

ELAN PRIDE Series

MBB P-Type PERC Half-cut Bifacial PV Modules

ASB-M12-132-AAA (AAA=630-650) | 132 Cells | 630-650 Wp

Highlights



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



Up to 730 Wp at 15% bifaciality Gain**
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



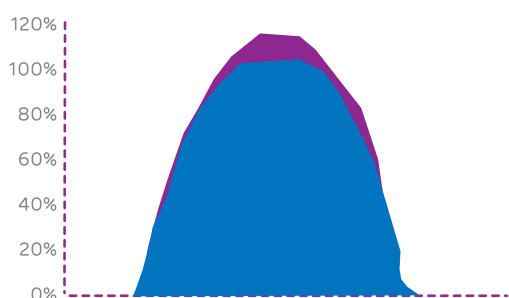
Modules Made with Ga doped wafer,
Smart soldering , 12BB



High salt mist and ammonia resistance

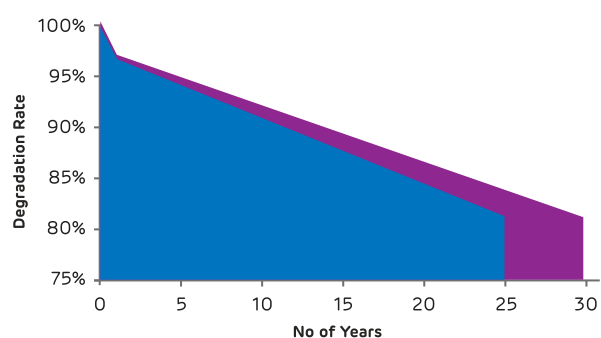
Higher generation due to bifacial technology

Adani bifacial module Standard Monofacial module



Warranty based on Power

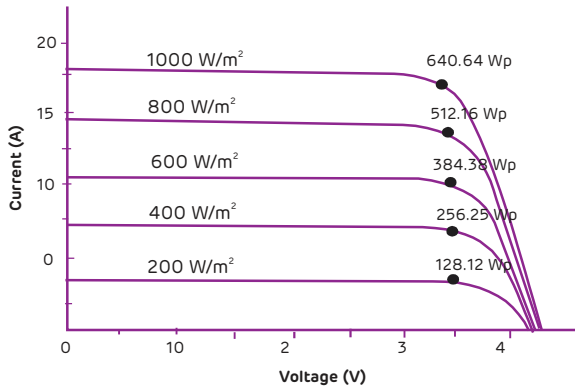
Adani Linear Warranty STD Linear Warranty



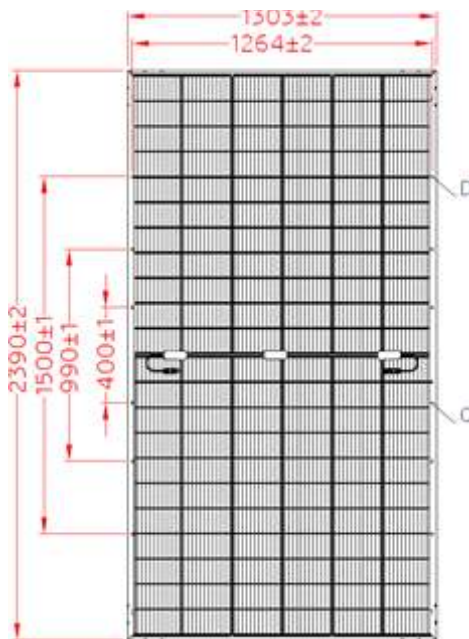
Technical Data

Multi irradiance curve for
ASB-M12-132-AAA

Cell temp: 25°C



Dimensions in mm



Warranty and certifications

Product warranty**

12 years of product warranty

Performance guarantee**

Power degradation <2.0 % in first year
<0.55 % / year in 2-30 years

Approvals and certificates* : IEC 61215 Ed2, IEC 61730, IEC 61701, UL 1703, MCS, JET, CEC, CEC-Aus, IEC 62716, IEC 62782, IEC 60068-2-68, IEC 61853, BIS

