

POWERING A SUSTAINABLE TOMORROW

Premium N-Type TOPCon
Solar Solutions



High Efficiency

N-Type TOPCon technology for maximum power output



Bifacial Technology

Up to 30% additional power generation from the rear side



Long-Term Performance

Glass-to-Glass | 30 Years
Linear Performance Warranty

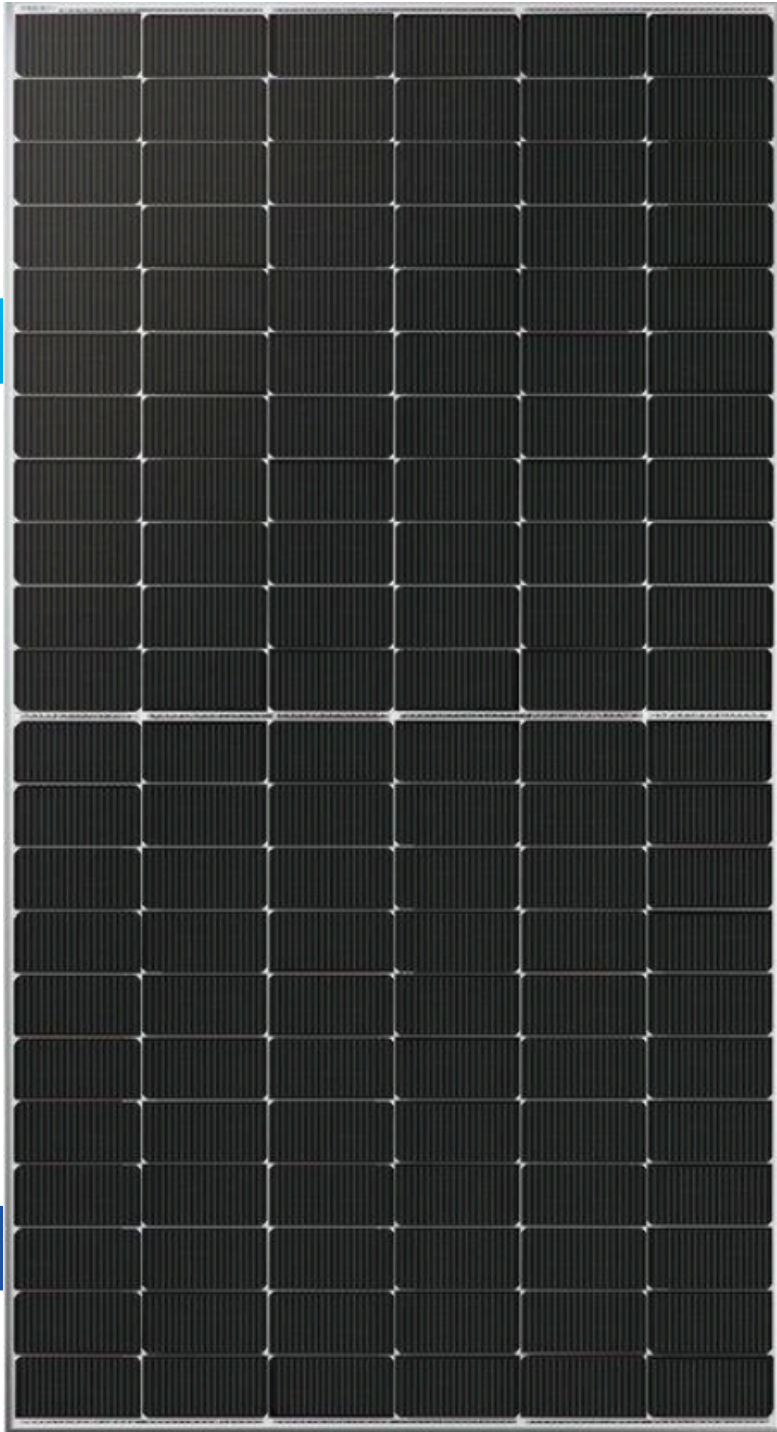


Reliable & Durable

IP68 Junction Box & premium quality materials for lasting reliability



AVN66G12G | N-type Bifacial - Glass to Glass | 132 Cells | 720 Watt | > 23.18% Efficiency



