

# ETERNAL SHINE Series

Monofacial PV Modules  
MBB P-Type PERC Half-cut

ASM-M10-144-AAA (AAA=520-550)  
144 Cells | 520-550 Wp | Gen-II

## Highlights



MBB cell technology with  
10BB, smart soldering



High modules  
conversion efficiency  
upto 21.12%



Excellent low light  
performance



Least degradation for LID &  
LeTID with Ga Doped wafer  
technology

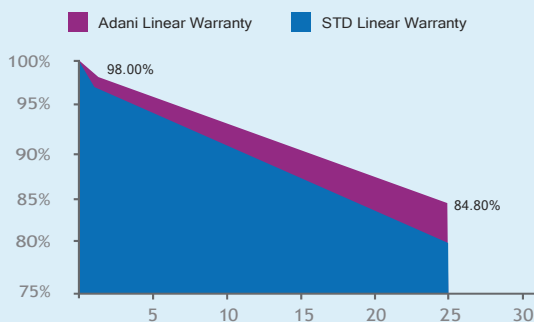


Excellent anti-micro  
cracking performance with  
more balanced interior  
stress: grid pattern  
current path

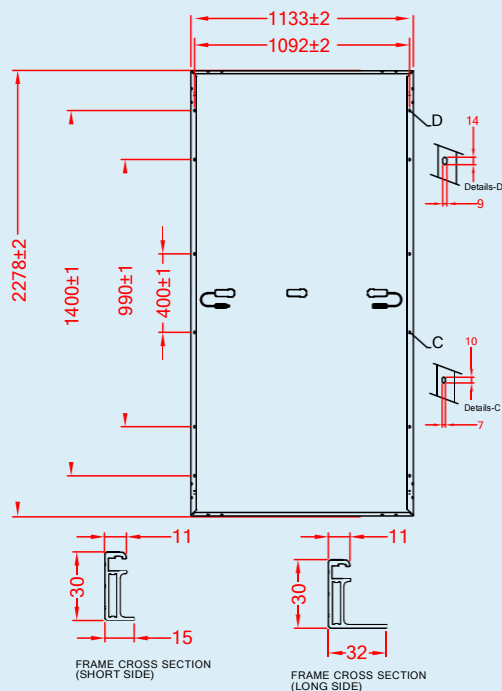


Excellent PID resistance

## Warranty based on Power



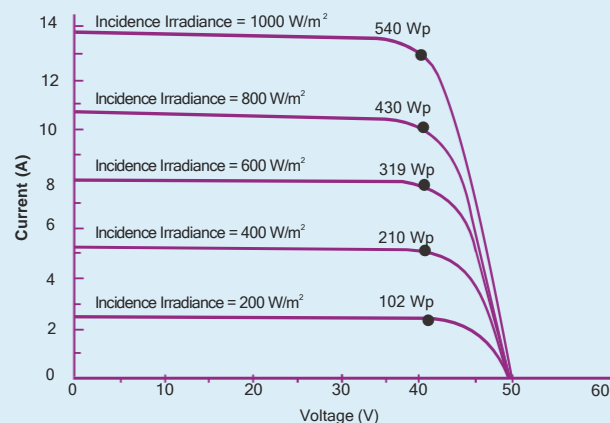
## Dimensions in mm



## Technical Data

Multi irradiance curve  
Monofacial M10-144 HC Cell Module

Cell temp: 25°C



## Electrical data - All data measured to STC\*

| Electrical Specification       | Only front (STC) |       |       |       |       |       |       |
|--------------------------------|------------------|-------|-------|-------|-------|-------|-------|
| Peak power, (0 ~+ 4.99 Wp)     |                  |       |       |       |       |       |       |
| Pmax(Wp)                       | 520              | 525   | 530   | 535   | 540   | 545   | 550*  |
| Maximum voltage, Vmpp (V)      | 41.18            | 41.34 | 41.49 | 41.64 | 41.80 | 41.94 | 42.09 |
| Maximum current, Imp (A)       | 12.65            | 12.72 | 12.79 | 12.86 | 12.93 | 13.01 | 13.07 |
| Open circuit voltage, Voc (V)  | 48.60            | 48.78 | 48.95 | 49.12 | 49.32 | 49.48 | 49.67 |
| Short circuit current, Isc (A) | 13.41            | 13.48 | 13.55 | 13.63 | 13.71 | 13.79 | 13.85 |
| Module efficiency (%)          | 20.15            | 20.34 | 20.54 | 20.73 | 20.92 | 21.12 | 21.31 |