*All certifications are under process



Electrical data – All data measured to STC*

Electrical Specification	Only front (STC)				
Peak power, (0 ~+ 4.99 Wp)					
Pmax(Wp)	630	635	640	645	650
Maximum voltage, Vmpp (V)	36.66	36.82	37.01	37.15	37.32
Maximum current, Imp (A)	17.19	17.25	17.31	17.37	17.44
Open circuit voltage, Voc (V)	42.87	43.08	43.28	43.47	43.66
Short circuit current, Isc (A)	18.57	18.63	18.69	18.75	18.85
Module efficiency (%)	20.23	20.39	20.55	20.71	20.87

*STC: Irradiance 1000 W/m², cell temperature 25°C, air mass AM1.5 according to EN 60904-3. Average efficiency reduction of 4.5 % at 200 W/m² according to EN 60904-1. Except Pmp, all other parameters have a tolerance of +/-3 %, measurement uncertainty <3 %

Electrical Characteristics with different rear side power gain (Reference 640 Wp Front)

Electrical Specification	Pmax gain from rear side*			
Bifaciality Gain	5%	10%	15%	20%
Peak power, (0 ~+ 4.99 Wp) Pmax(Wp)	670	700	730	765
Maximum voltage, Vmpp (V)	37.01	37.01	37.01	37.01
Maximum current, Imp (A)	18.00	18.91	19.84	20.06
Open circuit voltage, Voc (V)	42.91	42.91	42.91	42.91
Short circuit current, Isc (A)	19.57	20.47	21.36	22.35
Module efficiency (%)	21.51	22.48	23.44	24.57

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

Temperature co-efficients (Tc) and permissible operating conditions

Tc of open circuit voltage (β)	-0.25 % /°C
Tc of short circuit current (α)	0.041 % /°C
Tc of power (γ)	-0.34 % /°C
Maximum system voltage	1500 V (IEC & UL)
NOCT	44°C ± 2°C
Temperature range	-40°C to + 85°C

Mechanical data

Length	2390 mm
Width	1303 mm
Height	35 mm
Weight	39.9 kg
Junction box	IP68; Junction box, MC4 compatible
Cable and connectors	300 mm length cable, MC4 & Amphenol compatible connectors
Application class	Class A (Safety class II)
Superstrate	2.0mm High Transmission ARC, Heat Strengthened Glass
Cells	132 half-cut mono-crystalline P-type PERC bifacial solar cells; MBB
Encapsulation	High volume resistivity and low MVTR
Substrate	Semi Tempered Glass -2.0 mm
Frame	Anodized Frame
Mechanical load test as per IEC & UL	5400 Pa-front; 2400 Pa-back*
Maximum series fuse rating	30 A

Packaging Configuration

Container	40'HC
Pieces / Container	558

**Disclaimer : Pieces/Container will change subject to Packing design Modification.

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.

** Warranty:

Please read Adani solar warranty documents thoroughly.

*Caution:

Please read safety and installation instructions before using the product.

ELAN SHINE TOPCON Series

N-type
Dual Glass Modules

AB-G12R-132-XXX (XXX=590-620)
132 Cells | 590-620Wp

620+ Wp

Maximum Power
Output

22.95%

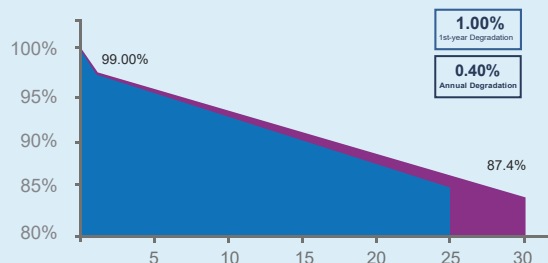
Maximum Efficiency

0~+5W

Power Tolerance

Linear Performance Warranty

Adani Linear Warranty STD Linear Warranty



Highlights



Up to 30% Additional Power Gain when compared with conventional P-type module



Excellent anti-LID, anti-LeTid & anti-PID Performance- Higher power generation



Better Output In Low Irradiance-Higher power output even under low-light environments like on cloudy or foggy days