"N" TOPCON TECHNOLOGY

700 - 720 WATT



Up to 30% Additional Power Generation Gain

Additional power gain from rear side depending on albedo



LOW LID (Light Induced Degradation)

TOPCon cells have low LID, because of its N-Type silicon substrate



Lower LCOE

High bifaciality, high power output, saving BOS cost



Better Weak Illumination Response

Wide spectral response, higher power output even under low-light settings like smog or cloudy days



Better Temperature Coefficient

TOPCon cell has a better temperature coefficient which helps in better performance in hot climate



Wider Applicability

Vertical installation, snowfield, high-humid area

720 W

POWER OUTPUT
MAXIMUM

0~+5 W

POWER OUTPUT
TOLERANCE

18 BB

MULTI
BUSBAR

Key Features

- Fully automatic facility with cutting-edge technology
- Guaranteed positive tolerance to ensure power output reliability
- Split junction boxes reduce module temperature resulting in increased module reliability

Quality & Reliability

IP68 rated junction box for long-term weather endurance

Made with high-graded raw material to achieve Quality, Durability, Efficiency, and through output

12 Years Workmanship & 30 Years Linear Performance Warranty

Disclaimer: As part of continuous innovation and R&D improvements, the specifications and key features outlined in this datasheet may be subject to minor changes and are not guaranteed. Avaada Electro Pvt. Ltd. reserves the right to update the information provided at any time without prior notice. To ensure accuracy, please always refer to the latest version of the datasheet, which will be considered a part of the binding contract governing all transactions related to the purchase and sale of the products described herein.

TECHNICAL DATA

ENLUME



AVN66G12G | N-type Bifacial -Glass toGlass | 132 Cells | 720 Watt | > 23.18% Efficiency

Electrical Parameter at STC

Module Type	AVN66G12G				
Capacity rating – Pmax (Wp*)	700	705	710	715	720
Rated voltage - Vmp(V)	40.5	40.7	40.9	41.1	41.3
Rated current - Imp(A)	17.29	17.33	17.36	17.4	17.43
Open circuit voltage - Voc(V)	48.2	48.4	48.6	48.8	49
Short circuit current - Isc(A)	18.32	18.36	18.4	18.44	18.48
Module efficiency (%)	22.53%	22.70%	22.86%	23.02%	23.18%

*STC:Irradiance1000W/m2, Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%.

Electrical Parameter at NOCT

Capacity rating – Pmax (Wp*)	534	538	542	546	550
Rated voltage - Vmp(V)	37.8	38	38.2	38.4	38.6
Rated current - Imp(A)	14.14	14.16	14.19	14.22	14.25
Open circuit voltage - Voc(V)	45.7	45.9	46.1	46.3	46.5
Short circuit current - Isc(A)	14.8	14.84	14.88	14.92	14.96

*NOCT:Irradianceat800 W/m2, Ambient Temperature 20°C, Wind Speed 1 m/s. *Power Bifaciality:80±5%

Mechanical Specification

Specification	Details
Solar cells	N type TOPCon, MBB 132 Cell
Encapsulation	POE/EPE/EVA
Back glass	2.0mm, Semi Tempered Glass
Front glass	2.0mm, Anti-Reflection Coated
Frame	Anodized Aluminum Alloy
Dimensions	(L) 2384 mm x (W) 1303 mm x (H) 35mm
Weight	38 kg
J-box	IP 68 certified, 3 diodes
Cable	Solar cable 4 mm2 , length 300 mm / customized
Connectors	MC4-compatible connectors

Operating Properties

Temperature range	-40°C to + 85°C
Maximum system voltage	1500 VDC
Power Tolerance	0 ~ +5 W
Bifaciality factor (As per Lab)	80± 5%

Temperature Coefficient

NOCT(Nominal Operating Cell Temperature)	45°C (±2°C)
Temperature Coefficient of Pmax	- 0.30%/°C -
Temperature Coefficient of Voc	0.25%/°C
Temperature Coefficient of Isc	0.04%/°C

