

HD HYUNDAI SOLAR MODULE

MF
SERIES

HeteroMax™
Premium N-Type HJT module

HiT-H430~450MF-FB



High-End Heterojunction Technology



Full Black Design for Home roof



More Power Generation In Low Light

KOREA

Designed in Korea

30
YEAR

Product & Performance Warranty



High Efficiency with HJT Technology

HJT (Heterojunction Technology) 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 ($-0.26\%/^{\circ}\text{C}$) 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.



Long-Term Reliability

HeteroMax™ feature a double-glass design that shows the best moisture resistance. It enhances waterproof performance and ensures durability and reliability in diverse environments.



No LID/PID

HJT cells based on n-type silicon wafer result in no LID (light induced degradation) and the use of TCO film enables no PID (potential induced degradation) guaranteeing more energy and profitability.



Certified Test Labs

HD Hyundai's R&D center is an accredited test laboratory of UL, international certification institutions, and guarantees the best quality in the world through rigorous product testing.



Reliable Warranty

HD HYUNDAI

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

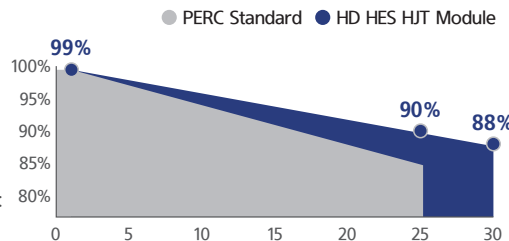
HD Hyundai's Warranty Provisions

30
YEARS

30-Year Product Warranty
· Materials and workmanship

30
YEARS

30-Year Performance Warranty
· First year degradation: 1%
· Linear warranty after second year: with **0.375%** annual degradation, 88% is guaranteed up to 30 years



*Refer to HD HES standard warranty for details.

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.

Certification



Electrical Characteristics (STC*)

		HiT-HxxxMF-FB				
		430	435	440	445	450
Nominal Output (P _{mpp})	W	430	435	440	445	450
Open Circuit Voltage (V _{oc})	V	41.37	41.64	41.91	42.18	42.44
Short Circuit Current (I _{sc})	A	12.95	13.00	13.05	13.10	13.15
Voltage at P _{max} (V _{mpp})	V	34.60	34.86	35.12	35.38	35.63
Current at P _{max} (I _{mp})	A	12.43	12.48	12.53	12.58	12.63
Module Efficiency	%	22.02	22.28	22.53	22.79	23.04
Maximum System Voltage	V	DC 1,500V (IEC)				
Temperature Coefficient of P _{max}	%/°C	-0.26				
Temperature Coefficient of V _{oc}	%/°C	-0.24				
Temperature Coefficient of I _{sc}	%/°C	0.04				

*STC : Irradiance 1,000 W/m², cell temperature 25°C, AM=1.5 / Measurement tolerances P_{mpp} ±3%; V_{oc} ±3%; I_{sc} ±5%

NOCT**

		430	435	440	445	450
Nominal Output (P _{mpp})	W	327	331	335	338	342
Voltage at P _{max} (V _{mpp})	V	32.64	32.91	33.17	33.34	33.60
Current at P _{max} (I _{mp})	A	10.02	10.06	10.10	10.14	10.18
Open Circuit Voltage (V _{oc})	V	39.48	39.74	40.00	40.26	40.50
Short Circuit Current (I _{sc})	A	10.44	10.48	10.52	10.56	10.60

