

Mono

Bifacial

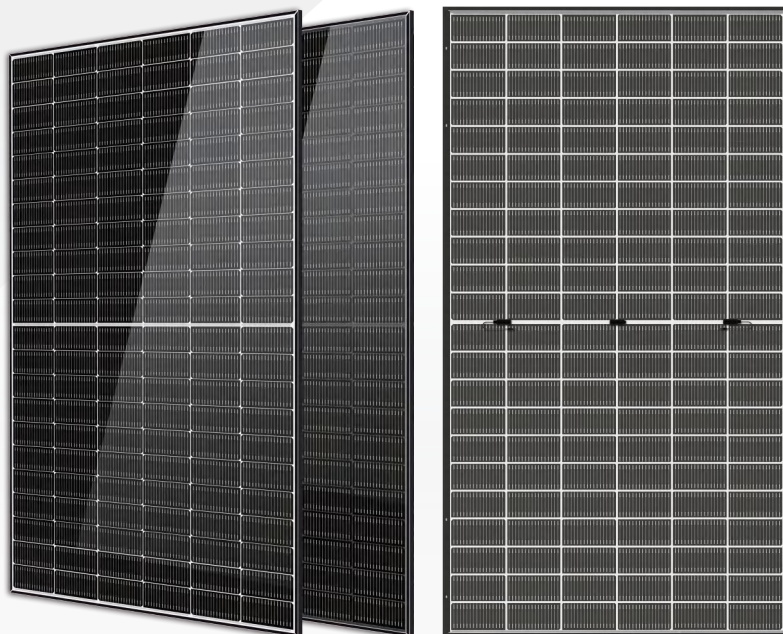
HORAY

TIER1  
BloombergNEF

# Solar Ocean

## 520–540 Watt N-Type MONO-BIFACIAL MODULE

- IEC61215: 2021
- IEC61730: 2023
- TUV Rheinland Standard
- Lloyd's Ariel Re
- Solar Performance Insurance
- ISO9001: 2015
- Quality Management System
- ISO14001:
- Environmental Management System
- CE: Europe Standard
- Inmetro Certificate
- Japan JP-AC
- China Quality Certification Centre
- Solar product certification



### KEY FEATURES



#### SMBB Cell

More uniform current collection capability, reducing the current heat loss of the internal cells.



#### Higher Output Power

The output power of 132 half-cells Monocrystalline modules is up to 540W.



#### Harsh Environmental Adaptability

Strict salt spray and ammonia corrosion test by the third party.



#### Low Light Features

Higher performance under low light environment.



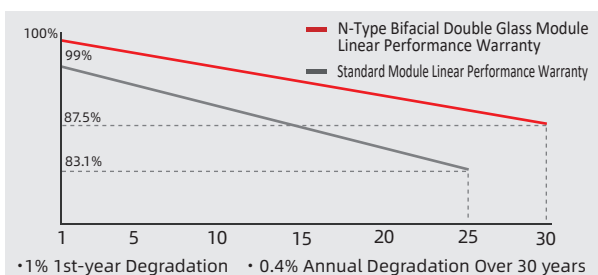
#### LID Free

N-type solar cell has no LID naturally which can increase power generation.



#### Load Capacity

Mechanical load tests including wind load 2400 Pa and snow load 5400 Pa.



HEADQUARTER: HORAY SOLAR CO., LTD.

GLOBAL MARKETING AND SERVICE: HORAY SOLAR GMBH

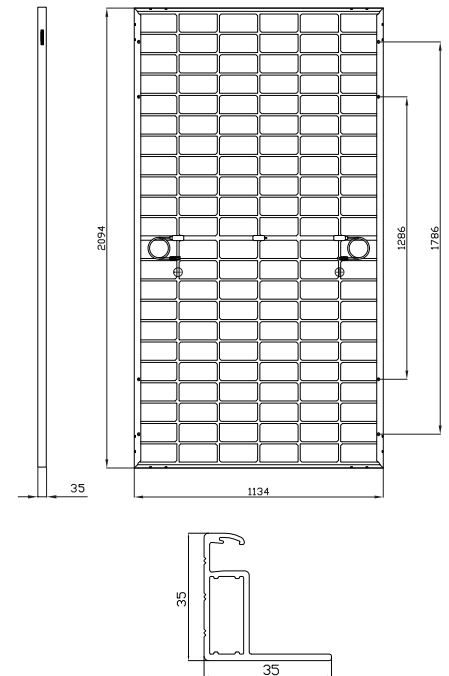
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## SPECIFICATIONS

|                         |                                                                   |
|-------------------------|-------------------------------------------------------------------|
| Weight                  | 29.0kg                                                            |
| Dimension               | 2094mm*1134mm*35mm                                                |
| Cell Dimension          | 182*91mm                                                          |
| Cell Amount             | 66*2 pcs                                                          |
| Maximum System Voltage  | 1500V                                                             |
| Junction Box            | IP68                                                              |
| Type of the front glass | 2.0mm Coated ultra clear glass                                    |
| Type of the back glass  | 2.0mm Heat-strengthened glass                                     |
| Frame                   | Aluminum Alloy                                                    |
| Cable                   | 4mm <sup>2</sup> ,+300,-300mm/±1200mm<br>Length can be customized |
| Connector               | MC4 compatible                                                    |
| Application Level       | Class A                                                           |