Certificates†

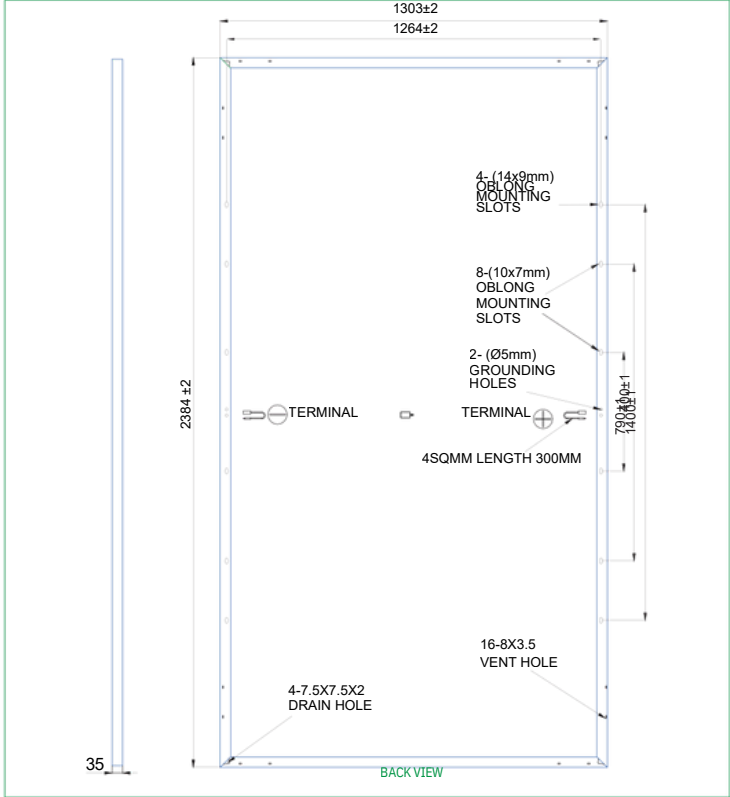
BIS | IEC 61730 | IEC 61215 | UL 61730 | IEC 62804(PID) | IEC 61701 (Salt Mist) | IEC 61716(Ammonia)
IEC 62782 | LID, LeTID | IEC 60068(Sand & Dust) | CEC | CE

† Few Certifications in process

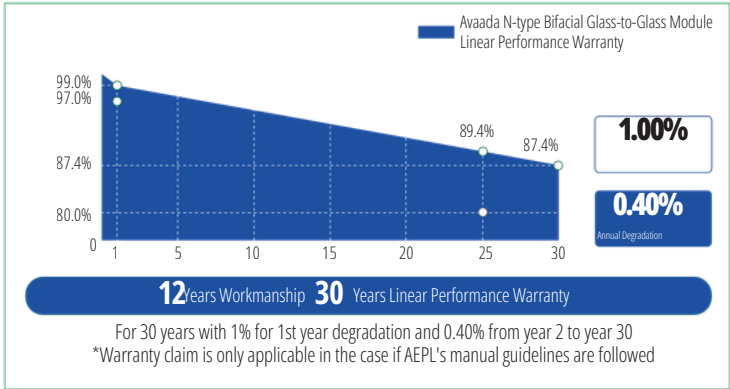
Packing Configuration

Container	40'HQ
Modules per Pallet	31
Pallets per Container	20
Modules per Container	620

