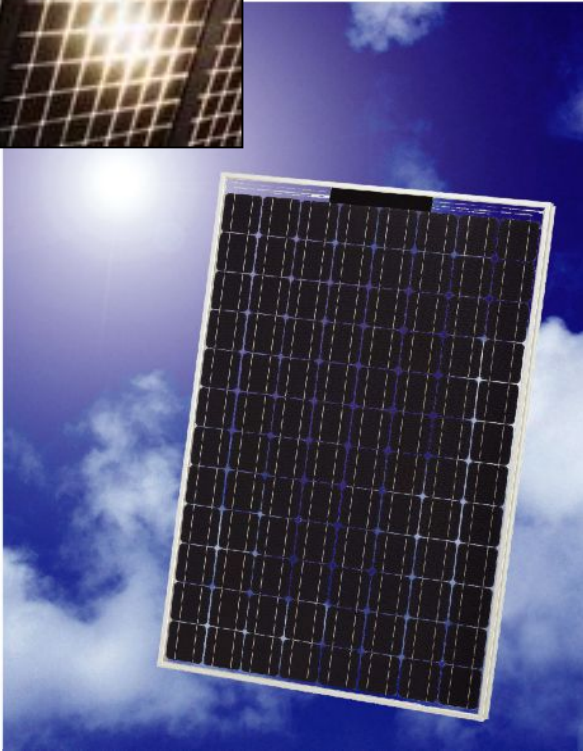


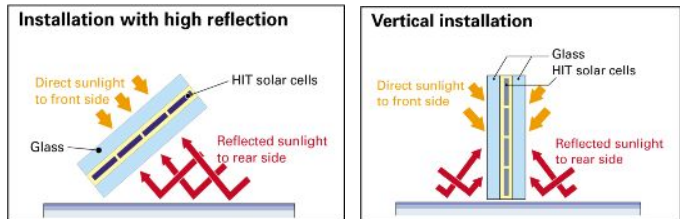


## HIT Double™ BIFACIAL PHOTOVOLTAIC MODULES



### Proprietary Technology

SANYO HIT (Heterojunction with Intrinsic Thin layer) bifacial solar cells are hybrids of single crystalline silicon surrounded by ultra-thin amorphous silicon layers.



### Power from Both Sides Simultaneously

Increased power generation compared to our conventional single-sided HIT panels at any angle and any direction. In vertical installations, faced south, power generation is increased 34% (see chart on back). The back side of the panel generates electricity (kWh) from ambient light that has passed through the panel or is reflected off surrounding surfaces.

**High Efficiency** - SANYO HIT Double solar panels are a leader in cell and module efficiency. With models up to 190 Watts (18.8% cell efficiency) you obtain maximum power within a fixed amount of space. And, depending on your installation design and location albedo, HIT Double panels can capture additional back side ambient light, and can increase your system performance by an additional 10% (or more). You save costs using fewer support materials, wiring, and spend less time installing. These powerful panels are ideal for grid-connected solar systems, areas with performance-based incentives and renewable energy credits.

**Temperature Attributes** - As temperatures rise, SANYO HIT Double solar panels produce more electricity than conventional crystalline silicon solar panels at the same temperature.

**Unique Structure** - SANYO HIT Double solar panels are a double-glass structure with aesthetics that allow brilliant light and shadows to shine thru the panels. The panels have a silver anodized double-wall 60mm depth aluminum frame. The panels come pre-equipped with a touch-safe junction box, lead wires, MC™ plug-n-play connectors, and a unique mounting lip, all of which help to minimize support structure materials, installation time and costs.

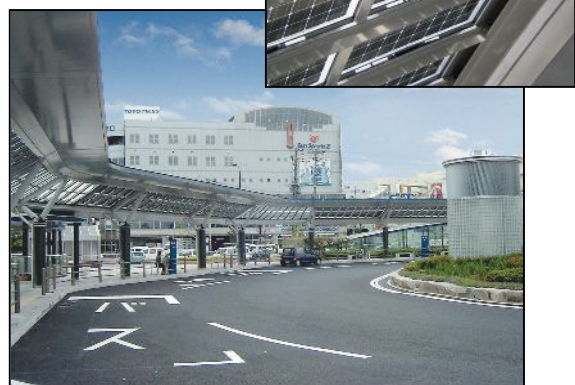
### Valuable Features

SANYO HIT Double solar panels have no moving parts and weigh 50.7 pounds. The panels are 100% emission and noise free. The panels come with a 20-year Limited Power Output Warranty and a 2-year Limited Product Workmanship Warranty. The panels are UL 1703 safety rated for for wind, hail, and fire—**Class A**. A unique eco-package minimizes cardboard waste at the job site.

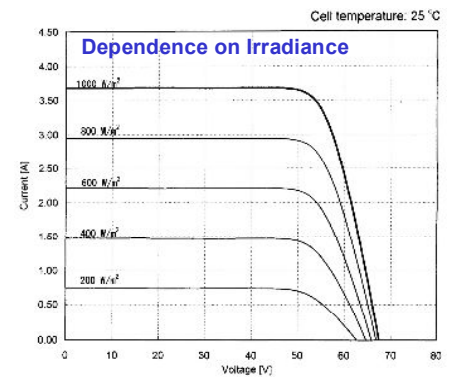
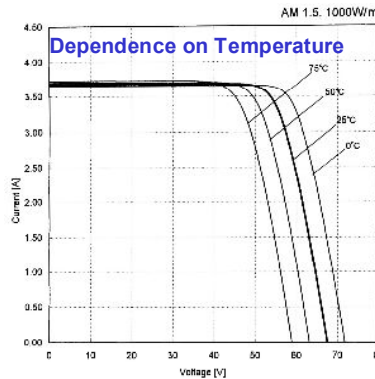
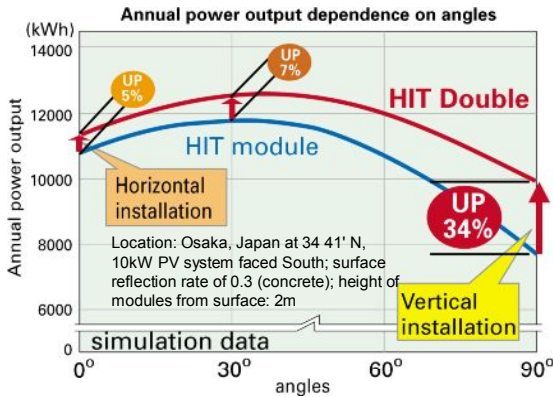
### Quality, Ratings, Reliability

