

# AS-7M144-HC 525W~550W

## MONOCRYSTALLINE MODULE

### ADVANCED PERFORMANCE & PROVEN ADVANTAGES

- High module conversion efficiency up to 21.28% by using innovative Half-cell design and Multi-busbar(MBB) cell technology.
- Low temperature coefficient and excellent performance under high temperature and low light conditions.
- Robust aluminum frame ensures the modules to withstand wind loads up to 2400Pa and snow loads up to 5400Pa.
- High reliability against extreme environmental conditions (passing salt mist, ammonia and hail tests).
- Potential induced degradation (PID) resistance.

### CERTIFICATIONS

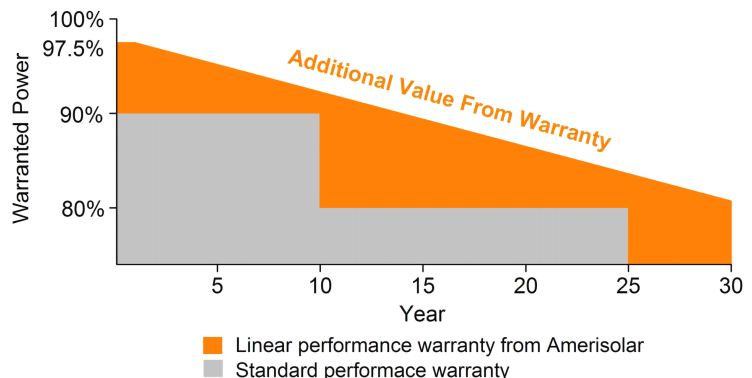
- IEC 61215, IEC 61730, CE
- ISO 9001:2015: Quality management system
- ISO 14001:2015: Environmental management system
- ISO 45001:2018: Occupational health and safety management system



### SPECIAL WARRANTY

- 20 years product warranty
- 30 years linear power output warranty

**Passionately  
committed to  
delivering innovative  
energy solution**



## ELECTRICAL CHARACTERISTICS AT STC

|                                       |   |        |        |        |        |        |
|---------------------------------------|---|--------|--------|--------|--------|--------|
| Maximum Power ( $P_{max}$ )           | 525W  | 530W   | 535W   | 540W   | 545W   | 550W   |
| Open Circuit Voltage ( $V_{OC}$ )     | 49.0V   | 49.2V  | 49.4V  | 49.6V  | 49.8V  | 50.0V  |
| Short Circuit Current ( $I_{SC}$ )    | 13.74A  | 13.78A | 13.82A | 13.86A | 13.90A | 13.94A |
| Voltage at Maximum Power ( $V_{mp}$ ) | 40.8V   | 41.0V  | 41.2V  | 41.4V  | 41.6V  | 41.8V  |
| Current at Maximum Power ( $I_{mp}$ ) | 12.88A  | 12.93A | 12.99A | 13.05A | 13.11A | 13.16A |
| Module Efficiency (%)                 | 20.31   | 20.51  | 20.70  | 20.89  | 21.09  | 21.28  |
| Operating Temperature                 | -40°C to +85°C                                      |        |        |        |        |        |
| Maximum System Voltage                | 1000V DC/1500V DC                                   |        |        |        |        |        |
| Fire Resistance Rating                | Type 1(in accordance with UL1703)/Class C(IEC61730) |        |        |        |        |        |
| Maximum Series Fuse Rating            | 25A   |        |        |        |        |        |

STC: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, AM1.5; Tolerance of P<sub>max</sub>: ±3%; Measurement Tolerance: ±3%

## ELECTRICAL CHARACTERISTICS AT NOCT

|                                       |        |        |        |        |        |        |
|---------------------------------------|--------|--------|--------|--------|--------|--------|
| Maximum Power ( $P_{max}$ )           | 391W   | 395W   | 399W   | 403W   | 407W   | 411W   |
| Open Circuit Voltage ( $V_{OC}$ )     | 45.1V  | 45.3V  | 45.5V  | 45.7V  | 45.9V  | 46.1V  |
| Short Circuit Current ( $I_{SC}$ )    | 11.13A | 11.16A | 11.19A | 11.22A | 11.25A | 11.28A |
| Voltage at Maximum Power ( $V_{mp}$ ) | 37.1V  | 37.3V  | 37.5V  | 37.7V  | 37.9V  | 38.1V  |
| Current at Maximum Power ( $I_{mp}$ ) | 10.54A | 10.59A | 10.64A | 10.69A | 10.74A | 10.79A |