## MECHANICAL DIAGRAMS



## ELECTRICAL PARAMETERS AT STC

| Module Type           | HS520TC-MHO-D | HS525TC-MHO-D | HS530TC-MHO-D | HS535TC-MHO-D | HS540TC-MHO-D |
|-----------------------|---------------|---------------|---------------|---------------|---------------|
| Power                 | 520W          | 525W          | 530W          | 535W          | 540W          |
| Open Circuit Voltage  | 47.33V        | 47.57V        | 47.81V        | 48.04V        | 48.27V        |
| Short Circuit Current | 14.10A        | 14.16A        | 14.22A        | 14.29A        | 14.35         |
| Maximum Power Voltage | 39.84V        | 40.04V        | 40.24V        | 40.44V        | 40.64V        |
| Maximum Power Current | 13.05A        | 13.11A        | 13.17A        | 13.23A        | 13.29A        |
| Module Efficiency     | 21.90%        | 22.11%        | 22.32%        | 22.53%        | 22.74%        |

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

## ELECTRICAL PARAMETERS AT BNPI

|                       |        |        |        |        |        |
|-----------------------|--------|--------|--------|--------|--------|
| Power                 | 573W   | 578W   | 584W   | 589W   | 595W   |
| Open Circuit Voltage  | 47.51V | 47.70V | 48.06V | 48.22V | 48.43V |
| Short Circuit Current | 15.51A | 15.58A | 15.64A | 15.72A | 15.78A |
| Maximum Power Voltage | 39.01V | 39.22V | 39.45V | 39.63V | 39.81V |
| Maximum Power Current | 14.69A | 14.75A | 14.83A | 14.89A | 14.96A |

\*Rear side power gain: The additional gain from the rear side compared to the power of the front side at the standard test condition. It depends on mounting (structure,height,tilt angle etc.)and albedo of the ground.

## ELECTRICAL PARAMETERS AT NMOT

|                       |        |        |        |        |        |
|-----------------------|--------|--------|--------|--------|--------|
| Power                 | 396W   | 400W   | 401W   | 408W   | 412W   |
| Open Circuit Voltage  | 44.81V | 45.02V | 45.22V | 45.53V | 45.81V |
| Short Circuit Current | 11.39A | 11.44A | 11.49A | 11.54A | 11.59A |
| Maximum Power Voltage | 36.91V | 37.11V | 37.33V | 37.62V | 37.74V |
| Maximum Power Current | 10.71A | 10.76A | 10.81A | 10.86A | 10.92A |

\* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m<sup>2</sup>, spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

## TEMPERATURE CHARACTERISTICS

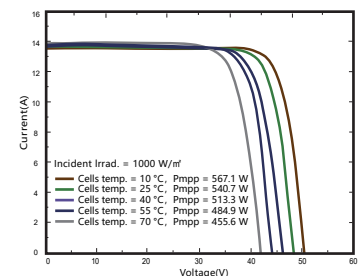
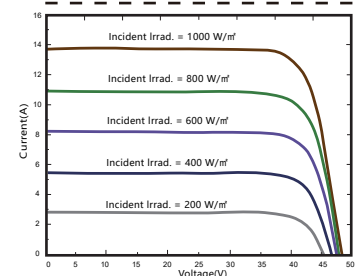
|                          |           |
|--------------------------|-----------|
| NMOT                     | 45±2°C    |
| Temp Coefficient of ISC  | +0.04%/°C |
| Temp Coefficient of VOC  | -0.23%/°C |
| Temp Coefficient of Pmax | -0.28%/°C |

## PACKING CONFIGURATION

|                       |                                         |
|-----------------------|-----------------------------------------|
| Modules/Pallet        | 32 Pieces                               |
| Packaging Description | 22 Pallets, Total=(32+32)x11=704 Pieces |
| Modules/40' Container | 704 Pieces                              |

## CHARACTERISTICS

### HS540TC-MHO-D



## MAXIMUM RATING

|                             |               |
|-----------------------------|---------------|
| Power selection             | 0~+5W         |
| Measuring uncertainty of Pm | 0~±3%         |
| Operating Temperature       | -40°C~+85°C   |
| Wind Load/Snow Load         | 2400pa/5400pa |
| Fuse Current                | 25A           |

15 YEARS

Quality Warranty

30 YEARS

Power Warranty

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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