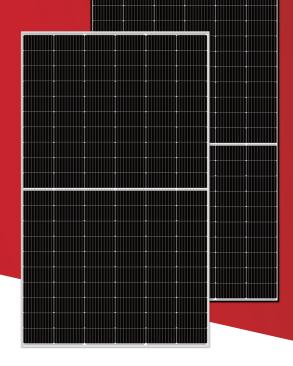




Zosma[™]S 440-460W

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 coefficient



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



Certified to withstand 2400 Pa of wind load and 5400 Pa of snow load



100% triple EL test, which greatly reduces the hidden cracks rate

PERFORMANCE INSURANCE





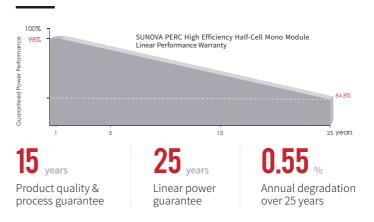






 $^{^{\}star}$ Optional performance warranty insurance. Please contact our local sales representatives for more information.

LINEAR PERFORMANCE WARRANTY



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

SA 8000: 2014 Social Accountability Management System

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

ELECTRICAL CHARACTERISTICS



Model of modules	SS-440-60MDH		SS-445-60MDH		SS-450-60MDH		SS-455-60MDH		SS-460-60MDH	
	STC	NOCT								
Maximum power — P _{mp} (W)	440	328	445	332	450	336	455	339	460	343
Open-circuit voltage — V_{oc} (V)	41.18	38.87	41.27	38.96	41.46	39.14	41.65	39.32	41.78	39.44
Short-circuit current $-I_{sc}(A)$	13.37	10.80	13.42	10.84	13.47	10.88	13.54	10.94	13.63	11.01
Maximum power voltage − V _{mp} (V)	34.33	32.14	34.46	32.26	34.62	32.41	34.78	32.56	34.89	32.66
${\rm Maximum\ power\ current} - {\rm I_{mp}\ (A)}$	12.82	10.20	12.92	10.28	13.01	10.35	13.09	10.42	13.19	10.50
Module efficiency $-\eta_m$ (%)	20.39		20.62		20.85		21.08		21.32	
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	
Glass	Tempered, 3.2 mm AR, High transmittance, Low iron	
Frame	Anodized aluminum alloy (Silver/Black)	
Junction box	IP68, 3 bypass diodes	
Output wire	4.0 mm², wire length: 300mm/1200mm/customized	
Connector	MC4 Compatible	
Mechanical load	Snow load: 5400 Pa / Wind load: 2400 Pa	

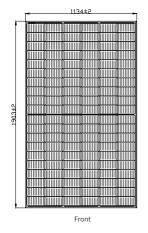
TEMPERATURE RATINGS

Temperature coefficient (P _{max})	-0.33 %/°C
Temperature coefficient (V _{oc})	-0.26 %/°C
Temperature coefficient (I _{sc})	+0.045 %/°C
Nominal operating cell temperature	43±2°C

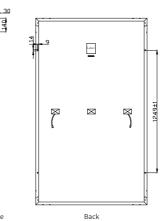
PACKAGING CONFIGURATION

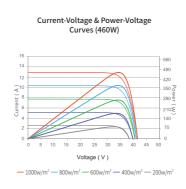
Container	40HQ
Quantity/pallet	36
Pallets/container	24
Quantity/container	864

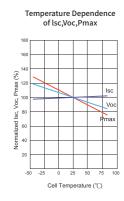
MODULE DIMENSIONS (MM)











^{*} The unmarked tolerance is ±1 mm Length shown in mm





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E-mail: info@sunova-solar.com

*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 lists 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.

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