**NOCT : Irradiance 800 W/m², Ambient temperature 20°C, Wind Speed 1 m/s.

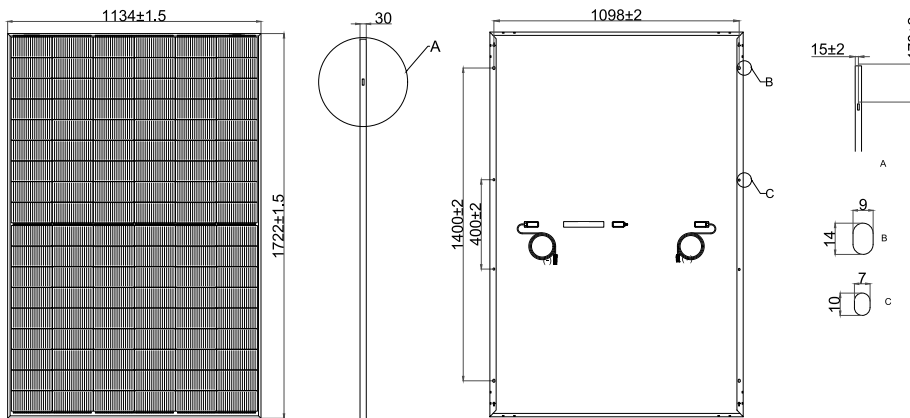
Mechanical Characteristics

Dimensions	1,722 mm (L) x 1,134 mm (W) x 30 mm (H)
Weight	22 kg
Solar Cells	N-Type HJT, 182mm x 91.75mm, 108 cells
Output Cables	Cable : (+)1,200 mm, (-)1,200mm / 4mm ² / UV resistant Connector : Stäubli MC4-Evo2
Junction Box	IP68
Construction	Front Glass : anti-reflective solar glass, 1.6mm Rear Glass : solar glass, 1.6mm
Frame	Anodized aluminum alloy

Shipping Configurations

Container Size	40	Modules Per Pallet (pcs)	36
Pallets Per Container	26	Modules Per Container (pcs)	936

Module Diagram (unit : mm)

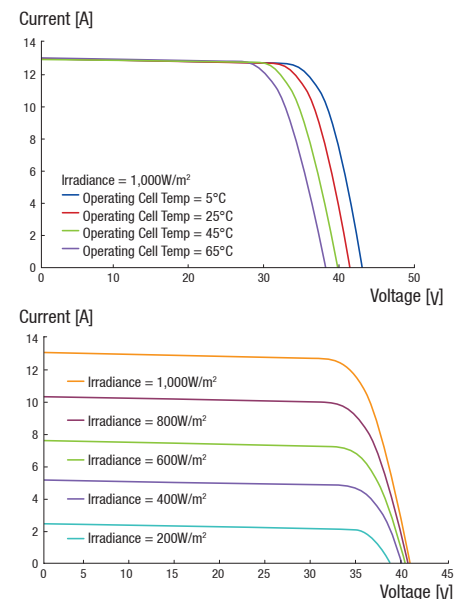


Installation Safety Guide

- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

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

I-V Curves (HiT-H430MF-FB)



Hyundai Limited Warranty for PV Modules ("Limited Warranty")

Valid from June 1st, 2023

This limited warranty ("Limited Warranty") is provided by HD Hyundai Energy Solutions Co., Ltd. ("HYUNDAI") in regards to the photovoltaic modules ("MODULE(S)") supplied to the original end customer and subsequent owners at the original installation site (collectively referred to as "CUSTOMER"). The Warranties defined herein apply only to the MODULES which (a) are sold directly by HYUNDAI or through one of its authorized local distributors and (b) have a legible HD Hyundai Energy Solutions Co., Ltd. logo and product serial number. The start date for all of the following warranties is the earlier of either: (i) the date of initial delivery to the CUSTOMER; or (ii) six (6) months after the dispatch of the MODULES from HYUNDAI's factory or warehouse ("Warranty Start Date"). HYUNDAI reserves right to revise the terms of this Limited Warranty without prior notice.

This Limited Warranty shall apply to the following Products :

- HiT-HxxxOF-BF (xxx = 410-450, in increment of 5)
- HiT-HxxxOF-BFT (xxx = 420-440, in increment of 5)
- HiT-HxxxMF-FB (xxx = 425-445, in increment of 5)
- HiT-HxxxOF-FB (xxx = 420-440, in increment of 5)

1. Product Warranty

HYUNDAI warrants to the CUSTOMER that the MODULES supplied shall, for the duration of thirty (30) years from the Warranty Start Date ("Product Warranty Period"), be free from defects in materials and workmanship under normal application, installation, use, and service conditions. If the MODULES fail to conform to this warranty during this Product Warranty Period, HYUNDAI will at its sole option, and subject to the terms of this Limited Warranty, remedy the defect by one of the following options: (a) repairing or replacing the defective MODULES; or (b) refunding the purchase price paid to HYUNDAI for the MODULE(S) (the "Purchase Price") while taking into account an annual depreciation of 3.3% of the Purchase Price; or (c) refunding the current market price of an equivalent MODULE at the time of the claim. The remedies set forth in this paragraph shall be the sole and exclusive remedy available to the CUSTOMER for any product defect, and shall not be available beyond the Product Warranty Period for any reason whatsoever.