Lower Temperature Coefficient- More energy yield even under hot climatic conditions

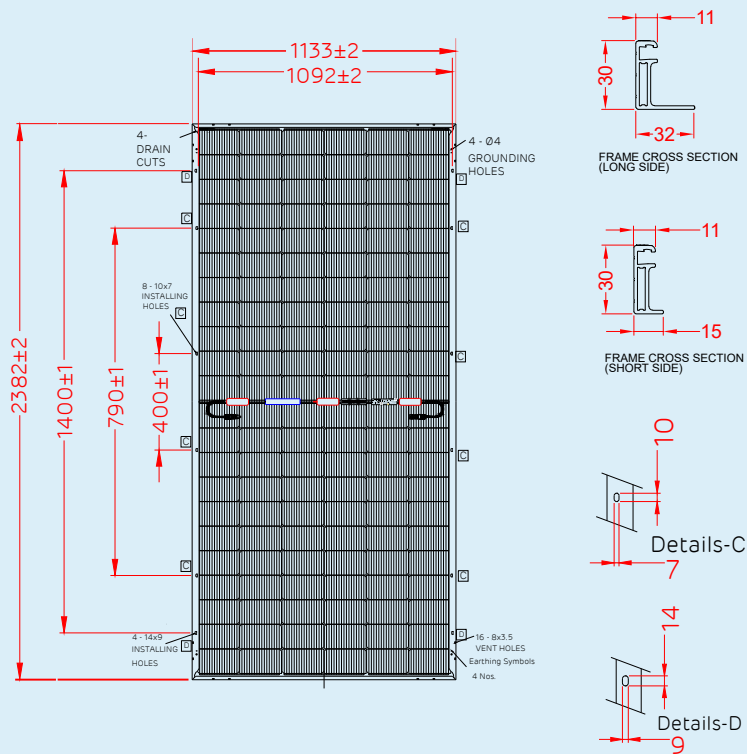


Bifaciality Factor $80 \pm 5 \%$

Delivers Reliable Performance Over Time

- Full-automatic facility and industry-leading technology
- Best-in-class durability and reliability
- One of the largest fully integrated & comprehensive Solar PV ecosystem facility at single location.

Dimensions in mm



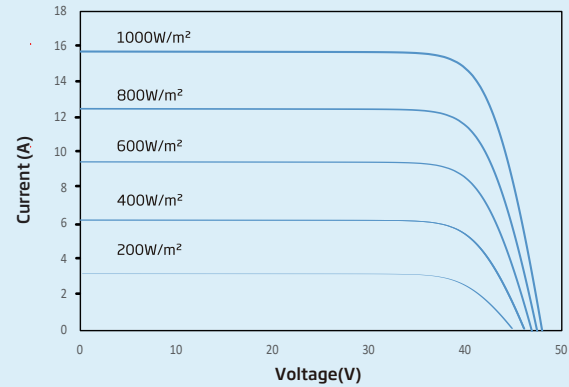
Technical Data

Multi Irradiance Curve

Bifacial G12R-132 HC Cell Module

Cell temp: 25°C

I-V CURVES OF PV MODULE (605 W)



Electrical data - All data measured to STC*

Electrical Specification	Only front (STC)						
Peak power, Pmax(Wp)	590	595	600	605	610	615	620
Maximum voltage, Vmpp (V)	39.70	40.00	40.30	40.50	40.80	41.10	41.40
Maximum current, Imp (A)	14.87	14.89	14.91	14.94	14.96	14.98	14.99
Open circuit voltage, Voc (V)	47.80	48.10	48.40	48.70	49.00	49.30	49.60
Short circuit current, Isc (A)	15.72	15.76	15.80	15.83	15.86	15.89	15.91
Module efficiency (%)	21.84	22.03	22.21	22.4	22.58	22.77	22.95

