# **HD HYUNDAI SOLAR MODULE**



# HeteroMa<sup>™</sup> **Premium N-Type HJT module**

HiT-H580~600OI





**Applications** 



In Low Light







## **High Efficiency with HJT Technology**

HJT (Heterojunction Technolgy) cells with excellent light absorption and passivation effects can increase module efficiency compared to TOPCon and PERC modules.





## **Enhanced Power** Generation with low Temp. Coefficient

Low temperature coefficient (-0.26%/°C) enables modules to generate more electricity than PERC & TOPCon modules in high temperature environments which allows the perfect suitability for rooftop installation with large temperature fluctuations.



### **Certified Test Labs**



## Long-Term Reliability

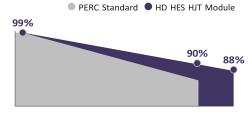
Hetero $Max^{TM}$  is a durable and high-yield





HJT's natural bifacial symmetrical structure brings higher bifaciality up to 90% and generates approximately 2%-4% higher power than bifacial PERC Cells.

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## **HD Hyundai's Warranty Provisions**

15-Year Product Warranty

· Materials and workmanship

100%

95

90

• 30- Year Performance Warranty

· First year degradation: 1%

 $\cdot\,$  Linear warranty after second year:  $^{80\%}$ 

with 0.375%p annual degradation, 0 5 10 15 20 25

88% is guaranteed up to 30 years \* Refer to HD HES standard warranty for details. **Certification** 

product with an N-type wafer that eliminates LID. It uses a TCO film and features a doubleglass design to prevent internal material corrosion.



#### HD HYUNDAI

HD Hyundai Energy Solutions, Global brand with powerful financial strength, offers a 30year warranty and comprehensive customer after-sales service.

Dimensions	2,278 mm (L) x 1,134 mm (W) x 30 mm (H)
Weight	32 kg
Solar Cells	N-Type HJT, 182mm x 91.75mm, 144 cells
Output Cables	Cable: (+)1,200 mm, (-)1,200mm / 4mm² / UV resistant Connector: Stäubli MC4 original
Junction Box	IP68
Construction	Front Glass : anti-reflective solar glass, 2mm Rear Glass : solar glass, 2mm
Frame	Anodized aluminum alloy

#### **About HD Hyundai Energy Solutions**

Established in 1972, HD Hyundai Group is one of the most trusted names in the heavy industries sector and is a Fortune 500 company. As a global leader and innovator, HD Hyundai is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

As a core energy business entity of HD Hyundai, HD Hyundai Energy Solutions has strong pride in providing high-quality PV products to more than 3,000 customers worldwide.

## **Mechanical Characteristics**

Container Size	40	Modules
Pallets Per Container	20	Modules (pcs)

## **Shipping Configurations**

Electrical Characteristics (STC*)		HiT-HxxxOI				
		580	585	590	595	600
Nominal Output (Pmpp)	W	580	585	590	595	600
Open Circuit Voltage (Voc)	V	53.92	54.12	54.31	54.50	54.70
Short Circuit Current (Isc)	А	13.35	13.40	13.45	13.50	13.55
Voltage at Pmax (Vmpp)	V	45.00	45.21	45.42	45.63	45.84
Current at Pmax (Impp)	А	12.89	12.94	12.99	13.04	13.09
Module Efficiency	%	22.45	22.65	22.84	23.03	23.23
Maximum System Voltage	V			DC 1,500V (IEC)		
Temperature Coefficient of Pmax	%/°C			-0.26		
Temperature Coefficient of Voc	%/°C			-0.24		
Temperature Coefficient of Isc	%/°C			0.04		
Bificiality	-			85% ± 5%		
			*STC : Irradiance 1,0	000 W/m², cell temperature 2		of Pmpp 0~+3%; Voc ±3% Sorting Tolerance: 0~+5V
STC**		580	585	590	595	600

					100 20 70 1 0 000	Corting Toloranoc. C . CVV
BSTC**		580	585	590	595	600
Nominal Output (Pmpp)	W	640	645	650	655	660
Voltage at Pmax (Vmpp)	V	45.00	45.21	45.42	45.63	45.84
Current at Pmax (Impp)	А	14.23	14.27	14.32	14.36	14.40
Open Circuit Voltage (Voc)	V	53.92	54.12	54.31	54.50	54.70
Short Circuit Current (Isc)	А	14.73	14.77	14.82	14.86	14.91

\*\*BSTC : Front side Irradiance 1,000 W/m², back side reflection irradiation 135 W/m², AM=1.5, Ambient temperature 25°C.







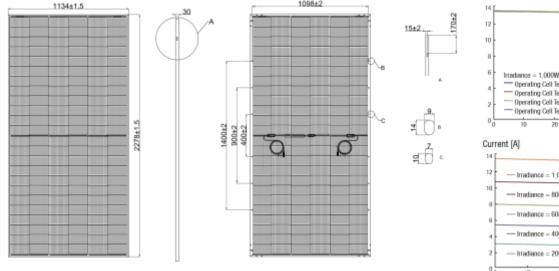
## Module Diagram (unit : mm) Installation Safety Guide

- $\bullet \ \ \text{Only qualified personnel should install or perform maintenance}.$
- $\boldsymbol{\cdot}$  Be aware of dangerous high DC voltage.
- $\boldsymbol{\cdot}$  Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal	44°C ± 2°C
Operating Cell	
Temp. (NOCT)	
Operating	-40°C ~ +85°C
Temperature	
Maximum	DC 1,500V (IEC)
System Voltage	
Maximum	25A
Reverse Current	
Maximum	Front 5,400 Pa
Test Load	Rear 2,400 Pa
Fire Rating Class	С

## I-V Curves (HiT-H590OI)

Current [A]



Manufactured in China



HD HYUNDAI ENERGY SOLUTIONS