SANYO's silicon wafers are manufactured in the USA, and the panels are assembled in Mexico. All SANYO solar factories in North America are ISO 9001 and 14001 certified. The panels undergo strict inspections to ensure electrical, mechanical, environmental, and visual compliance. SANYO's conservative model ratings give you more kWh per rated kW, and assist to more accurately predict performance and economics for customers.

Example  
Bus Stop Shelter



# Models HIP-186DA1 & HIP-190DA1



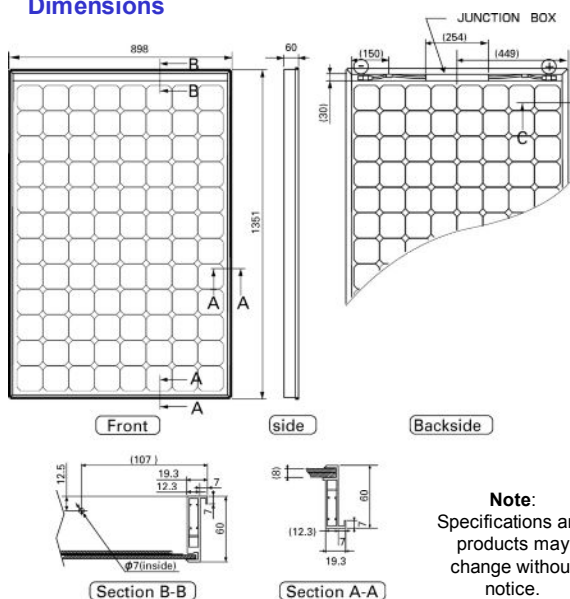
**Special Note:** These bifacial panel's "Rated Power" is measured at Standard Test Conditions (STC). **STC does not include the bifacial effect of the panels. Therefore, these panels may produce 110% (or more) of their STC rating, depending on installation design, and your location's albedo—reflectance rate.**

To maximize power output of the back side, elevate panels above a surface to maximize the amount of ambient light available beneath the panel. Surfaces with lighter colors will reflect more light, and help make more power. Support structures or rails should not directly cross the back face of the panels.

## Application Possibilities

Architectural	BIPV	Ground Mounts
Awnings	Canopies	Siding
Bus Stop Shelters	Carports	Trellises
Balconies	Facades	Tracking Systems
Deck & Porch Coverings	Fences	Vertical Installations

## Dimensions



**Note:** Specifications and products may change without notice.

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## Electrical Specifications

		186	190
Rated Power (Pmax) <sup>1</sup>	W	186	190
Maximum Power Voltage (Vpm)	V	54.8	55.3
Maximum Power Current (Ipm)	A	3.40	3.44
Open Circuit Voltage (Voc)	V	67.5	68.1
Short Circuit Current (Isc)	A	3.68	3.70
Minimum Power (Pmin)	W	176.7	180.5
Maximum System Voltage (Vsys)	V	600	600
Series Fuse Rating	A	15	15
Temperature Coefficient (Pmax)	%/°C	-0.30	-0.30
Temperature Coefficient (Voc)	V/°C	-0.168	-0.170
Temperature Coefficient (Isc)	mA/°C	0.85	0.85
Electrical Tolerance	%	+10/-5	+10/-5
Back Side Output (reference)	W	130	133
Cell Efficiency	%	18.4	18.8
Module Efficiency	%	15.3	15.7
Power per Square Foot	W	14.2	14.6

## Mechanical Specifications

Internal Bypass Diodes	No.	4	4
Module Area	Ft <sup>2</sup>	13.06	13.06
Weight	Lbs.	50.7	50.7
NOCT (°C)	°C	44.2	44.2
Dimensions LxWxH		53.2 x 35.35 x 2.36in	
Cable Length -Male/+Female		39.37in / 39.37in	
Cable Size / Connector Type		No.12 AWG / MC <sup>TM</sup>	
Static Load Wind / Snow		50PSF / 39PSF	
Pallet Dimensions LxWxH		54.3 x 36 x 70.1in	
Full Pallet Quantity / Weight		20pcs / 1466.1 Lbs.	
Quantity per 20'/40'/53' Container		200 / 420 / 540pcs	

## SOC and Safety Ratings

SOC Temperature	-4°F to 104°F <sup>2</sup>
SOC Relative Humidity	45% to 95%
Hail Safety Impact Velocity	1" hailstone at 52mph
Fire Safety Classification	<b>Class A</b>
Safety & Rating Certifications	UL 1703, cUL, CEC
Limited Warranties	2 Years / 20 Years

<sup>1</sup>STC: Cell Temp. 25°C, AM 1.5, 1000 W/m<sup>2</sup>.

<sup>2</sup>Lower and upper temperature range defined as: monthly average high, and monthly average low, of the location.

Visit [www.sanyo.com](http://www.sanyo.com) or contact an Authorized Representative for more information.

**CAUTION!** Read the operating instructions carefully before use of products.