*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 with different rear side power gain (Reference 610 Wp Front)

Electrical Specification	Pmax gain from rear side ^A		
Bifaciality Gain	5%	10%	15%
Peak power, (0 ~+ 4.99 Wp) Pmax(Wp)	641	671	701
Maximum voltage, Vmpp (V)	40.8	40.8	40.8
Maximum current, Imp (A)	15.71	16.46	17.2
Open circuit voltage, Voc (V)	49.0	49.0	49.0
Short circuit current, Isc (A)	16.65	17.45	18.24
Module efficiency (%)	23.8	24.9	25.9

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

Packaging Configuration

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

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Caution:

Please read safety and installation instructions before using the product.

Temperature co-efficients (Tc) and permissible operating conditions

T _c of open circuit voltage (β)	-0.23% /°C
T _c of short circuit current (α)	0.061% /°C
T _c of power (γ)	-0.28% /°C
Maximum system voltage	1500 VDC (IEC & UL)
NOCT	45°C ± 2°C
Temperature range	-40°C to + 85°C

Mechanical data

Length	2382 mm
Width	1133 mm
Height	30 mm
Weight	33.6 kg
Junction box	IP68
Cable and connectors	300 mm length cable, MC4 compatible connectors
Application class	Class A (Safety class II)
Superstrate	High Transmission ARC glass 2.0 mm
Cells	N-type Bifacial 132 Half-cut cell
Encapsulation	High volume resistivity and low MVTR
Substrate	Semi Tempered Glass 2.0 mm
Frame	Anodized Frame
Design Mechanical load	3600 Pa-downward; 1600 Pa-Upward
Safety Factor for Mechanical load	1.5
Maximum series fuse rating	35 A

#Warranty:

Please read Adani solar warranty documents thoroughly.

Warranty and certifications

Product warranty[#] 12 years of product warranty

Performance warranty[#] Power degradation <1.0% in first year <0.40% / year in 2-30 years

Approvals and certificates[†]: IEC 61215, IEC 61730, UL 61730, BIS, IEC 61853-1, IEC 62782, IEC 61853-2, IEC 61701, IEC 60068-2-68, IEC 62716

[†]Certifications are under process.



