

HPBC

High Efficiency Cells

WR5-54HTBB

415~435M

- Suitable for Distribution Market
- Simple design embodies modern style
- Better energy generation performance
- High-quality module guarantees long-term reliability

15

15-year Warranty for
Materials and Processing

30

30-year Warranty for Extra
Linear Power Output

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO9001:2015: ISO Quality Management System

ISO14001: 2015: ISO Environment Management System

ISO45001: 2018: Occupational Health and Safety

IEC62941: Guideline for module design qualification and type approval

WERAN



22.3%
MAX MODULE
EFFICIENCY

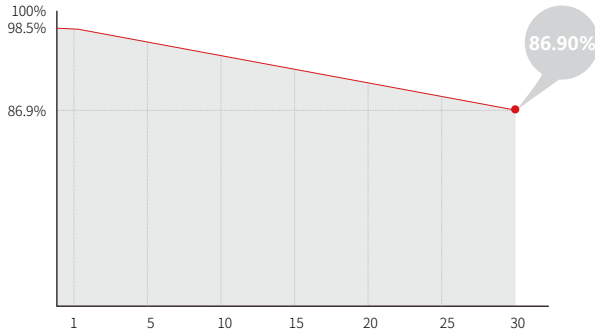
0~3%
POWER
TOLERANCE

<1.5%
FIRST YEAR
POWER DEGRADATION

0.40%
YEAR 2-30
POWER DEGRADATION

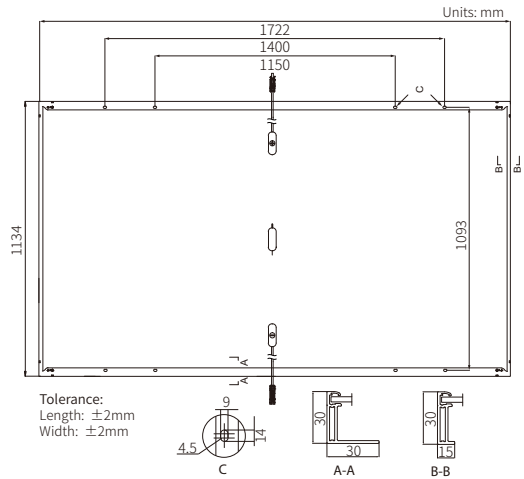
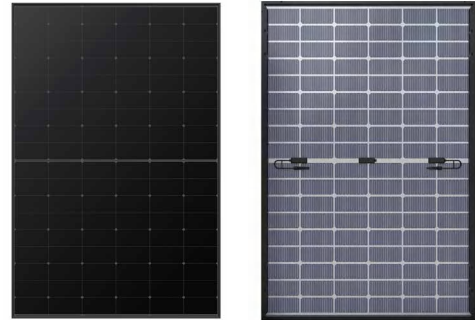
Additional Value

30-Year Power Warranty



Mechanical Parameters

Cell Orientation	108 (6×18)
Junction Box	IP68
Output Cable	4mm ² , ±1200mm length can be customized
Glass	Double glass, 2.0mm+1.6mm semi-tempered glass
Frame	Anodized aluminum alloy frame
Weight	22.5kg
Dimension	1722×1134×30mm
Packaging	36 pcs per pallet / 216pcs per 20' GP / 936pcs per 40' HC



Electrical Characteristics

STC: AM1.5 1000W/m² 25°C

NOCT: AM1.5 800W/m² 20°C 1m/s

Test uncertainty for Pmax: ±3%

Module Type	WR5-54HTBB-410M		WR5-54HTBB-415M		WR5-54HTBB-420M		WR5-54HTBB-425M		WR5-54HTBB-430M		WR5-54HTBB-435M	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	410	306	415	310	420	314	425	318	430	321	435	325
Open Circuit Voltage (Voc/V)	38.70	36.23	38.90	36.52	39.10	36.71	39.30	36.90	39.50	37.09	39.70	37.28
Short Circuit Current (Isc/A)	13.67	11.07	13.75	11.11	13.81	11.16	13.90	11.23	13.97	11.28	14.05	11.35
Voltage at Maximum Power (Vmp/V)	32.28	29.46	32.48	29.64	32.68	29.82	32.88	30.01	33.08	30.19	33.29	30.38
Current at Maximum Power (Imp/A)	12.70	10.40	12.78	10.46	12.86	10.53	12.93	10.60	13.00	10.64	13.07	10.70
Module Efficiency(%)	21.0		21.3		21.5		21.8		22.0		22.3	

Electrical characteristics with different rear side power gain (reference to 425W front)

Pmax/W	Voc/V	Isc/A	Vmp/V	Imp/A	Pmax gain
441	39.10	14.51	32.68	13.50	5%
462	39.10	15.20	32.68	14.15	10%
483	39.20	15.89	32.78	14.79	15%
504	39.20	16.58	32.78	15.43	20%
525	39.20	17.27	32.78	16.08	25%

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Maximum System Voltage	DC1500V (IEC)
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Bifaciality	50±5%
Fire Rating	IEC Class C

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.230%/°C
Temperature Coefficient of Pmax	-0.290%/°C