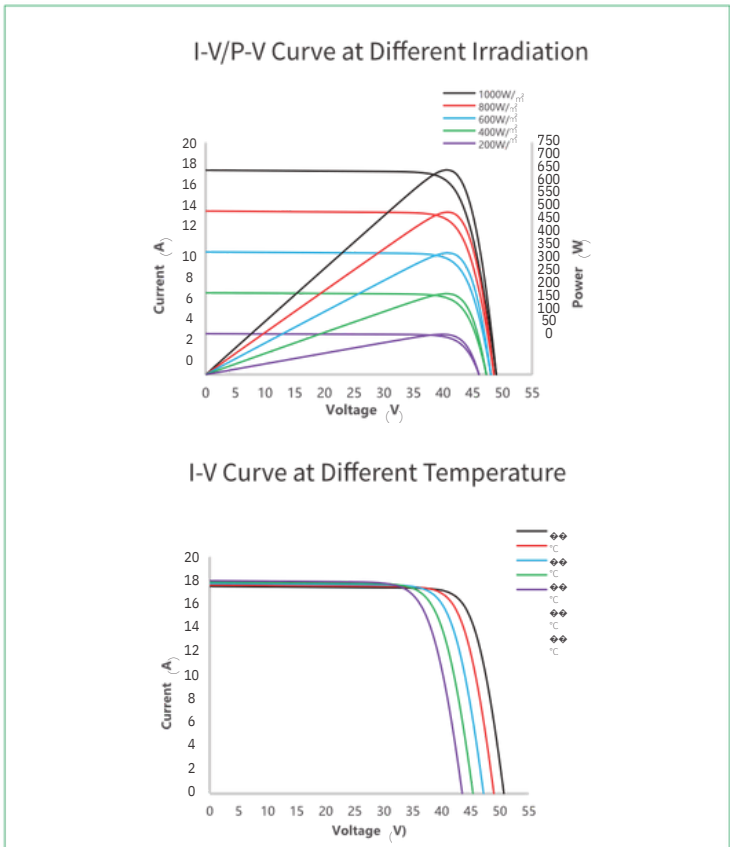
Dimensions in mm



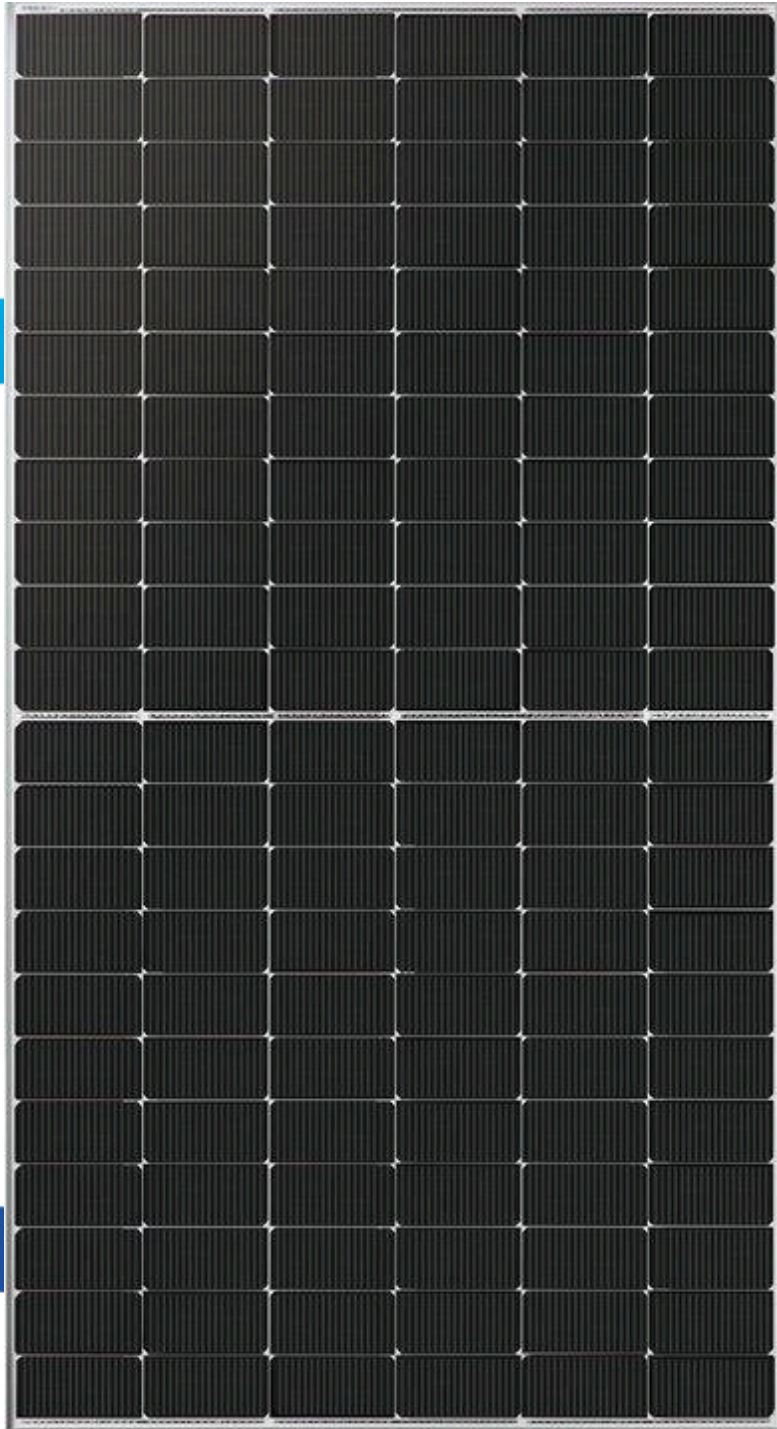
Performance Warranty



IV-Curve



AVN66G12RG | N-type Bifacial - Glass to Glass | 132 Cells | 630 Watt | > 23.30% Efficiency



