

Elan Shine Bifacial PV Modules MBB P-Type PERC Half-cut

ASB-M10-144-AAA (AAA=520-545) | 144 Cells | 520-545 Wp

Highlights



MBB cell technology - excellent anti-microcracking performance with more balanced interior stress; grid pattern current path, lower cost



Up to 70 ± 5 % bifaciality Factor



Longer Product life and performance -0.45% year over year degradation with 30 years warranty on power



Least Degradation for LID, LeTID

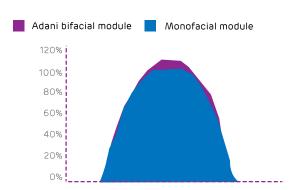


Modules Made with Ga doped wafer, Smart Soldering , 10BB

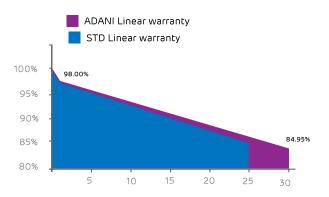


Excellent PID Resistance

Higher generation due to bifacial technology

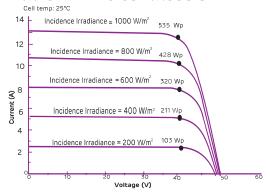


Warranty based on power

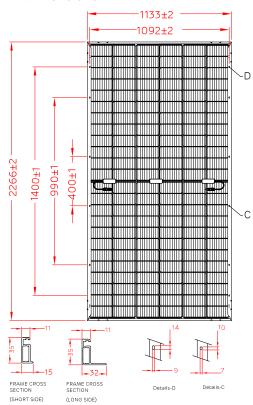


Technical Data

Multi irradiance curve Bifacial M10-144 HC cell Module



Dimensions in mm



Warranty and certifications

Product warranty**

12 years of product warranty

Performance warranty**

Power degradation < 2.0 % in first year < 0.45 % / year in 2-30 years

Approvals and certificates

IEC 61215, IEC 61730, UL 61730, BIS, IEC 61853-1, IEC 62782, IEC 62716, IEC 60068-2-68, IEC 61701, IEC 61853-2

CEC















Certifications are under process



Solar

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	
Maximum voltage, Vmpp (V)	41.18	41.34	41.49	41.64	41.80	41.94	
Maximum current, Impp (A)	12.65	12.72	12.79	12.86	12.93	13.01	
Open circuit voltage, Voc (V)	48.60	48.78	48.95	49.12	49.32	49.48	_
Short circuit current, Isc (A)	13.41	13.48	13.55	13.63	13.71	13.79	
Module efficiency (%)	20.25	20.44	20.64	20.83	21.03	21.22	

^{*}STC: Irradiance 1000 W/m², cell temperature 25°C, Air Mass AM 1.5 according to EN 60904-3 . Average efficiency reduction of 4.5 % at 200 W/m² according to EN 60904-1. Except Pmpp, all other parameters have a tolerance of \pm /-3 %, measurement uncertainty <3 %

Electrical Characteristics with different rear side power gain (Reference 525 Wp Front)

Electrical Specification	Pmax gain from rear side*			
Bifaciality Gain	10%	15%	20%	25%
Peak power, (0 ~+ 4.99 Wp) Pmax(Wp)	575	600	630	650
Maximum voltage, Vmpp (V)	41.35	41.35	41.36	41.36
Maximum current, Impp (A)	13.89	14.50	15.25	15.75
Open circuit voltage, Voc (V)	48.36	48.36	48.36	48.36
Short circuit current, Isc (A)	15.01	15.66	16.47	17.01
Module efficiency (%)	22.39	23.37	24.54	25.32

*Power gain from rear side depends upon the ground reflectance (Albedo) & Bifaciality factor.

Temperature co-efficients (Tc) and permissible operating conditions

T _c of open circuit voltage (β)	-0.29% /° C
T _c of short circuit current (α)	0.05% /°C
T _c of power ())	-0. 37% /°C
Maximum system voltage	1500 VDC (IEC & UL)
NOCT	45°C ± 2°C
Temperature range	-40°C to + 85°C

Mechanical data

Length	2266 mm
Width	1133 mm
Height	35 mm
Weight	28.0 kg
Junction box	IP68; Junction box, MC4 compatible
Cable and connectors	300 mm length cable, MC4 compatible connectors
Application class	Class A (Safety class II)
Superstrate	High transmittance ARC glass-3.2mm
Cells	144 Half-cut mono-crystalline P-type PERC bifacial solar cells; Multi bus bar
Encapsulation	High volume resistivity and low MVTR
Substrate	Transparent Backsheet
Frame	Anodized Frame
Design Mechanical Load	3600 Pa-downward; 1600 Pa-upward
Safety factor for Mechanical load	1.5
Maximum series fuse rating	30 A

Packaging Configuration

Container 40'HC					
Pallets / Container	20	Pieces / Container	620		

Note:

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

** Warranty:

Please read Adani solar warranty documents thoroughly.

*Caution:

Please read safety and installation instructions before using the product.