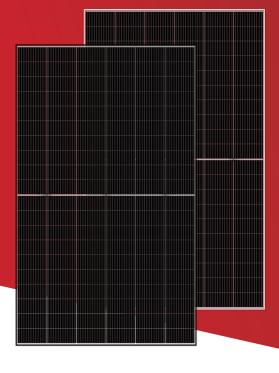


# Zosma<sup>™</sup>L Pro 590-610W

High Efficiency Bifacial Dual Glass Mono Module





Bifacial technology enables additional energy harvesting from rear side (up to 30%)



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





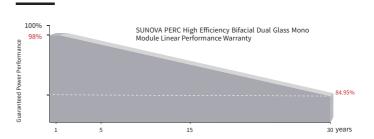






 $<sup>^{\</sup>star}$  Optional performance warranty insurance. Please contact our local sales representatives for more information.

# LINEAR PERFORMANCE WARRANTY



Product quality & process guarantee

Linear power guarantee

Annual degradation over 30 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

SA 8000: 2014 Social Accountability Management System

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<sup>\*</sup> 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-BG590-60MDH-G12		SS-BG595-60MDH-G12		SS-BG600-60MDH-G12		SS-BG605-60MDH-G12		SS-BG610-60MDH-G12	
	STC	NOCT								
$\operatorname{Maximum\ power} - \operatorname{P}_{\operatorname{mp}}(\operatorname{W})$	590	440	595	444	600	447	605	451	610	455
Open-circuit voltage — V <sub>oc</sub> (V)	41.31	38.99	41.54	39.21	41.72	39.38	41.91	39.56	42.11	39.75
Short-circuit current $-I_{sc}(A)$	18.31	14.79	18.36	14.83	18.42	14.88	18.47	14.92	18.53	14.97
${\rm Maximum\ power\ voltage} - {\rm V_{mp}(V)}$	34.21	32.03	34.41	32.21	34.63	32.42	34.81	32.59	35.01	32.77
${\rm Maximum\ power\ current} - {\rm I_{mp}\ (A)}$	17.25	13.73	17.31	13.77	17.34	13.80	17.39	13.84	17.43	13.87
Module efficiency $-\eta_m$ (%)	20	.85	21	.02	21	.20	21	.38	21	.55

 ${\tt STC} \quad \hbox{(Standard Testing Conditions): Irradiance 1000W/m}^2, \hbox{Cell Temperature 25 °C} \ , \hbox{Spectra at AM1.5}$ NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/s

#### **ELECTRICAL CHARACTERISTICS WITH DIFFERENT POWER BIN (REFERENCE TO 13.5% IRRADIANCE RATIO)**

Maximum power — P <sub>mp</sub> (W)	646	652	657	663	668
Open-circuit voltage — $V_{oc}$ (V)	41.31	41.54	41.72	41.91	42.11
Short-circuit current $-I_{sc}(A)$	20.04	20.10	20.16	20.22	20.28
${\rm Maximum\ power\ voltage} - {\rm V_{mp}}({\rm V})$	34.21	34.41	34.63	34.81	35.01
Maximum power current $-I_{mp}$ (A)	18.88	18.95	18.98	19.03	19.08

#### STRUCTURAL CHARACTERISTICS

Module size (L*W*H)	2172 x 1303 x 35 mm
Weight	35.3 kg
Cell	120 cells, PERC Monocrystalline
Front glass	2.0mm, Anti-Reflection Coating
Back glass	2.0mm, Heat Strengthened Glass
Frame	Anodized aluminum alloy (Silver/Black)
Junction box	IP68, 3 bypass diodes
Output wire	4.0 mm <sup>2</sup>
Wire length	300mm / 1200mm / customized
Connector	MC4 Compatible
Packing Specification	31 pcs/Pallet; 558 pcs/40'HQ

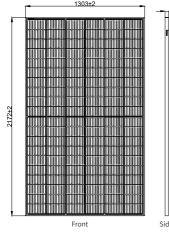
#### **OPERATING PARAMETERS**

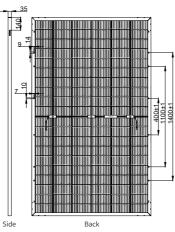
Power tolerance (W)	(0,+5)		
Maximum system voltage (V)	1500		
Maximum rated fuse current (A)	35		
Current operating temperature (°C)	-40~+85 °C		
Mechanical load	5400 Pa / 2400 Pa		

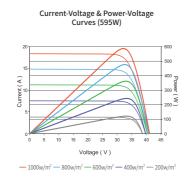
#### **TEMPERATURE RATINGS**

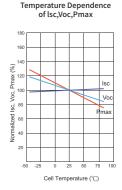
Temperature coefficient (P <sub>max</sub> )	-0.33%/°C
Temperature coefficient (V <sub>oc</sub> )	-0.26 %/°C
Temperature coefficient ( $I_{sc}$ )	+0.06 %/°C
Nominal operating cell temperature	43±2°C

### **MODULE DIMENSIONS (MM)**









Length shown in mm





#### Web: www.sunova-solar.com

#### 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 lites 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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<sup>\*</sup> The unmarked tolerance is ±1 mm