"N" TOPCON TECHNOLOGY

610 - 630 WATT



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Wider Applicability

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630 W

POWER OUTPUT
MAXIMUM

0~+5 W

POWER OUTPUT
TOLERANCE

16 BB

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Key Features

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TECHNICAL DATA

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AVN66G12RG | N-type Bifacial -Glass toGlass | 132 Cells | 630 Watt | > 23.30% Efficiency

Electrical Parameter at STC

Module Type	AVN66G12RG				
Capacity rating – Pmax (Wp*)	610	615	620	625	630
Rated voltage - Vmp(V)	40.85	41.05	41.25	41.45	41.65
Rated current - Imp(A)	14.94	14.99	15.04	15.08	15.12
Open circuit voltage - Voc(V)	47.80	48.00	48.20	48.40	48.60
Short circuit current - Isc(A)	15.85	15.90	15.95	16.00	16.05
Module efficiency (%)	22.60	22.80	23.00	23.14	23.30

*STC:Irradiance1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%.

Electrical Parameter at NOCT

Capacity rating – Pmax (Wp*)	459	462	466	470	474
Rated voltage - Vmp(V)	38.06	38.19	38.39	38.62	38.83
Rated current - Imp(A)	12.06	12.10	12.14	12.17	12.21
Open circuit voltage - Voc(V)	45.41	45.60	45.79	45.98	46.17
Short circuit current - Isc(A)	12.80	12.84	12.88	12.92	12.96

*NOCT:Irradianceat800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s. *Power Bifaciality:80±5%

Mechanical Specification

Specification

Solar cells
Encapsulation
Back glass
Front glass
Frame
Dimensions
Weight
J-box
Cable
Connectors

Details

N type TOPCon, MBB 132 Cell
POE/EPE/EVA
2.0mm, Semi Tempered Glass
2.0mm, Anti-Reflection Coated
Anodized Aluminum Alloy
(L) 2382 mm x (W) 1134 mm x (H) 35mm
34 kg
IP 68 certified, 3 diodes
Solar cable 4 mm², length 300 mm / customized
MC4-compatible connectors

Operating Properties

Temperature range	-40°C to + 85°C
Maximum system voltage	1500 VDC
Power Tolerance	0 ~ +5 W
Bifaciality factor (As per Lab)	80± 5%

