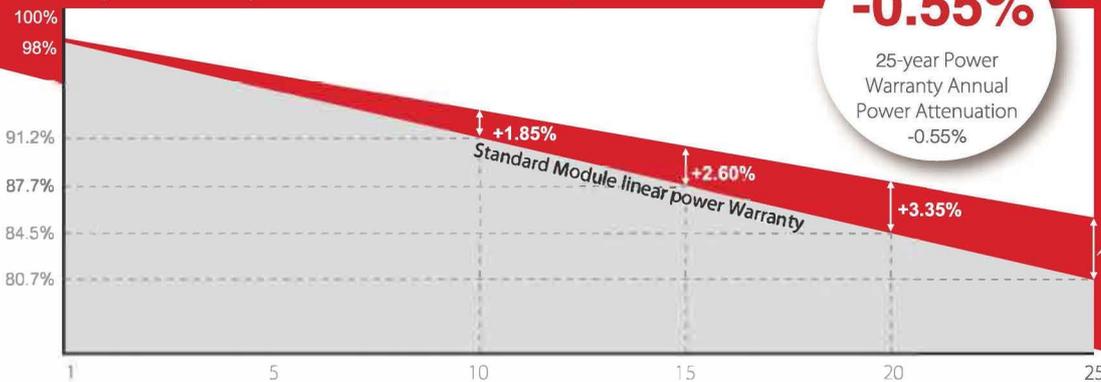


9BB&166MM CELL 450-480W

**High Efficiency
Low LID Mono PERC with
Half-cut Technology**

12-year Warranty for Materials and Processing;
25-year Warranty for Extra Linear Power Output



-0.55%

25-year Power
Warranty Annual
Power Attenuation
-0.55%

+4.10%

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO 9001:2008: ISO Quality Management System

ISO 14001: 2004: ISO Environment Management System

TS62941: Guideline for module design qualification and type approval

OHSAS 18001: 2007 Occupational Health and Safety



* Specifications subject to technical changes and tests.
Yangtze Solar reserves the right of interpretation.

Positive power tolerance (0 ~ +5W) guaranteed

High module conversion efficiency (up to 21.69%)

Slower power degradation enabled by Low LID Mono PERC technology: first year <2%, 0.55% year 2-25

Solid PID resistance ensured by solar cell process optimization and careful module BOM selection

Reduced resistive loss with lower operating current

Higher energy yield with lower operating temperature

Reduced hot spot risk with optimized electrical design and lower operating current

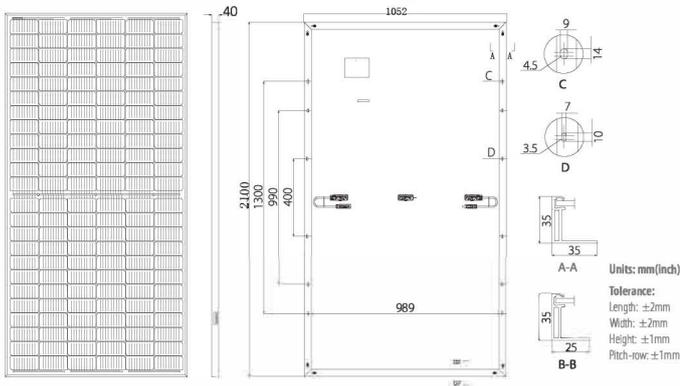


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Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. Yangtze have the sole right to make such modification at any time without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

YS(450~480)M-72

Design (mm)



Mechanical Parameters

Cell Orientation: 144(6×24)
Junction Box: IP68, three diodes
Output Cable: 4mm², 300mm in length,
length can be customized
Glass: Single glass
3.2mm coated tempered glass
Frame: Anodized aluminum alloy frame
Weight: 23.5kg
Dimension: 2100×1052×40mm
Packaging: 26pcs per pallet
260pcs per 20'GP
682pcs per 40'HQ

Operating Parameters

Operational Temperature: -40℃ ~ +85℃
Power Output Tolerance: 0 ~ +5 W
Voc and Isc Tolerance: ±3%
Maximum System Voltage: DC1500V (IEC/UL)
Maximum Series Fuse Rating: 20A
Nominal Operating Cell Temperature: 45±2℃
Safety Class: Class II
Fire Rating: UL type 1 or 2

Electrical Characteristics

Test uncertainty for Pmax: ±3%

Model Number -72**	 -72**	 -72**	 -72**		**YS470M-72*	 -72**	 -72	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	450	337.5	455	341.5	460	345	465	348.5	470	352.5	475	365.5	480	360
Open Circuit Voltage (Voc/V)	49.3	46.2	49.5	46.4	49.7	46.6	49.9	46.8	50.1	47.0	50.3	47.2	50.5	47.4
Short Circuit Current (Isc/A)	11.6	9.38	11.66	9.43	11.72	9.48	11.78	9.53	11.83	9.58	11.89	9.63	11.95	9.68
Voltage at Maximum Power (Vmp/V)	41.5	38.6	41.7	38.8	41.9	40.0	42.1	40.2	42.3	40.4	42.5	40.6	42.7	40.8
Current at Maximum Power (Imp/A)	10.84	8.74	10.91	8.80	10.98	8.62	11.05	8.67	11.11	8.73	11.18	9.0	11.24	8.82
Module Efficiency(%)	20.33		20.56		20.78		21.0		21.23		21.46		21.69	

(Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25℃, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20℃, Spectra at AM1.5, Wind at 1m/s

Temperature Ratings (STC)

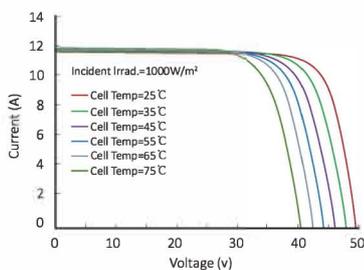
Temperature Coefficient of Isc	+0.048%/℃
Temperature Coefficient of Voc	-0.270%/℃
Temperature Coefficient of Pmax	-0.350%/℃

Mechanical Loading

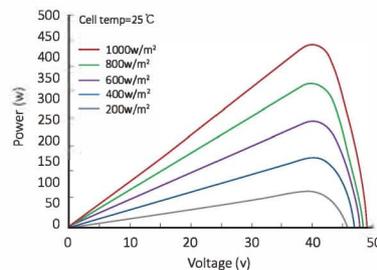
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

I-V Curve

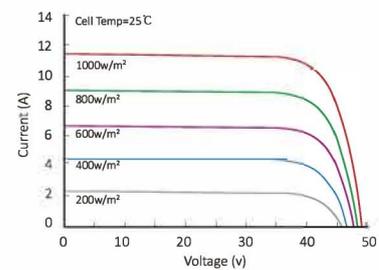
Current-Voltage Curve (450M)



Power-Voltage Curve (450M)



Current-Voltage Curve (450M)



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