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2. Performance Warranty

- A. HYUNDAI warrants to the CUSTOMER that for a period of one (1) year from Warranty Start Date the actual power output of the MODULES will be no less than 99% of the Nominal Power* at STC**, as specified on the date of sale in HYUNDAI's product datasheet. From the second year, the actual power output will decline annually by no more than 0.375%p for a period of remaining twenty-nine (29) years, so that by the end of the thirty (30th) year, an actual output of at least 88% of the Nominal Power* at STC**, as specified on the date of sale in HYUNDAI's product datasheet will be achieved.
- If the MODULES fail to reach the guaranteed power output levels set out above provided that such loss in power is verified and agreed by HYUNDAI, HYUNDAI will replace such loss in power, at its sole and absolute discretion, by either: (a) providing to the CUSTOMER additional MODULES to make up for such loss in power; or (b) repairing or replacing the defective MODULES; or (c) refunding the purchase price paid to HYUNDAI for the MODULE(S) (the "Purchase Price") while taking into account an annual depreciation of 3.3% of the Purchase Price; or (d) refunding the loss in power multiplied by the current market price of an equivalent MODULE at the time of the claim.
- B. The remedies set forth in this clause shall be the sole and exclusive remedies provided for any verified failure of the MODULES to reach the guaranteed power output levels set forth in Paragraph A above, and no other remedies shall be available beyond those specified in Paragraph A for any reason whatsoever.

3. Exclusions and Limitations

- A. A warranty claim under any of the foregoing Warranties must be filed within the applicable warranty period. For the avoidance of doubt, HYUNDAI shall not be liable for any warranty claims filed after the expiration of the MODULE's warranty period stipulated in clause 1 and clause 2 of this Limited Warranty.
- B. The Warranties do not apply to any MODULE, which in HYUNDAI's sole and absolute judgment, has been subjected to:
- (a) Damage and/or failure caused by use on anything other than a fixed building or installation that is specified in the MODULE's specification, installation manuals, operations manuals or labels as appropriate for installation of the MODULES. Damage and/or failure caused by use on a mobile unit including, but not limited to, vehicles, vessels, or any other mobile device or machine is excluded;
 - (b) Damage and/or failure caused by non-compliance with any applicable statute, regulation, code, or other governing law or rule;
 - (c) Damage and/or failure caused by installation of a MODULE not in conformance with the MODULE(s) specifications, installation manuals, and operation manuals, or labels (referred to collectively hereafter as "Non-Conforming") attached to the MODULE(s);
 - (d) Damage and/or failure caused by improper or Non-Conforming wiring, installation, or handling;

