



未来光能
FUTURE ENERGY

FUTURE210R Series

96 Half-piece Bifacial Dual Glass HJT Module (Black)

440~460W



OBB Technology

Less light obstruction and stronger current collection ability



Up to 90% Bifaciality

Natural symmetrical bifacial structure bringing more energy yield from the backside.



Better temperature coefficient

-0.24%/°C, More stable power generation



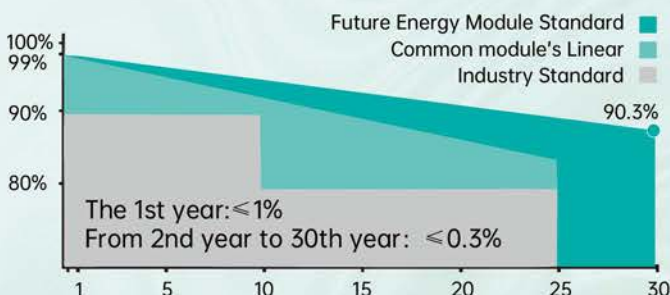
High Reliability

Excellent anti-LID & anti-PID performance, Sealing with PIB based sealant, Stronger water resistance, greater air impermeability to extend module lifespan.



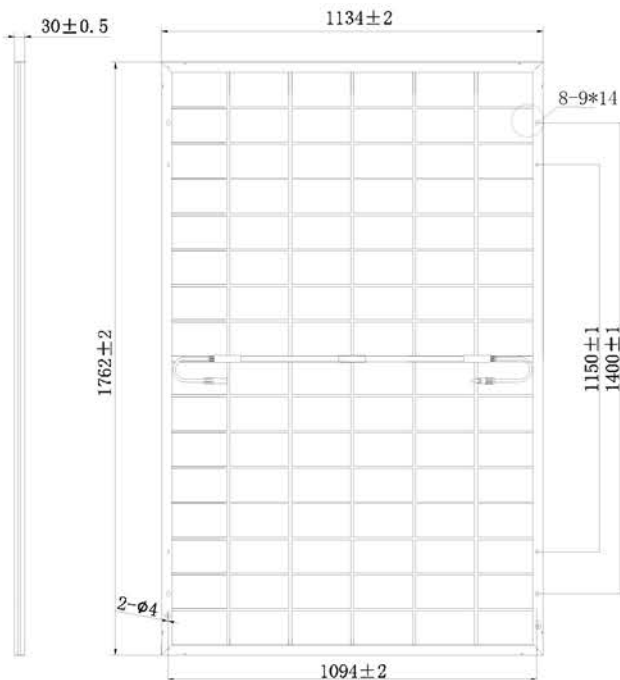
Ideal choice for solar rooftop system

Suitable for various rooftop projects.



15^y Product Warranty

30^y Linear Power Warranty

Engineering Drawings Unit: mm

ELECTRICAL DATA (STC*)

Rated Power in Watts-Pmax(Wp)	440	445	450	455	460
Maximum Power Voltage-Vmpp(V)	30.43	30.66	30.88	31.10	31.30
Maximum Power Current-Impp(A)	14.47	14.53	14.60	14.66	14.72
Open Circuit Voltage-Voc(V)	36.68	36.95	37.22	37.47	37.72
Short Circuit Current-Isc(A)	15.26	15.30	15.36	15.41	15.45
Module Efficiency (%)	22.02	22.27	22.52	22.77	23.02

*STC: Irradiance 1000 W/m², cell temperature 25°C, AM=1.5. Tolerance of Pmax is within +/- 3%.

Electrical characteristics with 10% rear side power gain

Total Equivalent power -Pmax(Wp)	484	490	495	501	506
Maximum Power Voltage-Vmpp(V)	30.43	30.66	30.88	31.10	31.30
Maximum Power Current-Impp(A)	15.92	15.98	16.06	16.13	16.19
Open Circuit Voltage-Voc(V)	36.68	36.95	37.22	37.47	37.72
Short Circuit Current-Isc(A)	16.79	16.83	16.90	16.95	17.00

Mechanical Characteristics

Solar cells	n-type HJT
Cell configuration	96cells (6×16)
Module dimensions	1762×1134×30mm
Weight	23kg
Superstrate	1.6mm,High Transmission,AR Coated Heat Strengthened Glass
Substrate	1.6mm,Heat Strengthened Glass
Frame	Anodized Aluminium Alloy
J-Box	IP68
Cables	4.0mm ² ,300mm, or customized length
Connector	MC4-EVO 2A
Packing Configuration	
36PCS per pallet , 936PCS per 40ft(HQ)	

Application Environment&Temperature Characteristics

Operating Module Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Maximum Series Fuse	30A
Power Tolerance	0~+5W
Bifaciality	85%±5%
Safety Class	Class II
Nominal Operating Cell Temp.(NOCT)	45±2°C
Temperature Coefficient of Pmax	-0.24%/°C
Temperature Coefficient of Voc	-0.24%/°C
Temperature Coefficient of Isc	0.04%/°C

