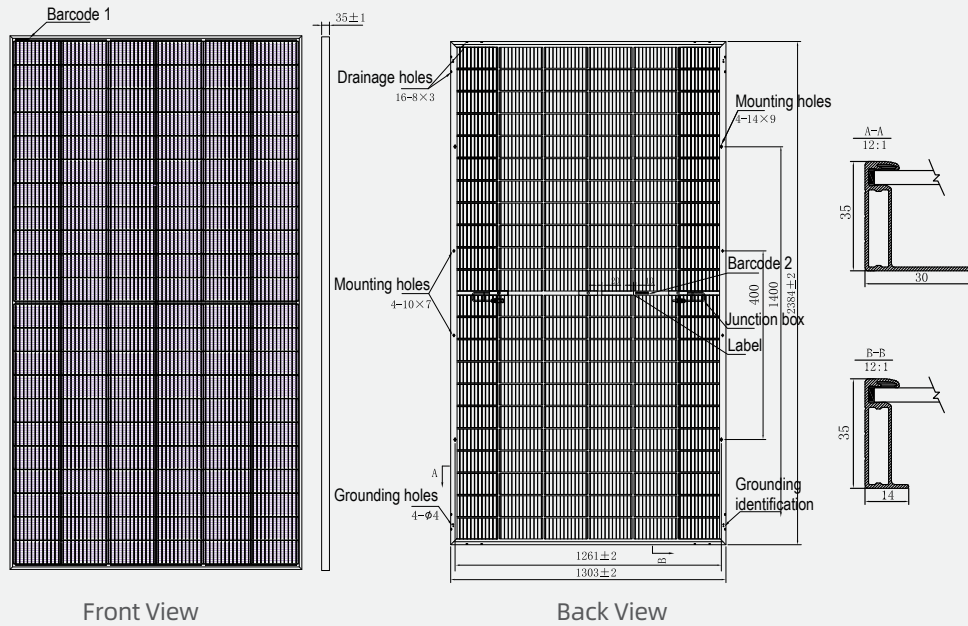
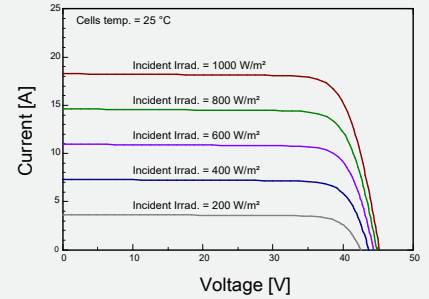


DIMENSIONS OF PV MODULE(mm)

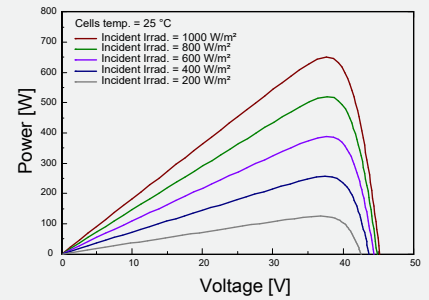


*Remark: customized frame color and cable length available upon request

I-V CURVES OF PV MODULE(650W)



P-V CURVES OF PV MODULE(650W)



ELECTRICAL CHARACTERISTICS | STC*

Nominal Power Watt Pmax(W)*	645	650	655	660	665	670
Power Output Tolerance Pmax(%)	0~+3	0~+3	0~+3	0~+3	0~+3	0~+3
Maximum Power Voltage Vmp(V)	37.50	37.70	37.90	38.10	38.30	38.50
Maximum Power Current Imp(A)	17.21	17.25	17.29	17.33	17.37	17.41
Open Circuit Voltage Voc(V)	45.00	45.20	45.40	45.60	45.80	46.00
Short Circuit Current Isc(A)	18.22	18.27	18.32	18.37	18.42	18.47
Module Efficiency (%)	20.76	20.92	21.09	21.25	21.41	21.57

*The data above is for reference only and the actual data is in accordance with the practical testing

*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25°C, AM 1.5

*Measuring tolerance: ±3%

MECHANICAL DATA

Solar cells	Mono PERC
Cells orientation	132 (6×22)
Module dimension	2384×1303×35 mm (With Frame)
Weight	38.5±1.0 kg
Glass	2.0 mm+2.0mm, High Transmission, AR Coated Heat Strengthened Glass
Junction box	IP 68, 3 diodes
Cables	4 mm², 350 mm (With Connectors)
Connectors*	MC4-compatible

*Please refer to regional datasheet for specified connector

ELECTRICAL CHARACTERISTICS | NMOT*

Maximum Power Pmax(Wp)	484.90	488.60	492.30	496.10	499.80	503.60
Maximum Power Voltage Vmpp(V)	35.00	35.20	35.40	35.60	35.70	35.90
Maximum Power Current Imp(A)	13.84	13.88	13.92	13.95	13.99	14.03
Open Circuit Voltage Voc(V)	42.30	42.40	42.60	42.80	43.00	43.20
Short Circuit Current Isc(A)	14.71	14.75	14.79	14.83	14.87	14.91

*NMOT: Irradiance 800W/m², Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

TEMPERATURE RATINGS

NMOT	43°C ±2°C	Maximum system voltage	1500 V DC
Temperature coefficient of Pmax	-0.34%/°C	Operating temperature	-40°C~+85°C
Temperature coefficient of Voc	-0.29%/°C	Maximum series fuse	35 A
Temperature coefficient of Isc	0.05%/°C	Front Side Maximum Static Loading	Up to 5400Pa
Refer. Bifacial Factor	70±5%	Rear Side Maximum Static Loading	Up to 2400Pa

*Do not connect Fuse in Combiner Box with two or more strings in parallel connection

ELECTRICAL CHARACTERISTICS WITH 25% REAR SIDE POWER GAIN*

Front power Pmax/W	645	650	655	660	665	670
Total power Pmax/W	806	813	819	825	831	838
Vmp/V(Total)	37.60	37.80	38.00	38.20	38.40	38.60
Imp/A(Total)	21.44	21.49	21.55	21.60	21.65	21.70
Voc/V(Total)	45.10	45.30	45.50	45.70	45.90	46.10
Isc/A(Total)	22.70	22.77	22.83	22.89	22.96	23.02

*Bifacial Gain: The additional gain from the back side compared to the power of the front side at the standard test condition.
It depends on mounting (structure, height, tilt angle etc.) and albedo of the ground.

PACKAGING CONFIGURATION **

Piece/Box	31
Piece/Container(40'HQ)	558

*Remark: 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.

**Customized packaging is available upon request.

Caution: Please be kindly advised that PV modules should be handled and installed by qualified people who have professional skills and please carefully read the safety and installation instructions before using our PV modules.