



SOLITECH
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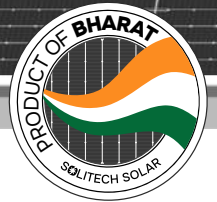
610 Wp - 650 Wp

Bi-Facial Module with Dual Glass

N-Type
TOPCon

G12R

SOLITECH



2.0 GW
GIGA FACTORY

WITH ADVANCED AI

30 Years

Warranty for Linear Performance

12 Years

Product Warranty on Workmanship

APPLICATIONS

UTILITY

INDUSTRIAL

AGRICULTURE

RESIDENTIAL

Salient Features



N-type Technology

For reduced light-induced degradation (LID/LeTID)



Dual-Sided Power Generation

To boost power output and lower the levelized cost of energy (LCOE).



SMBB Technology

Enhanced light absorption and efficient current extraction



Mechanical Load Enhanced

Certified to withstand:
5400 Pa front & 2400 Pa rear max static test load



Anti-PID

Minimizes the occurrence of Potential Induced Degradation (PID)



High Efficiency

Enhanced module conversion efficiency of upto 24.04%

Model Type : SGE - G12R132T16G - AAA*

*AAA denotes Module Wattage

Electrical Characteristics (STC)	650	645	640	635	630	625	620	615	610
Nominal Maximum Power (Pmax)	650	645	640	635	630	625	620	615	610
Optimum Operating Voltage (Vmp)	41.98	41.90	41.82	41.72	41.64	41.57	41.49	41.4	41.31
Optimum Operating Current (Imp)	15.49	15.4	15.31	15.225	15.136	15.04	14.95	14.86	14.77
Open Circuit Voltage (Voc)	49.66	49.56	49.48	49.39	49.3	49.21	49.12	49.03	48.94
Short Circuit Current (Isc)	16.39	16.305	16.22	16.135	16.05	15.96	15.87	15.78	15.69
Module Efficiency (%)	24.04	23.86	23.67	23.49	23.30	23.12	22.93	22.75	22.56
STC: Irradiance 1000W/m², Cell Temperature 25°C, AM = 1.5									

Electrical Characteristics (NOMT)	495	491	487	483	479.5	475.6	471.9	467.9	464.2
Nominal Maximum Power (Pmax)	495	491	487	483	479.5	475.6	471.9	467.9	464.2
Optimum Operating Voltage (Vmp)	39.88	39.81	39.73	39.63	39.56	39.49	39.42	39.33	39.25
Optimum Operating Current (Imp)	12.40	12.33	12.26	12.19	12.12	12.04	11.97	11.90	11.83
Open Circuit Voltage (Voc)	47.18	47.10	47.01	46.92	46.84	46.75	46.66	46.58	46.49
Short Circuit Current (Isc)	13.12	13.06	12.99	12.92	12.85	12.78	12.71	12.64	12.56
NOMT: Irradiance 800W/m², Ambient Temperature 20°C, AM = 1.5 Wind Speed 1m/s									

Bi-Facial Output – Backside Power Gain @ STC**									
Nominal Maximum Power (Pmax)	5%	681	675	670	665	660	654	649	644
Module Efficiency (%)		25.17	24.98	24.78	24.59	24.39	24.20	24.01	23.81
Nominal Maximum Power (Pmax)	10%	711	706	700	695	689	684	678	673
Module Efficiency (%)		26.30	26.10	25.89	25.69	25.49	25.28	25.08	24.88
Nominal Maximum Power (Pmax)	15%	742	736	730	724	719	713	707	701
Module Efficiency (%)		27.43	27.22	27.00	26.79	26.58	26.36	26.15	25.94
Nominal Maximum Power (Pmax)	20%	772	766	760	754	748	742	736	730
Module Efficiency (%)		28.56	28.33	28.11	27.89	27.67	27.45	27.22	27.00

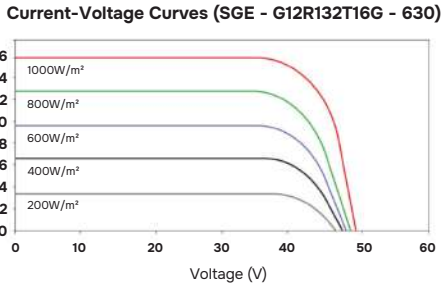
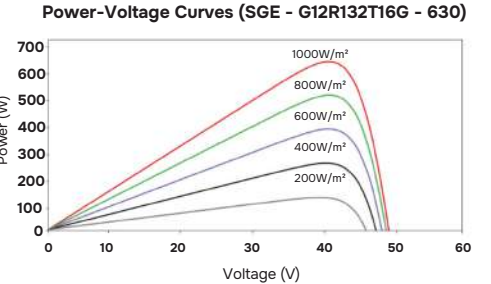
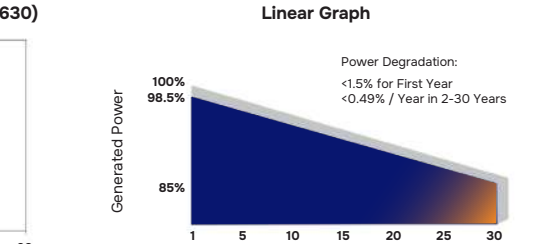
** Additional power gain from the rear side, relative to the front side's power at STC, is influenced by the mounting structure (such as height and tilt angle) and the ground's reflectivity. Bi-Faciality Factor: 70 ± 5%.

Mechanical Specifications	
Cell Type	G12R Half-Cut N-type TOPCon Bifacial Solar Cells
No. of cells	132 (66×2)
Dimensions	2382 × 1134 × 35 mm
Weight	32.4 kg
Front Cover	2 mm Low Iron Semi-Tempered AR Coated Glass
Back Cover	2 mm Low Iron Semi-Tempered AR Coated Glass
Frame	Anodized Aluminium Alloy
Junction Box	30A Split Junction Box - IP68 Rated
Protection Class	Class II
IEC Fire Type	Class C
Connector Type	MC4 Compatible
Output Cables	4.0 mm² (+): 300 mm, (-): 300 mm or Customized Length

Maximum Operating Conditions	
Operating Temperature	-40°C to +85°C
Maximum System Voltage	1500V
Maximum Series Fuse Rating	35 A

Temperature Coefficients	
Current α (Isc)	0.045 %/°C
Voltage β (Voc)	-0.25 %/°C
Power γ (Pmax)	-0.29 %/°C

Packing Configuration#		
No. of Modules per Pallet	20FT	40FT
No. of Pallets per Container	31 Nos	31 Nos
No. of Modules per Container	10 Pallets	20 Pallets
	310 Nos	620 Nos



- #Quantity of modules/container may get changed without prior notice.
- For handling & installation instructions, refer to Solitech Solar's installation manual available on the company website
 - Before placing an order, confirm your requirements with our sales representative
 - The electrical data provided is for reference purposes only
 - PV modules need to be disposed of as per government regulations after their life cycle
 - Refer to Solitech Solar's warranty document for terms and conditions
 - Due to constant product modifications, Solitech Solar reserves the right to amend the above specifications without prior notice
 - Images in the datasheet are for representation purposes only

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