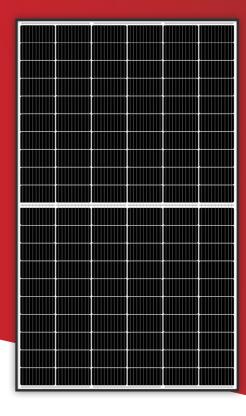


# Zosma<sup>™</sup>S BF 445-460W

High Efficiency Half-Cell Mono PERC Module





Excellent low irradiance performance.



Better light trapping and current collection to improve module power output and reliability.



Industry leading lowest thermal co-efficient of power.



Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.



Certified to withstand: wind load (2400 Pa) and snow load (5400 Pa).



100% triple EL test enabling remarkable reduction of hidden crack rate of modules

## PERFORMANCE INSURANCE

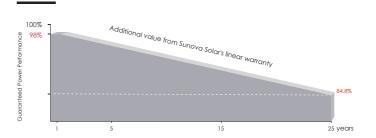






Optional performance warranty insurance. Please contact our local sales staff for more information.

# LINEAR PERFORMANCE WARRANTY



Product quality & process guarantee

Linear power guarantee

Annual Degradation Over 25 years

## **COMPREHENSIVE CERTIFICATES**

















IEC61215/IEC61730/IEC61701/IEC62716/ IEC62804/IEC60068/UL61730

ISO 9001: Quality Management System

ISO 14001: Environmental Management System Standard

ISO 45001: International Occupational Health and

Safety Assessment System Standard

2014 Social Accountability Management System SA 8000:

\* Different markets have different certification requirements. Also, the products are under rapid innovation. Please confirm the certification status with regional sales representatives.

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#### **ELECTRIC CHARACTERISTICS**



Model of modules	SS-445-60MDH		SS-450-60MDH		SS-455-60MDH		SS-460-60MDH	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum power — P <sub>mp</sub> (W)	445	332	450	335	455	339	460	343
Open-circuit voltage — V <sub>oc</sub> (V)	41.27	38.79	41.46	38.97	41.65	39.15	41.78	39.29
Short-circuit current — I <sub>sc</sub> (A)	13.42	10.88	13.47	10.91	13.54	10.97	13.63	11.04
Maximum power voltage — V <sub>mp</sub> (V)	34.46	32.05	34.62	32.19	34.78	32.35	34.89	32.46
Maximum power current — I <sub>mp</sub> (A)	12.92	10.36	13.01	10.41	13.09	10.48	13.19	10.57
Module efficiency — η <sub>m</sub> (%)	20.6		20.9		21.1		21.3	
Power tolerance (W)	(0,+5)							
Maximum system voltage (V)	1500							
Maximum rated fuse current (A)	25							
Current operating temperature (°C)	-40~+85°C							

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 °C, Spectra at AM1.5 NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

#### STRUCTURAL CHARACTERISTICS

Module dimensions (L*W*H)	1903 x 1134 x 30 mm		
Weight	24 kg		
Number of cells	120 cells		
Cell	PERC Monocrystalline 182x91 mm		
Glass	Tempered, 3.2 mm AR, High transmittance, Low iron		
Frame	Black anodized aluminum alloy		
Junction box	IP68		
Output wire	4.0 mm², wire length: 300mm/customized		
Connector	MC4 Compatible		
Mechanical load	Snow load: 5400 Pa / Wind load: 2400 Pa		

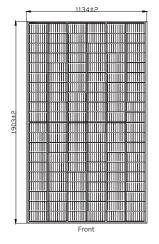
#### **TEMPERATURE RATINGS**

Temperature coefficient (P <sub>max</sub> )	-0.35 %/°C
Temperature coefficient (V <sub>oc</sub> )	-0.28 %/°C
Temperature coefficient (I <sub>sc</sub> )	+0.045 %/°C
Nominal operating cell temperature	43±2°C

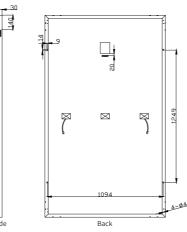
#### **PACKAGING CONFIGURATION**

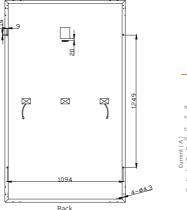
	Container	40HQ
	Quantity/pallet	36
	Pallets/container	24
	Quantity/container	864

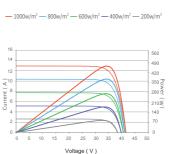
## **MODULE DIMENSIONS (MM)**



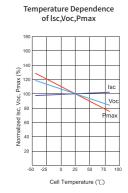








Current-Voltage & Power-Voltage Curves (460W)





Web: www.sunova-solar.com

E-mail: info@sunova-solar.com

Make it happen SD202307001EN(SP)

<sup>\*</sup>The technical parameters contained in this datasheet may deviate slightly, Sunova Solar does not guarantee that they are completely accurate. Varying optional data could be for different regions or prices. Please contact commercial people for confirmation. Due to continuous innovation, research and development and product improvement, Sunova Solar reserves the right to adjust the information in this datasheet at any time without prior notice. The customer should obtain the latest version of datasheet when signing the contract and make it an integral part of the binding contract signed by both parties. The Chinese (or other language) translation files of this datasheet are for reference only. If there is any inconsistency between the English version and the Chinese version (or other language versions), the English version shall prevail.