News Release

SANYO Electric Co., Ltd.
Global Communications Department
Tel:+81-3-6414-8621 / Fax:+81-3-6414-8720
URL:http://www.sanyo.com / E-mail: i_press@sanyo.com

SANYO to Launch High-efficiency 220W HIT® Photovoltaic Module in European Market

17.4% HIT® Photovoltaic Module with the World's Highest-level Module Conversion Efficiency

Tokyo, September 17, 2009 – SANYO Electric Co., Ltd. (SANYO) is pleased to announce the release of a new 220-watt HIT® Photovoltaic Module, which is due to become available in Europe from December 2009. The new module features an energy conversion efficiency of 17.4%, which is achieved through improving the efficiency of SANYO's proprietary HIT®*1 Module technology from the previous module which had a maximum output of 215 watts.

*1 The Heterojunction with Intrinsic Thin-layer (HIT®) solar cell is a hybrid model with an amorphous silicon thin film over a crystalline silicon substrate.

SANYO's proprietary HIT® solar cells offer many advantages including a high efficiency, good temperature characteristics, and bifacial electrical generation. The complete range features a high energy conversion efficiency of 16% or more, providing substantial user benefits when compared to regular crystalline-type modules with conversion efficiencies between 12% and 14%. Based on this difference in performance, a much greater amount of electricity, about 45%*2 or more, can be obtained on a yearly basis from the same installation area. The greatest benefits are for users in European countries where the Feed-in Tariff (FIT) subsidy system prevails, whereby the electricity generated by solar modules is purchased by electricity companies. These benefits mean that SANYO's HIT® solar modules are extremely popular with customers not only in Europe, but all around the world.

In response to the growing market demand, SANYO plans to establish a 600-megawatt scale production capacity system for its HIT® solar cells by the end of fiscal 2010, having already expanded its production capacity to 340 megawatts as of the end of fiscal 2008.

*2 Based on a SANYO simulation using modules installed in Munich, Germany, on a 30º angle facing south.

I. Outline

SANYO became the first company in the world to mass-produce amorphous silicon solar cells back in 1980. In 1997, the company began mass production of its proprietary HIT® solar cells with high energy conversion efficiency and high output. Since then, SANYO has led the industry with its HIT® solar cells, offering the world's highest-level cell conversion efficiency.

HIT® solar cells are based on SANYO's proprietary technology for the creation of a hybrid model with an amorphous silicon thin film over a crystalline silicon substrate. As a result, they offer both high energy conversion efficiency and superior temperature characteristics, and are highly valued in the industry. SANYO will continue to pursue this technology development with

the aim of achieving even higher efficiencies, reduced costs, and saving of resources.

A local sales company, SANYO Component Europe GmbH, was established in 2004, closely followed by a module manufacturing plant, SANYO Hungary Kft., in 2005. Since then, SANYO has been manufacturing and selling HIT® Photovoltaic Modules, and the current production output of SANYO Hungary has grown to 165 megawatts.

The newly developed 17.4% HIT® Photovoltaic Modules, with SANYO's highest conversion efficiency and high electrical output, will first be launched in the European market.

II. Elemental Technologies for Higher Conversion Efficiency

(1) Greater cell efficiency: Better HIT® junction

The advantage of the HIT® solar cell construction lies in the deposition of a high quality a-Si layer on the surface of a c-Si substrate, the energy generation layer.This reduces the recombination loss caused by charged carriers, electrical particles. Now SANYO has succeeded in increasing the quality of the HIT® junction through technology for the creation of higher quality a-Si film, thereby reducing damage to the c-Si substrate surface.

(2) Greater cell efficiency: Optical and electrical improvements

In the solar cells, it is necessary to transmit the sunlight that hits the cell surface to the c-Si layer, the energy generation layer, with as little energy loss as possible. Moreover, it is necessary to collect the generated electricity with as little resistance loss as possible. Now, SANYO has succeeded in reducing the optical absorption loss in the a-Si and transparent conductive layers, thereby minimizing both the optical and electrical losses.

(3) Greater module efficiency: Anti-reflection glass

Through the new adoption of anti-reflection glass for the new modules, SANYO has reduced light reflection and scattering.

III. Main Features

(1) World's highest-level module energy conversion efficiency (17.4%)

Further efficiency improvement has been achieved for SANYO's proprietary HIT® solar cells. As a result, installations can now achieve higher output capacities within the limited installation space. This offers advantages especially for users in European countries with a FIT system where the electricity generated by solar modules is purchased by electricity companies.

(2) Superior temperature characteristics means higher annual electrical output

The new models will offer the same superior level of temperature characteristics as the current HIT® solar cells. With conventional solar cells, electrical output declines along with the rise in external temperature. Thanks to its superior temperature characteristics, HIT® solar cells do not lose as much output even under high temperatures, providing a high output even in the hot summer. As a result, a higher electrical output can be obtained.

(3) Improved effectiveness in the morning and evening when the sun is low

Anti-reflection glass helps to increase module energy conversion efficiency throughout the day. During the morning and evening however, when the sun is low in the sky, more sunlight is reflected off the surface of the glass. Therefore, the benefit of this glass is especially great at these

times, helping to increase the overall electrical output of the module.

In a SANYO comparison of new and current models during the months of June and July, the anti-reflection glass PV system provided about a 4% increase in output.

IV. Main Specifications

Product	Photovoltaic Module	
Product No.	HIT-N220E01	HIT-N215E01
Output	220W	215W
Module efficiency	17.4%	17.1%
Maximum output operating voltage	41.6V	40.9V
Maximum output operating current	5.31A	5.27A
Module dimensions	1,580 x 798 x 35mm	
Weight	15kg	

For inquiries concerning this product contact:
SANYO Component Europe GmbH
Stahlgruberring 4, 81829 Munich, Germany
Email: info.solar@sanyo-solar.eu
Web: www.sanyo-component.eu