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- (e) Damage and/or failure caused by devices and/or parts other than the MODULE(s) or by mounting methods of such devices and/or parts;
- (f) Damage and/or failure caused by improper, Non-Conforming, or incorrectly performed maintenance, operation or modification;
- (g) MODULE(s) that have been moved from the original place of installation;
- (h) Damage and/or failure caused by repairs not in accordance with HYUNDAI's instructions or specifications, installation manuals, operations manuals or labels;
- (i) Damage and/or failure caused by Non-Conforming or inappropriate handling during storage, packaging or transportation; without limitation including damage caused by improper or Non-Conforming treatment, overloading, electro-chemical or electrical influences, or any other actions or circumstances that may occur through no fault of HYUNDAI;
- (j) Damage and/or failure caused by external shock such as flying objects or external stress, including but not limited to electro-magnetic pulses, sonic booms, or objects striking or colliding with the MODULEs;
- (k) Damage and/or failure caused by direct contact with environmental pollution including but not limited to soot, blowing sand, particulate matter or pollution of any kind in the air, soil or water, mold, biological infestations, acid rain/snow or industrial chemicals including ammonia;
- (l) Damage and/or failure caused by direct contact with salt water, including but not limited to sea spray or sea breezes carrying salt water;
- (m) Damage and/or failure caused by acts of God, natural forces (earthquakes, tornados, floods, lightning, hurricanes, heavy snow, hail, etc.) and fire, power failures, power surges or other unforeseen circumstances that are beyond HYUNDAI's control;
- (n) Damage and/or failure caused by terrorist acts, riots, war or other man-made disasters;
- (o) External stains or scratches on a MODULE that do not affect performance of the MODULE;
- (p) Damage and/or failure caused by sound, vibration, rust, scratching, or discoloration of cells or MODULES that is the result of normal wear and tear, aging or continuous use;
- (q) Damage and/or failure caused by MODULE(s) installed in a location other than one specified in the MODULE's specifications, installation manuals, operations manuals or labels, or which exceeds operating conditions of HYUNDAI's installation manual;
- (r) Repair or modifications by someone other than an approved service technician of HYUNDAI; and/or
- (s) The serial number or MODULE label has been removed, changed, deleted or made unrecognizable.

C. The Product Warranty and Performance Warranty shall be applied exclusively of one another. HYUNDAI, at its sole discretion, which shall be exercised reasonably by HYUNDAI, will decide whether the cause of the claim is reasonably covered by the Product Warranty or the Performance Warranty.

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- D. HYUNDAI will decide, at its sole and absolute option, whether to collect replaced MODULES or not. In cases where HYUNDAI decides to collect all or some of the replaced MODULES, HYUNDAI will cover shipping costs for returning the MODULES. In cases where HYUNDAI decides not to collect any replaced MODULES, HYUNDAI will not cover any shipping costs for returning the MODULES. HYUNDAI will cover reasonable cost of transportation to the relevant area for repair or replacement of defective MODULES, but after that, the cost of transportation (insurance, any taxes, duties, demurrages, or any other costs and expenses related to custom clearance or CUSTOMER's failure to cooperate) and replacement (installation, removal, reinstallation, etc.) must be paid by the CUSTOMER. If the collected MODULES are found not to be covered under these Warranties at HYUNDAI's sole and absolute judgement, CUSTOMER is obliged to cover all associated shipping and transportation costs mentioned above.
- E. In any Case, HYUNDAI will not cover any of the costs associated with the installation, removal, reinstallation, discarding or packaging of the MODULES.
- F. Under no circumstances shall HYUNDAI be liable for incidental, consequential or special damages, howsoever caused. Loss of use, loss of profits, loss of production, and loss of revenues are specifically and without limitation excluded.
- G. In the event that any model or make of MODULES for which a claim is made under either of the foregoing Warranties have been discontinued or materially altered, HYUNDAI reserves the right to replace the MODULES with any other module type that may be different in output, size, color or material, provided that the replacement MODULES generate the equivalent amount of energy as the original MODULES at the time of replacement.
- H. Any repaired or replaced MODULES under these Warranties will hold only the remaining warranty period applicable to the original MODULES.
- I. The Warranties provided under this Limited Warranty shall only extend to MODULES that have been installed within the sales area.
- J. Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

4. Severability/Assignment

If any court or competent authority finds any clause or portion of any clause of this Limited Warranty invalid, illegal, or unenforceable, that portion will be deemed to be voided only to the extent required, and the validity and enforceability of the rest of the Limited Warranty shall not be affected. Except to the extent expressly permitted herein, this Limited Warranty shall not be assigned or transferred by Customer, and any attempt to assign or transfer in violation of this paragraph shall be null and void. HYUNDAI expressly reserves the right to novate or assign its rights and obligations under this Limited Warranty to a third party with

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the demonstrated expertise and requisite resources needed to effectively discharge the obligations hereunder.

