

# HD SOLAR

## N-type Monocrystalline 132 half cells G12 Bifacial PV Module

### HD-N-G12 132 Half cells 605-635wp bifacial double glass PV MODULE

#### RELIABLE QUALITY

- Lower 1<sup>st</sup>-year and annual degradation, lower system BOS cost, higher over generation, lower LCOE and higher ROL, Dual-side power generation, with up to 30% increase in backside power generation in different installation environments, further reducing overall BOS and LCOE
- Excellent IAM property and better weak illumination response, lower 1<sup>st</sup>-year degradation(1%) and annual degradation(0.4%), lower temperature coefficient(-0.28%) and lower operating temperature, resulting in more power generation
- Apply latest generation Topcon technology with lower LID AND LETID, Apply innovative non-destructive cutting technology to reduce the risk of micro cracks, withstand harsh environmental conditions such as salt mist, ammonia, PID, dust and sand, high temperature and high-humidity
- Latest Topcon Technology with no Polysilicon wrap around, zero leakage current and better resistance to hot-spot, Pass mechanical load test of 5400Pa on the front side and 2400Pa on the back side

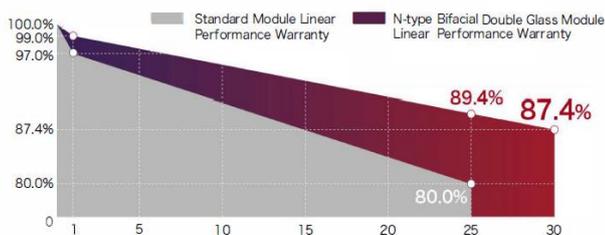
#### MECHANICAL PARAMETERS

Weight(kg)	33.3KG
Dimensions(L×W×H)(mm)	2382×1134×30mm
Cable cross section size(mm <sup>2</sup> )	4mm <sup>2</sup> 300mm in length
NO.of cells and connections	132(6×22)
Front/Real Glass	2.0mm/2.0mm
Frame	Anodized Aluminium
Junction Box	IP68, 3 diodes
Connector	MC4 Compatible

#### WORKING CONDITIONS

Maximum system voltage	DC1500V(IEC)
Operating temperature	-40℃ --- +85℃
Maximum series fuse	35A
Fire Safety	Class C
Power Tolerance	0 -+ 5WP
Bifaciality	80%(±5%)

**-1.00%** 1<sup>st</sup>-year Degradation | **15** Years Product Material & Workmanship  
**-0.40%** Annual Degradation | **30** Years Linear Performance Warranty

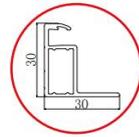
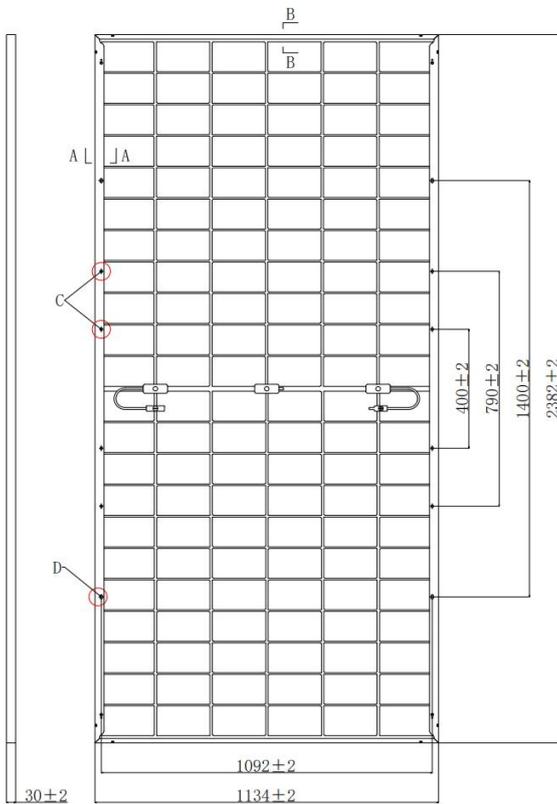