ELAN SHINE Series

Bifacial PV Modules with Dual Glass, MBB P-Type PERC Half-cut

ASB-M10-144-AAA (AAA=520-555)
144 Cells | 520-555 Wp | Gen-II

Highlights



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



Up to $70 \pm 5\%$ Bifaciality Factor



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



Least degradation for LID & LeTID

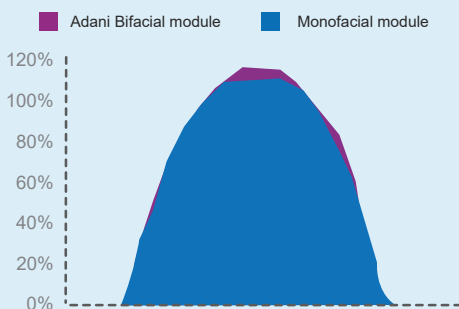


Modules made with Ga doped wafer with Smart soldering

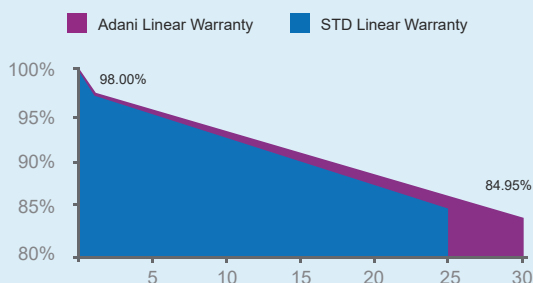


Excellent PID resistance

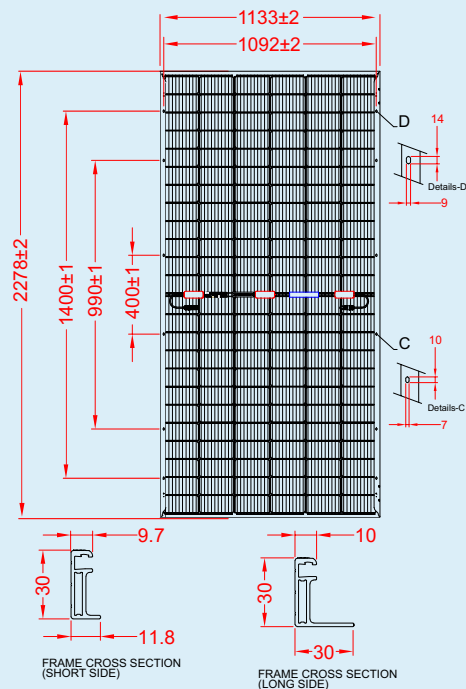
Higher generation due to Bifacial technology



Warranty based on Power



Dimensions in mm

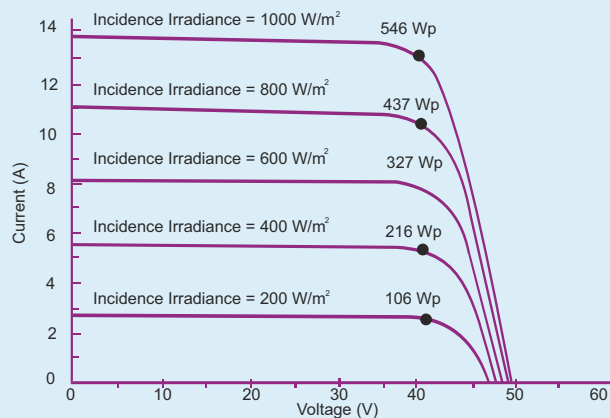


Technical Data

Multi Irradiance Curve

Bifacial 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	555
Maximum voltage, Vmpp (V)	41.18	41.34	41.49	41.64	41.80	41.94	42.09	42.24
Maximum current, Imp (A)	12.65	12.72	12.79	12.86	12.93	13.01	13.07	13.13
Open circuit voltage, Voc (V)	48.60	48.78	48.95	49.12	49.32	49.48	49.67	49.86
Short circuit current, Isc (A)	13.41	13.48	13.55	13.63	13.71	13.79	13.85	13.91
Module efficiency (%)	20.15	20.34	20.54	20.73	20.92	21.12	21.31	21.5

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

Electrical Specification	Pmax gain from rear side ^λ			
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, Imp (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 (%)	22.28	23.25	24.41	25.19

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

Packaging Configuration

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

Note:

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- 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

T _c of open circuit voltage (β)	-0.24% /°C
T _c of short circuit current (α)	0.037% /°C
T _c of power (γ)	-0.32% /°C
Maximum system voltage	1500 VDC (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	31.3 kg
Junction box	IP68; Junction box
Cable and connectors	300 mm length cable, MC4 compatible connectors
Application class	Class A (Safety class II)
Superstrate	High Transmission ARC, Heat Strengthened Glass 2.0 mm
Cells	144 Half-cut mono-crystalline P-type PERC bifacial solar cells; Multi bus bar
Encapsulation	High volume resistivity and low MVTR
Substrate	Semi Tempered Glass 2.0 mm
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

Warranty:

Please read Adani Solar warranty documents thoroughly.

Warranty and certifications

Product warranty* 12 years of product warranty

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

Approvals and certificates†: IEC 61215, IEC 61730, BIS, UL 61730, IEC 61853, IEC 62716, IEC 60068-2-68, IEC 61701, IEC 62716, IEC 61853-2