Temperature Coefficient

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Temperature Coefficient of Pmax	- 0.30%/°C -
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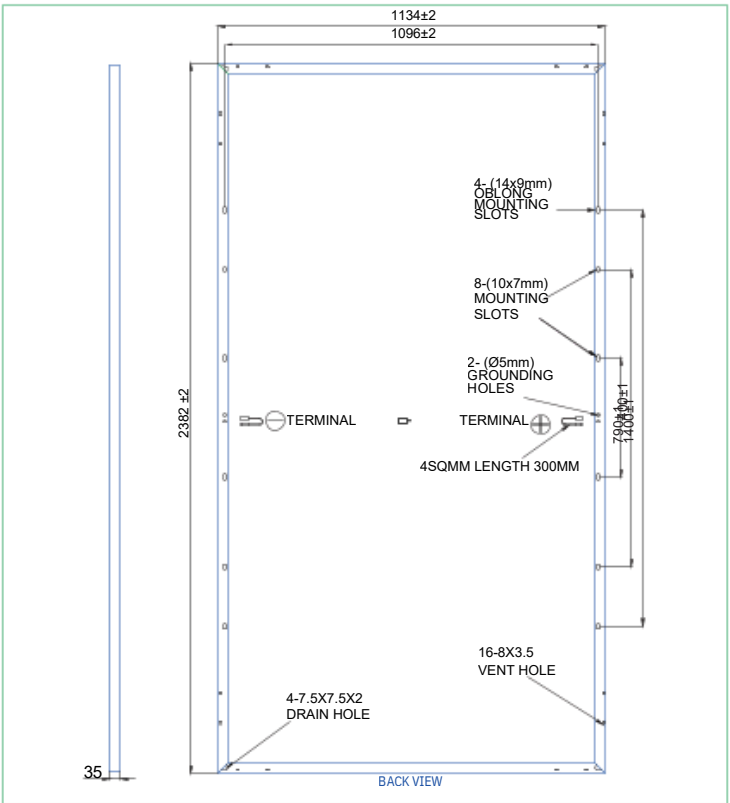
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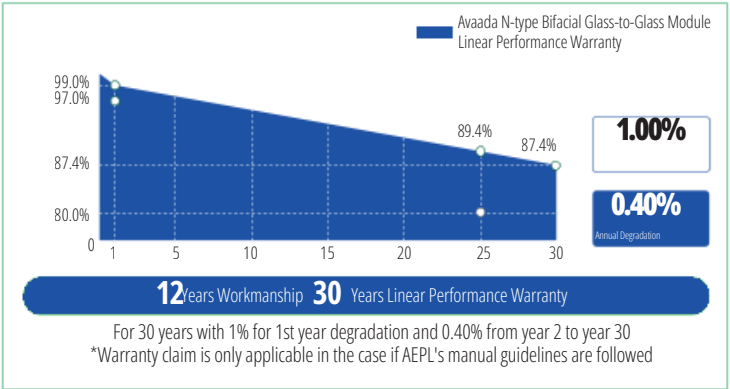
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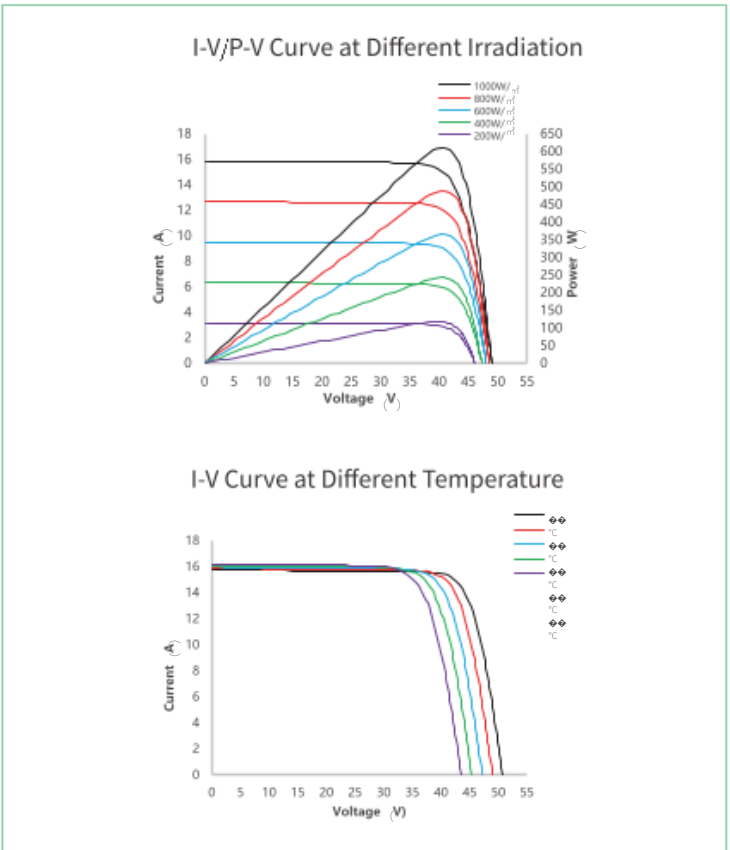
Dimensions in mm



