

Panasonic HIT photovoltaic cells demonstrate high PID resistance

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Panasonic Corporation today announced that its HIT photovoltaic module's high-level of resistance to potential induced degradation (PID) has been verified by the results of tests conducted within and outside the company. The test conditions set by the third party organization were very stringent among those applied for various PID tests reported by several organizations. The successful passing of such a severe endurance test has confirmed the high quality and high reliability of Panasonic HIT modules.

PID is a phenomenon in which power output of photovoltaic modules is reduced when they are subjected to external factors such as high temperature and humidity, under the condition that a high voltage is applied across the internal circuits ([photovoltaic cells](#)) and the grounded frame. PID can occur in high-temperature and high-humidity environments, where the system voltage is high.

The following facts and the verification results obtained both within and outside the company demonstrate that the HIT photovoltaic cells are extremely resistant to PID.

- With respect to conventional [crystalline silicon](#)-based photovoltaic cells, the fact that the insulating layer on a cell surface takes charge is thought to be a direct cause of PID. However, in the case of HIT photovoltaic cells, both surfaces are transparent conductive layers with no insulating layers used.

Therefore, no PID is thought to occur.

- No incidences of PID have been reported from the European, U.S., or Japanese markets.
- Two or more models of HIT photovoltaic modules were tested within and outside the company under multiple sets of conditions. The results showed no degradation in their characteristics.
- During one of the third-party tests carried out by Chemitox Inc., HIT modules were subjected to 1,000 volts for 96 hours at a temperature of 60 degrees Celsius with 85% [relative humidity](#). Panasonic HIT [solar modules](#) exhibited no sign of degradation under such conditions, which are extremely stringent compared to other third-party tests whose results are publicly available.
- Panasonic intends to accelerate development and commercialization of photovoltaic cells with high quality and high reliability and to work on expanding the business globally.

Provided by Panasonic

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