NOCT: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Wind Speed 1 m/s

## MECHANICAL CHARACTERISTICS

|                   |   |
|-------------------|---|
| Cell type         | Monocrystalline PERC 182*91mm   |
| Number of cells   | 144 (6x24)  |
| Module dimensions | 2279x1134x35mm (89.72x44.65x1.38inches)   |
| Weight            | 29kg (63.9lbs)  |
| Front cover       | 3.2mm (0.13inches) tempered glass with AR coating   |
| Frame             | Anodized aluminum alloy   |
| Junction box      | IP68, 3 diodes  |
| Cable             | 4mm <sup>2</sup> (0.006inches <sup>2</sup> ), Portrait: 300mm (11.81inches);<br>Landscape: 1300mm (51.18inches) |
| Connector         | MC4 or MC4 compatible   |

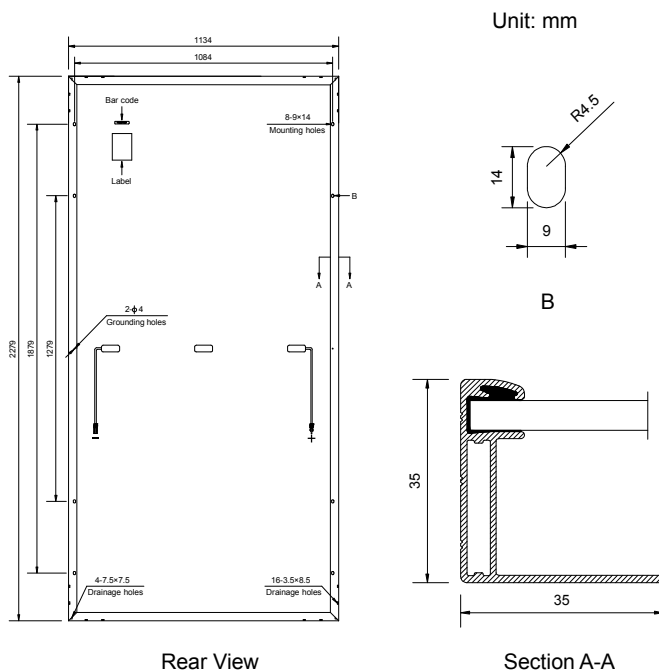
## TEMPERATURE CHARACTERISTICS

|   |           |
|---|-----------|
| Nominal Operating Cell Temperature (NOCT) | 43°C±2°C  |
| Temperature Coefficients of $P_{max}$     | -0.36%/°C |
| Temperature Coefficients of $V_{OC}$      | -0.28%/°C |
| Temperature Coefficients of $I_{SC}$      | 0.05%/°C  |

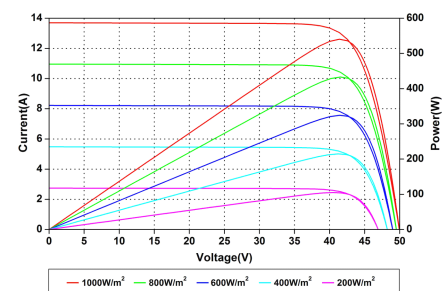
## PACKAGING

|                                   |              |
|-----------------------------------|--------------|
| Standard packaging                | 31pcs/pallet |
| Module quantity per 20' container | 155pcs       |
| Module quantity per 40' container | 620pcs (HQ)  |

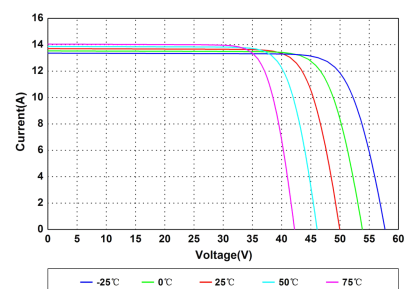
## ENGINEERING DRAWINGS



## IV CURVES



Current-Voltage and Power-Voltage Curves at Different Irradiances



Current-Voltage Curves at Different Temperatures

Specifications in this datasheet are subject to change without prior notice.