology

Mechanical design is indispensable to deal with the various installation environments and usage conditions for every application, from industrial applications to vehicles. We realize compact and safe modules that answer demands for high voltage and current with excellent insulation and low resistance, while addressing a variety of constraints including shock, vibration, and heat.



Simulation technology

We have a range of simulation technologies useful for circuit and mechanical design. Using CAE, we validate circuits using operation simulation and cell balance operation checks, and we analyze mechanisms in regard to deformation with shock and vibration, as well as distribution of heat and current. The simulations give us quick feedback that we apply to improving design speed, performance, and quality.



Verification and evaluation technology

Verification is essential to make sure that products about to be commercialized fulfill their design specifications and customer requirements. We have all the evaluation equipment needed to verify a wide range of requirements. We have the environments in-house to perform reliability tests regarding environmental conditions such as temperature and humidity, and safety tests including shock, vibration, and insulation. We apply these to speedy product development and assurance of performance and quality.

What Is LIC?

Features of Lithium-Ion Capacitors
Performance of Lithium-Ion Capacitors
Markets Created by LICs
Application Fields

AFEC's Technology

Cell technology
Module technology
Production technology

Product Information

ECM015PR Series
ECM045SR Series

Application Examples

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