5. Assertion of Claims

In order to assert a claim under this Limited Warranty, CUSTOMER must (i) inform our MODULE's authorized reseller/distributor in writing of the alleged claim; or (ii) send written notification directly to HYUNDAI in the event that the authorized reseller/distributor no longer exists (e.g. due to discontinuance of business or bankruptcy). In Support of any such warranty claim, CUSTOMER must submit the original sales receipt or invoice as proof of purchase and time of purchase of the HYUNDAI MODULES(s), including the serial and model numbers, together with all other evidence supporting the claim. The assertion of the claim must occur no later than fourteen (14) days from the date that the defects occurred. The return of MODULE(s) to HYUNDAI may only occur after the written authorization of HYUNDAI has been given.

All notices intended for HYUNDAI should be addressed to:

Address: 477, Bundangseo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do 13553,
Korea

An electronic copy of the claim material should also be sent to: eng.hd-hyundaies.co.kr

6. Force Majeure

HYUNDAI shall bear no responsibility or liability for the non-performance or delay of any duties or obligations arising out of this Limited Warranty due to acts of God, natural forces (earthquakes, tsunamis, tornadoes, floods, lightning, hurricanes, heavy snow, hail, etc.) and fire, power failures, power surges or other unforeseen circumstances that are beyond HYUNDAI's control, as well as damage and/or failure caused by terrorist acts, riots, war or other man-made disasters or events including strikes, civil unrest, industrial disputes, government instability, epidemics, pandemics, or any other event outside HYUNDAI's control that is not reasonably known or anticipated at the time of sale of the MODULES.

7. Liability

THE FOREGOING WARRANTIES AND REMEDIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES, REPRESENTATIONS, OR CONDITIONS, EXPRESS OR IMPLIED, EITHER IN FACT OR BY OPERATION OF LAW, STATUTORY OR OTHERWISE, INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY, NONINFRINGEMENT, AND FITNESS FOR A PARTICULAR PURPOSE. HYUNDAI NEITHER ASSUMES NOR AUTHORIZES ANY OTHER PERSON TO ASSUME FOR IT ANY OTHER LIABILITY IN

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CONNECTION WITH THE SALE, INSTALLATION, MAINTENANCE, OR USE OF THE GOODS. HYUNDAI SHALL BEAR NO RESPONSIBILITY OR LIABILITY WHATSOEVER FOR ANY DAMAGE OR INJURY TO PERSONS OR PROPERTY, OR FOR ANY OTHER LOSS OR INJURY RESULTING FROM ANY CAUSE WHATSOEVER ARISING OUT OF OR RELATED TO THE NEGLIGENT USE, MISUSE OR NEGLIGENT INSTALLATION OF THE MODULES. UNDER NO CIRCUMSTANCES SHALL HYUNDAI BE LIABLE FOR DAMAGES IN EXCESS OF THE PURCHASE PRICE OF THE APPLICABLE MODULE(S), NOR FOR ANY INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY, TREBLE, OR SPECIAL DAMAGES, HOWSOEVER CAUSED. DAMAGES FOR LOSS OF USE, LOSS OF PROFITS, LOSS OF PRODUCTION AND LOSS OF REVENUES ARE SPECIFICALLY EXCLUDED.

IF ANY PROVISION OF THIS LIMITED WARRANTY IS HELD UNENFORCEABLE OR ILLEGAL BY A COURT, ARBITRATION TRIBUNAL, OR OTHER BODY OF COMPETENT JURISDICTION, HYUNDAI RESERVES THE RIGHT TO AMEND ANY PROVISION, CLAUSE, OR APPLICATION OF THIS LIMITED WARRANTY TO THE MINIMUM EXTENT REQUIRED TO COMPLY WITH THE LAWS OF SUCH COURT OR OTHER BODY OF COMPETENT JURISDICTION AND ENABLING THE REST OF THIS LIMITED WARRANTY TO CONTINUE IN FULL FORCE AND EFFECT. FURTHERMORE, HYUNDAI SHALL RESERVE THE RIGHT TO AMEND ANY PROVISIONS OF THIS LIMITED WARRANTY FROM TIME TO TIME IN ITS SOLE DISCRETION; HOWEVER, SUCH CHANGE SHALL NOT APPLY RETROSPECTIVELY.

