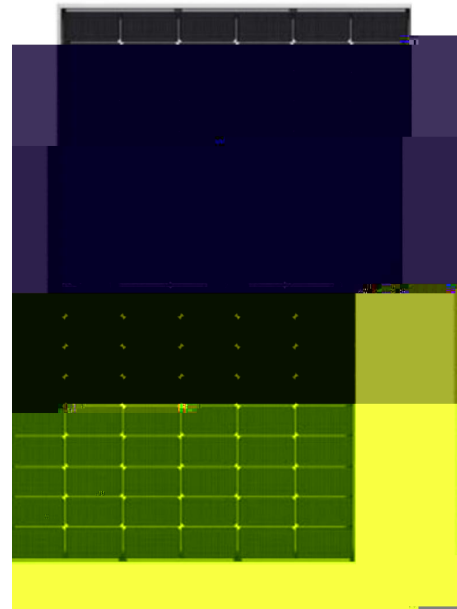


N-type monocrystalline high-efficiency
bifacial double glass module

Maximum module efficiency



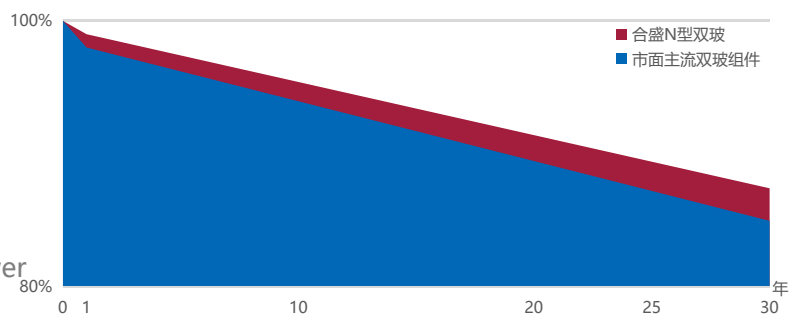
up to 22.5%.

12

- 12-year product warranty
- 1% 1st-year power degradation

30

- 30-year linear power warranty
- 0.4% annual power degradation



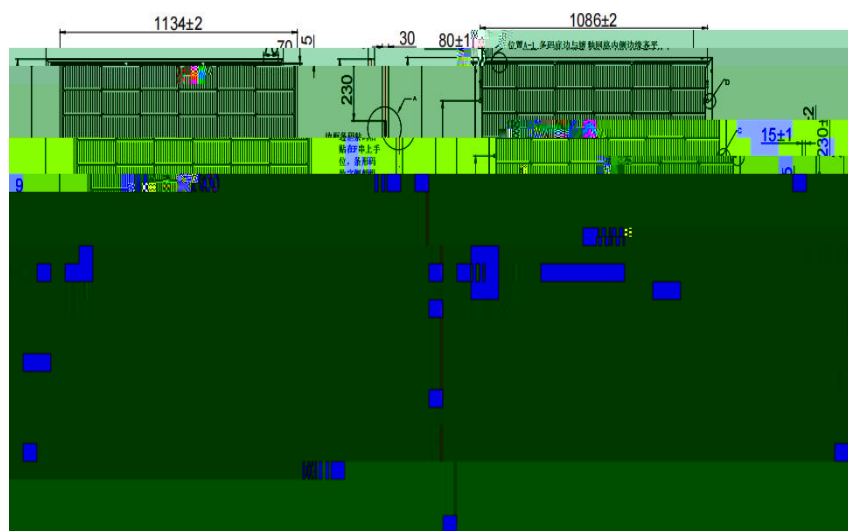
IEC61215(2016), IEC61730(2016)

ISO9001:2015: Quality Management System (QMS)

ISO14001:2015: Environmental Management System

ISO45001:2018:Occupational Health and Safety Management System





Mechanical Parameters

Cell type	N-type Monocrystalline solar cells
Number of half cell	96 (6×16)
Dimensions	1762×1134×30mm
Weight	20.9kg
Front Glass	1.6mm anti-reflective coating glass
Back Glass	1.6mm Heat-strengthened glass
Frame	Anodized aluminum alloy
Junction box	IP68
Output cable	4.0mm ² ; + 400/-200mm or customised
Size of each pallet	1778×1140×1250mm

Electrical performance parameters

Module Type

HS-48TBN 435-455-S7

Test Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	435	355	440	359	445	363	450	368	455	372
Optimum Operating Voltage (Vmp/V)	29.45	29.32	29.58		29.71	29.69	29.84	29.86	29.97	30.03
Optimum Operating Current (Imp/A)	14.77	12.10	14.87	12.17	14.98	12.24	15.08	12.31	15.18	12.38
Open Circuit Voltage (Voc/V)	34.71	34.81	34.88	34.98	35.05	35.15	35.22	35.32	35.39	35.49
Short Circuit Current (Isc/A)	15.88	12.68	15.96	12.74	16.04	12.80	16.12	12.86	16.20	12.92
Module Efficiency (%)	21.8%		22.0%		22.3%		22.5%		22.8%	
Operating Temperature Range (°C)						-40°C ~ +85°C				
Maximum System Voltage						1500V DC (IEC)				
Maximum Rated Fuse Current						25A				
Power Tolerance						0~+5W				
Temperature Coefficient of peak power (Pmax)						-0.29%/°C				
Temperature Coefficient of open circuit voltage(Voc)						-0.25%/°C				
Temperature Coefficient of short-circuit current(Isc)						0.043%/°C				
Nominal Operating Temperature of cell (NOTC)						45±2°C				
Bifaciality(BiFi)						80±5%				

STC Irradiance 1000W/m²

Cell temperature 25

Air quality=1.5

NOCT: Irradiance 800W/m²

Ambient temperature 20

Air quality =1.5 Wind speed 1m/s

Parameters of bifacial power generation (Backside Power Gain)

5%	Maximum power(Pmax)	457Wp	462Wp	467Wp	473Wp	478Wp
	Module efficiency(%)	22.9%	23.1%	23.4%	23.6%	23.9%
10%	Maximum power(Pmax)	479Wp	484Wp	490Wp	495Wp	501Wp
	Module efficiency(%)	23.9%	24.2%	24.5%	24.8%	25.0%
15%	Maximum power(Pmax)	500Wp	506Wp	512Wp	518Wp	523Wp
	Module efficiency(%)	25.0%	25.3%	25.6%	25.9%	26.2%