Performance Warranty



IV-Curve

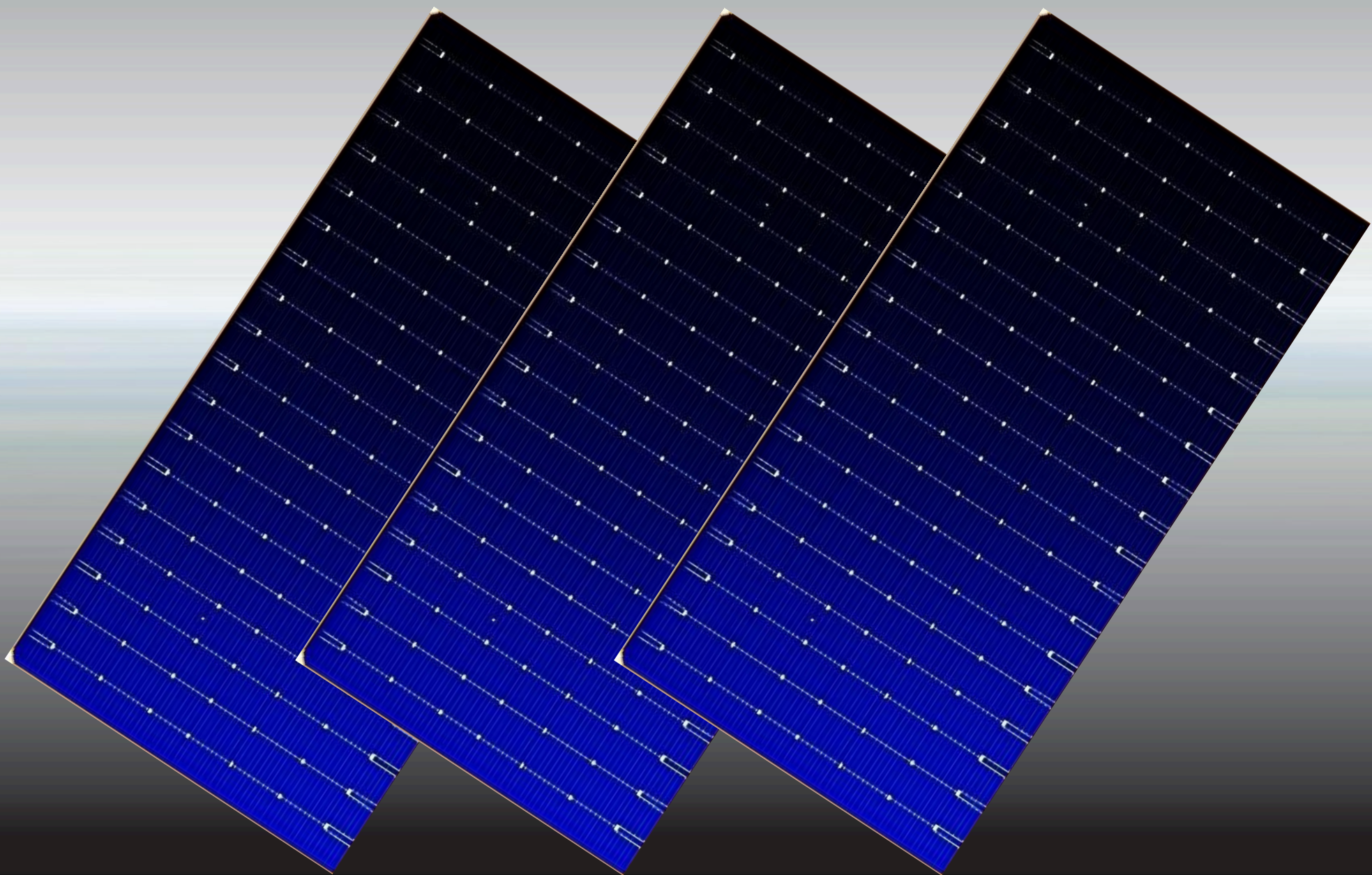




N-G12-18B-1/2-AVA

N-type TOPCon half cut

High-efficiency Bifacial Cell



Higher conversion efficiency



Lower LID



Lower temperature coefficient



Better low irradiation response

Technical Data and Design

Model	N-G12-18B-1/2-AVA
Size	210mm±0.25mm*105mm±0.125mm
Thickness	130±10μm
Front	Busbar (Ag), Blue (navy) antireflection layer (SiNx)
Rear	Busbar (Ag), Passivation layer (SiNx)



