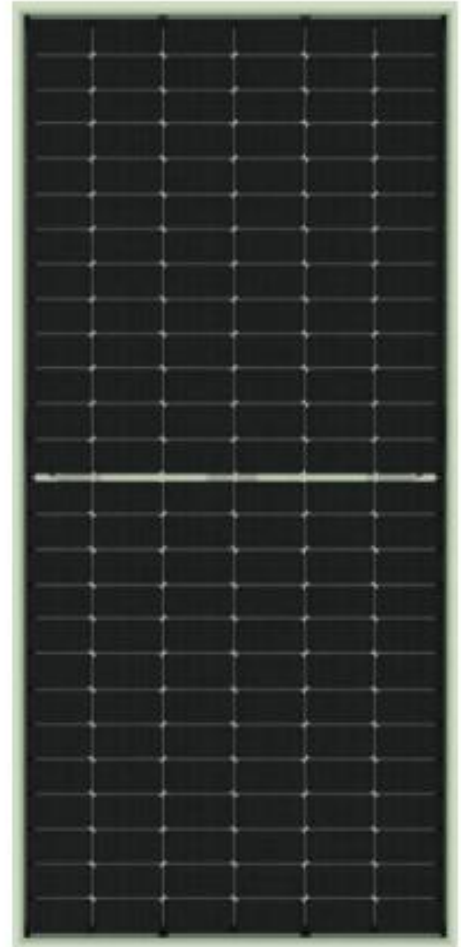




# GEP-HfMcNH Double Glass N-type -MONO-156

635-650W



### N-Technology

N-type modules using Tunnel Oxide Passivating Contacts (TOPCon) technology.



### Bifacial power

Bifacial power generation gain increases with backside exposure to light, significantly reducing LCOE.



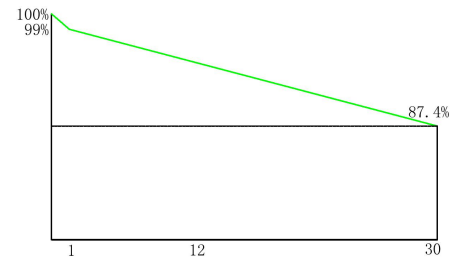
### MBB Technology

Better light trapping and current collection to improve module power output and reliability.



### Load capacity

The complete assembly is certified to a maximum test static load of 5400Pa on the front and 2400Pa on the back.



12-year material workmanship warranty

30-year linear warranty

1% First year power degradation

0.4% Linear power decay

- IEC61215:2021 / IEC61730:2023
- ISO9001:2015: Quality Management System
- ISO14001:2015: Environmental Management System
- ISO45001:2018: Occupational Health and Safety Management System



# GEP-HfMcNH

## MECHANICAL CHARACTERISTICS

Solar Cell	N-type monocrystalline
Number of cells	156 ( 78×2 )
Dimension	2465×1134×30 mm
Weight	34.2 kg
Front Glass	2.0 mm , High-transmittance coated glass
Back Glass	2.0 mm , Half-tempered glass
Frame	Anodized aluminum alloy
Safety Protection Level	Class II
IEC Fire Performance	Class A
Connector type	PV-ZPJ030A
Connector manufacturer	The 40th Institute of China Electronic Technology Group Corporation

## PACKAGING CONFIGURATION

Pallet Dimensions	2495×1130×1251 mm
Packing	40HC: 36pieces per pallet, 16 pallets per truck, 576 pieces per container

## ELECTRICAL SPECIFICATIONS (STC)

Model number	GEP-HfMc635NH	GEP-HfMc640NH	GEP-HfMc645NH	GEP-HfMc650NH
Maximum Power [Pmax /W]	635±3%	640±3%	645±3%	650±3%
Maximum Power Voltage [Vmp/V]	48.51	48.67	48.83	48.99
Maximum Power Cuurent [Imp/A]	13.09	13.15	13.21	13.27
Open-circuit Voltage[Voc /V]	57.02±3%	57.18±3%	57.34±3%	57.50±3%
Short Circuit Current[Isc/A]	14.22±3%	14.28±3%	14.34±3%	14.40±3%
Module efficiency(%)	22.7	22.9	23.1	23.3
Power Tolerance (W)	0 ~ + 5			
Temprature Coefficient (Pmax)	-0.30%/°C			
Temprature Coefficient (Voc)	-0.25%/°C			
Temprature Coefficient (Isc)	0.046%/°C			

