

March 28, 2023

KANEKA CORPORATION

Kaneka's high-performance photovoltaic modules used in Toyota All-New Prius PHEV

Kaneka Corporation (Headquarters: Minato-ku, Tokyo; President: Minoru Tanaka) has announced that its crystalline silicon solar cell (hetero junction back-contact type*1) has been selected by Toyota Motor Corporation (Headquarters: Toyota-city, Aichi; President: Akio Toyoda) for use in the roof glass of its all-new Prius PHEV, which went on sale on March 15.

The adopted product uses our crystalline silicon solar cell technology, which boasts the world's highest level of conversion efficiency*2, and its back-contact structure with no wiring on the surface realizes an appearance similar to vehicle roof glass. Our solar cells were selected by Toyota for use in an automobile following their use on Toyota bZ4X due to recognition of its curved surface design enabling itself to be mounted on a car body in addition to the high conversion efficiency and excellent exterior design of our proprietary technology.

We will continue to make an intensive effort to promote in-vehicle PV usage in electric vehicles as a solution to help extending driving range and reducing CO2 emissions. We will also contribute to the realization of a carbon-neutral society by encouraging the use of solar cells in a wide range of applications, such as contributing to ZEH (Zero Energy Houses) and ZEB (Zero Energy Building).

*1. Crystalline silicon solar cells that combine heterojunction technology and back-contact technology.

Heterojunction technology joins semiconductor materials with different physical properties. It can reduce defects by combining crystalline silicon and amorphous silicon and improve conversion efficiency by combining different materials with different wavelengths of light that can be converted into electricity. Back-contact technology forms electrodes only on the back of solar cells to extract electricity, and by concentrating the electrodes on the back, the light-receiving surface can be widened, thereby increasing conversion efficiency and improving the exterior design.

*2. Conversion efficiency of 26.7%, the world's highest level among crystalline silicon solar cells (Kaneka survey)



All-New Prius PHEV



Kaneka's in-vehicle PV

(Pictures provided by Toyota Motor Corporation)