Temperature Coefficient

Tk Voltage	-0.26%/K
Tk Current	+0.046%/K
Tk Power	-0.30%/K

Front Electrical Performance Parameters

Efficiency code	Eff Pmpp		Umpp	Impp	Isc	Uoc	FF
	(%)	(W)	(V)	(A)	(A)	(V)	(%)
AVA-G12N-1/2-263	26.3	5.80	0.662	8.77	9.16	0.7255	87.23
AVA-G12N-1/2-262	26.2	5.78	0.659	8.76	9.16	0.7238	87.13
AVA-G12N-1/2-261	26.1	5.76	0.657	8.76	9.16	0.7222	87.03
AVA-G12N-1/2-260	26.0	5.73	0.655	8.75	9.15	0.7205	86.93
AVA-G12N-1/2-259	25.9	5.71	0.653	8.74	9.15	0.7189	86.83
AVA-G12N-1/2-258	25.8	5.69	0.651	8.74	9.15	0.7172	86.73
AVA-G12N-1/2-257	25.7	5.67	0.649	8.74	9.14	0.7156	86.05
AVA-G12N-1/2-256	25.6	5.64	0.647	8.73	9.14	0.7139	85.95
AVA-G12N-1/2-255	25.5	5.62	0.644	8.73	9.14	0.7123	85.82
AVA-G12N-1/2-254	25.4	5.60	0.642	8.72	9.13	0.7108	85.68
AVA-G12N-1/2-253	25.3	5.58	0.640	8.72	9.13	0.7089	85.57
AVA-G12N-1/2-252	25.2	5.56	0.638	8.71	9.13	0.7073	85.47
AVA-G12N-1/2-251	25.1	5.53	0.636	8.71	9.13	0.7065	85.26
AVA-G12N-1/2-250	25.0	5.51	0.633	8.71	9.13	0.7034	85.26
AVA-G12N-1/2-249	24.9	5.49	0.631	8.70	9.12	0.7033	84.99
AVA-G12N-1/2-248	24.8	5.47	0.628	8.70	9.12	0.7019	84.91
AVA-G12N-1/2-247	24.7	5.45	0.628	8.68	9.11	0.6997	84.82
AVA-G12N-1/2-246	24.6	5.42	0.627	8.66	9.10	0.6984	84.72
AVA-G12N-1/2-245	24.5	5.40	0.626	8.64	9.08	0.697	84.63

*Standard testconditions:1000W/m², AM1.5, 25°C.

*Theabove technical parameters are subject to technical changes and tests.

Back Electrical Performance Parameters

Efficiency code	Eff	Pmpp	Umpp	Impp	Uoc	Isc
	(%)	(W)	(V)	(A)	(V)	(A)
AVA-G12N-20.3	>20.5	4.22	0.647	6.516	0.716	6.820
AVA-G12N-20.2	20.3-20.5	4.19	0.644	6.513	0.715	6.819
AVA-G12N-20.1	20.1-20.3	4.17	0.64	6.508	0.711	6.816
AVA-G12N-20.0	<20.1	4.15	0.638	6.504	0.71	6.815

*Standard testconditions:1000W/m², AM1.5, 25°C.

*The above technical parameters are subject to technical changes and tests.

Light Intensity Reliability

Intensity(W/m²)	Uoc	Isc
1000	1.000	1.000
900	0.996	0.903
800	0.991	0.803
600	0.988	0.602
400	0.962	0.403

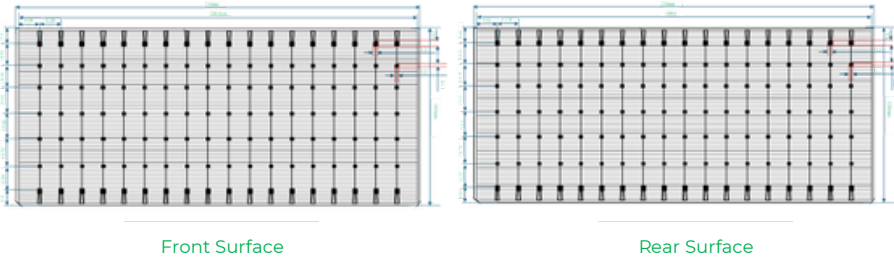
*The Uoc(Isc) tested at (1000W/m², AM1.5, 25°C) was used as the standard to test the magnitude of Uoc(Isc) decrease with light intensity

Weld ability

Minimum Peel Resistance	≥0.5N/mm
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*Results may vary depending on the solder tape, welding method, and condition

Product Appearance



THANK YOU FOR EXPLORING A BETTER TOMORROW

Together, let's harness the power of clean energy to build a sustainable, efficient and brighter future for generations to come.

LET'S POWER A
SUSTAINABLE FUTURE TOGETHER.



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Let's Power a
Sustainable Future Together.