## ELECTRICAL SPECIFICATIONS(BNPI)

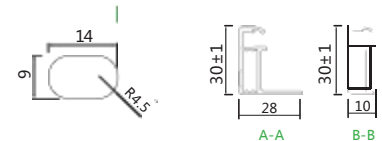
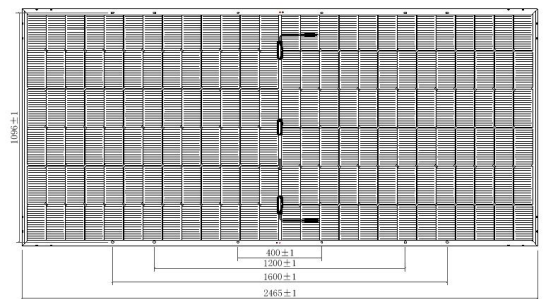
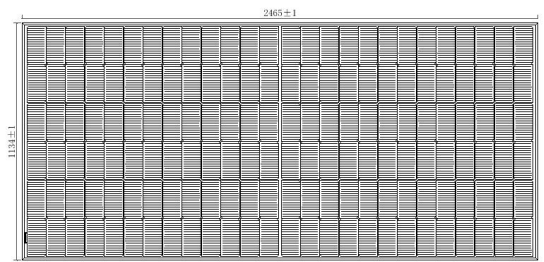
	700±3%	705±3%	710±3%	715±3%
Maximum Power [Pmax /W]				
Open-circuit Voltage[Voc /V]	57.02±3%	57.18±3%	57.34±3%	57.50±3%
Short Circuit Current[Isc/A]	15.64±3%	15.71±3%	15.77±3%	15.84±3%
Bifacial test conditions (BNPI)	Light intensity: front 1000W/m <sup>2</sup> , back 135W/m <sup>2</sup> , ambient temperature 25°C, atmospheric quality 1.5			

## OPERATING PARAMETERS

Operational Temperature	-40°C ~ +85°C(T98max:70°C)
Maximum System Voltage	1500VDC (IEC)
Maximum Series Fuse Rating	30 A
Bifacility	φVoc: 100±3 % , φIsc: 80±5 % , φPmax: 80±5 %

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.

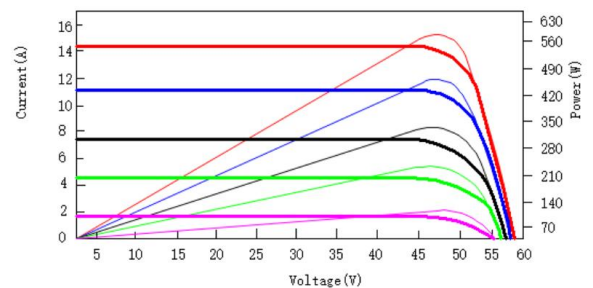
## Dimensions



\*For specific dimensions and tolerance ranges, please refer to the corresponding component drawings.

## Curves

### GEP-HfMc635NH



## BIFACIAL OUTPUT-REARSIDE POWER GAIN

	Maximum Power [Pmax /W]	667±3%	672±3%	677±3%	683±3%
5%	Module efficiency STC(%)	23.9	24.0	24.2	24.4
15%	Maximum Power [Pmax /W]	730±3%	736±3%	742±3%	748±3%
	Module efficiency STC(%)	26.1	26.3	26.5	26.7
25%	Maximum Power [Pmax /W]	794±3%	800±3%	806±3%	813±3%
	Module efficiency STC(%)	28.4	28.6	28.8	29.1

Under Standard Test Conditions (STC) of irradiance of 1000 W/m<sup>2</sup>, spectrum AM 1.5 and celtemperature of 25°C.