

Mars Series

405W/410W/415W/420W

SUN 54M-H8(BK)

MBB HALF-CELL MONO PV MODULE
182MM CELLS



COMPREHENSIVE CERTIFICATES

IEC61215 / IEC61730 / IEC61701 / IEC62716 / IEC62804
ISO 9001: 2015 Quality management systems;
ISO 14001: 2015 Environmental management systems;
ISO 45001: 2018 Occupational health and safety management systems;

Sunergy Advantages



Power attenuation rate surpass than industry standards

As the CTC randomization test, our attenuation rate is 1.81%, 0.31% and 0.34% in the 1st, 2nd and 3rd year, which is much less than the national standard value of 2% and 0.55%



Overflow tank can be waterproof

The excess silicone will flow into the overflow tank, can reduce 3% water vapor entering the panels.



Stronger frame

The C side of the frame contains curved hook reinforcement, enhanced the mechanical load strength by 10%



Current grading

Current classification effectively avoids 2% power loss caused by current mismatch during installation, achieving max output power



IP68 junction box

IP68 junction box offer perfect waterproof performance

SUNERGY USA WORKS LLC

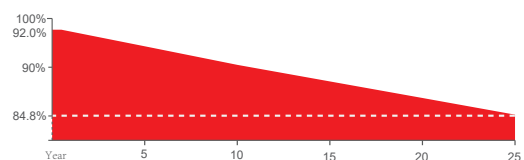
Founded in 2008, Sunergy is a manufacturer of high-performance photovoltaic products. With 12 manufacturing bases and more than 20 branches around the world, the company's business covers modules, photovoltaic power stations and EPC. Sunergy products are available in over 120 countries and regions and are used extensively in ground-mounted power plants, commercial & industrial rooftop PV systems and residential rooftop PV systems.

QUALIFICATIONS AND CERTIFICATES



LINEAR PERFORMANCE WARRANTY

- 12 Years Manufacturing Warranty
- 12 Years 92.0% Power Output
- 25 Years 84.8% Power Output

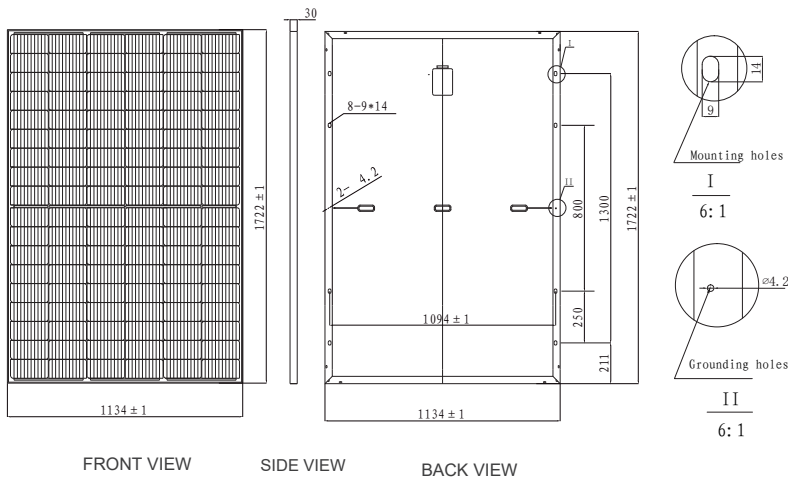


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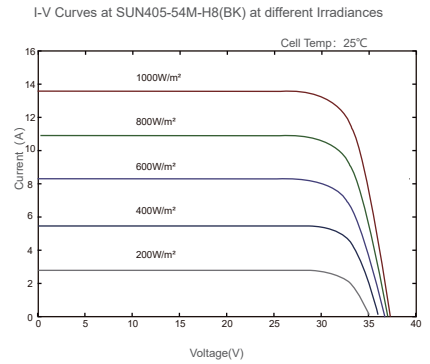


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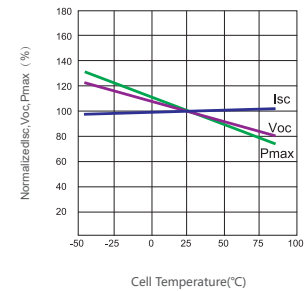
MECHANICAL DRAWINGS



I-V CURVES



Power voltage current curve at different temperature



MECHANICAL SPECIFICATION

Cell Type	Mono Crystalline 182x91mm
Number Of Cells	108 (6x18)
Dimensions(AxBxC)	1722x1134x30mm
Weights	20.3kg
Glass	3.2mm Tempered Low Iron Glass
Aluminium Frame	Anodised Aluminium
Junction Box	Split Junction Box (IP68 ,three diode)
Connector	Mc4 Compatible
Output Cables	4.0mm ² , +300mm, -300mm Customized Length

PACKING CONFIGURATION

Container	40' HQ
Pieces Per Pallet	36
Pallets Per Container	26
Pieces Per Container	936

ELECTRICAL CHARACTERISTICS

Module Type	405W		410W		415W		420W	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power At STC(Pmax)	405W	305.1W	410W	308.9W	415W	312.6W	420W	316.4W
Short Circuit Current(Isc)	13.77A	11.13A	13.85A	11.19A	13.93A	11.26A	14.01A	11.32A
Open Circuit Voltage(Voc)	37.4V	35.0V	37.6V	35.1V	37.9V	35.4V	38.1V	35.6V
Maximum Power Current(Imp)	12.94A	10.55A	13.02A	10.61A	13.09A	10.67A	13.17A	10.73A
Maximum Power Voltage(Vmpp)	31.3V	28.9V	31.5V	29.1V	31.7V	29.3V	31.9V	29.5V
Module Efficiency	20.74%		21.00%		21.25%		21.51%	
Power Tolerance	0~+5W		0~+5W		0~+5W		0~+5W	
Maximum System Voltage	VDC 1500V							
Maximum Series Fuse	25A							
Increased Snowload Acc.to Iec 61215	5400Pa							
Operating Temperature	-40~+85°C							
Number Of Bypass Diodes	3							
Norminal Operating Cell Temperature(Noct)	45°C±2°C							
Temperature Coefficient Of Pmax	-0.35%/°C							
Temperature Coefficient Of Voc	-0.27%/°C							
Temperature Coefficient Of Isc	0.05%/°C							

STC: 1000W/m² irradiance, 25°C cell temperature, AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, wind speed 1m/s.