8. Governing Law and Dispute Resolution

- A. All matters arising from or relating to this Limited Warranty shall be governed by the laws of the Republic of Korea, without regard to its choice of law rules. The UN Convention on the International Sales of Goods shall not apply.
- B. For any Dispute arising from or relating to this Limited Warranty or to the MODULES, the parties shall first attempt to resolve the dispute via informal means. If the dispute is not resolved after 60 days of informal settlement discussions, the parties shall submit to the jurisdiction of the Seoul Central District Court in Seoul, Korea as the court of first instance.

****Nominal Power**** is the power in watt peak that a MODULE generates in its maximum power point.

****STC(Standard Test Conditions)**** is as follows: (a) light spectrum of AM 1.5, (b) an irradiation of 1,000 W/m² and (c) a cell temperature of 25 °C. The measurements must be carried out at HYUNDAI or an independent test institute agreed to by HYUNDAI in advance, in accordance with IEC60904 as tested at the junction box connectors per the calibration and testing standards of HYUNDAI. These measurements will be considered valid at the production date of the MODULES with an equipment tolerance of ±3%. HYUNDAI's calibration standards shall be in compliance with the standards applied by institutions accredited for this purpose.

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Product Service

Attestation of Conformity

No. N8A 121862 0002 Rev. 00

Holder of Attestation: **HD HYUNDAI ENERGY SOLUTIONS CO., LTD**
477, Bundangsuseo-ro, Bundang-gu
Seongnam-si, Gyeonggi-do 13553
REPUBLIC OF KOREA

Product: **Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**
Mono-crystalline Silicon Hetero-junction Photovoltaic module

This Attestation of Conformity is issued on a voluntary basis according to the Low Voltage Directive 2014/35/EU relating to electrical equipment designed for use within certain voltage limits. It confirms that the listed equipment complies with the principal protection requirements of the directive and is based on the technical specifications applicable at the time of issuance. It refers only to the particular sample submitted for conformity assessment. For details see: www.tuvsud.com/ps-cert

Test report no.: 704062360301-00

Date, 2023-07-13

(Zhulin Zhang)

Page 1 of 2

This Attestation does not replace the regulatory EU Declaration of Conformity (DoC) and does not allow for CE marking. After preparation of the necessary documentation and establishing compliance to requirements of all applicable directives, the manufacturer may sign a DoC and apply the CE marking. The DoC is issued under the sole responsibility of the manufacturer.





Product Service

Attestation of Conformity

No. N8A 121862 0002 Rev. 00

Model(s):

210 cell modules:
 HiT-HxxxGH(xxx=640 to 720 in step of 5)
 HiT-HxxxGG(xxx=590 to 650 in step of 5)
 HiT-HxxxGM(xxx=540 to 590 in step of 5)

182 cell modules:
 HiT-HxxxOI(xxx=550 to 600 in step of 5)
 HiT-HxxxOF-BF(xxx=410 to 450 in step of 5)
 HiT-HxxxMF-FB(xxx=425 to 445 in step of 5)
 HiT-HxxxOF-BFT(xxx=420 to 440 in step of 5)
 HiT-HxxxOF-FB(xxx=420 to 440 in step of 5)
 xxx stands for rated output power at STC

The corresponding BSTC power range as follows:
 All electrical data is shown as relative to this test conditions:
 front side irradiance 1000 W/m², backside irradiance 135 W/m², 25 °C, AM 1.5

210 cell modules:
 HiT-HxxxGH(BSTC Power range: 710W to 790W in step of 5)
 HiT-HxxxGG(BSTC Power range: 655W to 715W in step of 5)
 HiT-HxxxGM(BSTC Power range: 600W to 650W in step of 5)

182 cell modules:
 HiT-HxxxOI(BSTC Power range: 610W to 660W in step of 5)
 HiT-HxxxOF-BF(BSTC Power range: 455W to 495W in step of 5)
 HiT-HxxxOF-BFT(BSTC Power range: 470W to 490W in step of 5)
 HiT-HxxxOF-FB(BSTC Power range: 465W to 485W in step of 5)

Parameters:

Fire Safety Class:	Class C according to UL790
Safety Class:	Class II
Max. system voltage:	1500V DC
Test Laboratory:	Yangzhou Opto-Electrical Products Testing Institute. No. 10 West Kaifa Road, Yangzhou, 225009 Jiangsu, P. R. China.
Construction:	Framed or Frameless, with Junction box, cable and connector.