\*STC: Irradiance 1000 W/m², cell temperature 25°C, Air mass AM 1.5 according to EN 60904-3. Average efficiency reduction is approx. 3% at 200 W/m² according to EN 60904-1. Except Pmp, all other parameter have tolerance of +/-3%, measurement uncertainty <3%.

## Electrical Characteristics at NOCT\*\*

| Electrical Specification       |       |       |       |       |       |       |
|--------------------------------|-------|-------|-------|-------|-------|-------|
| Pmax(Wp)-NOCT                  | 390   | 393   | 397   | 401   | 405   | 408   |
| Maximum voltage, Vmpp (V)      | 38.39 | 38.54 | 38.68 | 38.82 | 38.98 | 39.10 |
| Maximum current, Imp (A)       | 10.16 | 10.22 | 10.27 | 10.33 | 10.38 | 10.46 |
| Open circuit voltage, Voc (V)  | 45.43 | 45.76 | 45.92 | 46.09 | 46.28 | 46.42 |
| Short circuit current, Isc (A) | 10.90 | 10.96 | 11.02 | 11.08 | 11.13 | 11.22 |

\*\*NOCT irradiance 800 W/m², ambient temperature 20°C, wind speed 1 m/sec. All parameter have a tolerance of +/-3 %, measurement uncertainty <3 %.

## Packaging Configuration

| Container           | 40'HC |                        |
|---------------------|-------|------------------------|
| Pallets / Container | 20    | Pieces / Container 720 |

## Note:

- The specifications included in this datasheet are subject to change without notice.
- The electrical data given here is for reference purpose only.
- Please confirm your exact requirements with the sales representative while placing your order.

## Caution:

Please read safety and installation instructions before using the product.

## Temperature co-efficients (Tc) and permissible operating conditions

|                                 |                   |
|---------------------------------|-------------------|
| Tc of open circuit voltage (β)  | -0.28% /°C        |
| Tc of short circuit current (α) | 0.048% /°C        |
| Tc of power (γ)                 | -0.37% /°C        |
| Maximum system voltage          | 1500 V (IEC & UL) |
| NOCT                            | 45°C ± 2°C        |
| Temperature range               | -40°C to + 85°C   |

## Mechanical data

|                                   |  |
|-----------------------------------|--|
| Length                            | 2278 mm  |
| Width                             | 1133 mm  |
| Height                            | 30 mm  |
| Weight                            | 28 kg  |
| Junction box                      | IP68   |
| Cable and connectors              | 300 mm length cable, MC4 compatible connectors                       |
| Application class                 | Class A (Safety class II)  |
| Superstrate                       | High transmittance ARC glass 3.2 mm                                  |
| Cells                             | 144 Half-cut mono-crystalline P-type PERC solar cells; Multi bus bar |
| Encapsulation                     | High volume resistivity and low MVTR                                 |
| Substrate                         | White Backsheet  |
| Frame                             | Anodized Frame   |
| Design Mechanical load            | 3600 Pa-downward; 1600 Pa-upward                                     |
| Safety Factor for Mechanical load | 1.5  |
| Maximum series fuse rating        | 25 A   |

## # Warranty:

Please read Adani solar warranty documents thoroughly.

## Warranty and certifications

**Product warranty**\* 12 years of product warranty

**Performance warranty**\* Power degradation <2.0% in first year <0.55% / year in 2-25 years

**Approvals and certificates**\*: IEC 61215, IEC 61730, UL 61215, UL 61730, BIS, IEC 61853-1, IEC 62782, IEC 61701, IEC 61853-2 IEC 60068-2-68, IEC 62716