Electrical data in this catalog do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types

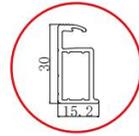
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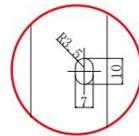
### Engineering Drawing( unit mm)



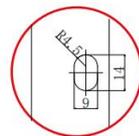
A Long Frame



B Short Frame

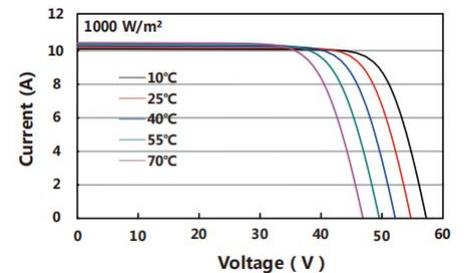
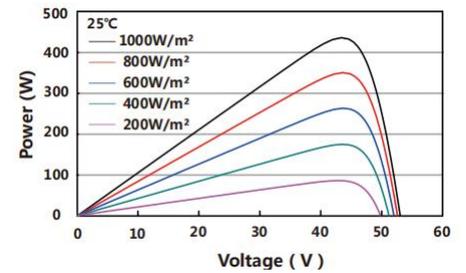
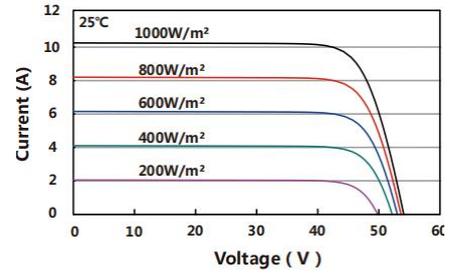


C Mounting Hole



D Mounting Hole

### I-V CURVE



customized cable length available upon request

Electrical Properties	STC	Irradiance 1000W/m <sup>2</sup> , Module Temperature 25°C, Air Mass 1.5						
Rated maximum power at STC(W)		605	610	615	620	625	630	635
Open Circuit voltage (Voc/V)		47.46	47.66	47.86	48.06	48.26	48.46	48.66
Maximum Power voltage(Vmp/V)		40.73	40.91	41.09	41.27	41.45	41.63	41.81
Short Circuit Current(Isc/A)		15.72	15.77	15.82	15.87	15.92	15.97	16.02
Maximum Power Current(Imp/A)		14.85	14.91	14.97	15.02	15.08	15.13	15.19
Module Efficiency [%]		22.40	22.60	22.80	23.00	23.10	23.30	23.50

Electrical Properties	NOCT:Irradiance at 800w/m <sup>2</sup> , Ambient Temperature 20 Wind Speed 1m/s						
Testing condition	Front Side						
Peak Pwer(Pmax)(w)	453	457	461	464	468	472	476
Mpp Voltage(Vmp)(v)	39.00	39.17	39.34	39.51	39.69	39.86	40.03
MPP Current(Imp)(A)	11.62	11.66	11.71	11.75	11.80	11.84	11.888
Open Circuit Voltage(VOC)(V)	45.44	45.63	45.82	46.01	46.02	46.40	46.59
Short Circuit Current(Isc)(A)	12.70	12.74	12.78	12.82	12.86	12.90	12.94

Different Power Generation Gain						Temperature Coefficient	
Power Gain	Pmax(W)	Vmp(V)	Imp(A)	Voc(V)	Isc(A)		
10%	671.0	40.91	16.40	47.66	17.35	Tempertrue Coefficient of Pmax	-0.300%/°C
15%	701.5	40.91	17.15	47.66	18.14	Temperature Coefficiency of Voc	-0.250%/°C
20%	732.0	41.01	17.85	47.76	18.89	Temperature Coefficient of Isc	+0.045%/°C
25%	762.5	41.01	18.59	47.76	19.67	NOCT	42 ±2°C
30%	793.0	41.01	19.34	47.76	20.46	Temperature Coefficient of Pmax	0.03%/°C

### Packing Configuration

36pcs/Pallet 40HQ 720PCS