Tested according to:

EN IEC 61730-1:2018
 EN IEC 61730-1:2018/AC:2018-06
 EN IEC 61730-2:2018
 EN IEC 61730-2:2018/AC:2018-06

Page 2 of 2

This Attestation does not replace the regulatory EU Declaration of Conformity (DoC) and does not allow for CE marking. After preparation of the necessary documentation and establishing compliance to requirements of all applicable directives, the manufacturer may sign a DoC and apply the CE marking. The DoC is issued under the sole responsibility of the manufacturer.





Product Service

CERTIFICATE

No. Z2 121862 0001 Rev. 00

Holder of Certificate: **HD HYUNDAI ENERGY SOLUTIONS CO., LTD**
477, Bundangsuseo-ro, Bundang-gu
Seongnam-si, Gyeonggi-do 13553
REPUBLIC OF KOREA

Certification Mark:



Product: **Crystalline Silicon Terrestrial Photovoltaic (PV) Modules**
Mono-crystalline Silicon Hetero-junction Photovoltaic (PV) Modules

The product was tested on a voluntary basis and complies with the essential requirements. The certification mark shown above can be affixed on the product. It is not permitted to alter the certification mark in any way. In addition, the certification holder must not transfer the certificate to third parties. This certificate is valid until the listed date, unless it is cancelled earlier. All applicable requirements of the testing and certification regulations of TÜV SÜD Group have to be complied. For details see: www.tuvsud.com/ps-cert

Test report no.: 701262316301-00

Valid until: 2024-03-30

Date, 2023-07-13

(Zhulin Zhang)

CERTIFICATE

No. Z2 121862 0001 Rev. 00

Model(s):

210 cell modules:
HiT-HxxxGH(xxx=640 to 720 in step of 5)
HiT-HxxxGG(xxx=590 to 650 in step of 5)
HiT-HxxxGM(xxx=540 to 590 in step of 5)

182 cell modules:
HiT-HxxxOI(xxx=550 to 600 in step of 5)
HiT-HxxxOF-BF(xxx=410 to 450 in step of 5)
HiT-HxxxMF-FB(xxx=425 to 445 in step of 5)
HiT-HxxxOF-BFT(xxx=420 to 440 in step of 5)
HiT-HxxxOF-FB(xxx=420 to 440 in step of 5)
xxx stands for rated output power at STC

The corresponding BSTC power range as follows:
All electrical data is shown as relative to this test conditions:
front side irradiance 1000 W/m², backside irradiance 135 W/m², 25 °C, AM 1.5

210 cell modules:
HiT-HxxxGH(BSTC Power range: 710W to 790W in step of 5)
HiT-HxxxGG(BSTC Power range: 655W to 715W in step of 5)
HiT-HxxxGM(BSTC Power range: 600W to 650W in step of 5)

182 cell modules:
HiT-HxxxOI(BSTC Power range: 610W to 660W in step of 5)
HiT-HxxxOF-BF(BSTC Power range: 455W to 495W in step of 5)
HiT-HxxxOF-BFT(BSTC Power range: 470W to 490W in step of 5)
HiT-HxxxOF-FB(BSTC Power range: 465W to 485W in step of 5)

Parameters:

Construction:	Framed or Frameless, with Junction box, Cable and Connectors.
Safety Class:	Class II
Maximum System Voltage:	1500 V DC
Fire Safety Class:	Class C according to UL790 Yangzhou Opto-Electrical Products Testing Institute.
Test Laboratory:	No. 10 West Kaifa Road, Yangzhou, 225009 Jiangsu, P. R. China.

Tested according to:

IEC 61215-1:2016
IEC 61215-1-1:2016
IEC 61215-2:2016
IEC 61730-1:2016
IEC 61730-2:2016
EN 61215-1:2016
EN 61215-1-1:2016
EN 61215-2:2017
EN IEC 61730-1:2018
EN IEC 61730-1:2018/AC:2018-06
EN IEC 61730-2:2018
EN IEC 61730-2:2018/AC:2018-06