



N-Type

182 Mono-Bifacial Module

PP-M10NS

620W-650W

Maximum output power

650W

Maximum efficiency

23.25%

Power tolerance

0~+5%



► Key Features



SMBB Technology

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



Hot 2.0 Technology

The N-type module with Hot 2.0 technology has better reliability and lower LID/LETID.



PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control.



Duplex power generation

The power gain on both sides increases with the light received on the back, up to 25%.



Enhanced Mechanical Load

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

► Quality System

ISO 45001: 2018 Occupational Health and Safety Management System

ISO 14001: 2015 Environmental Management System

ISO 9001: 2015 Quality Management System

► Product Certifications

IEC 61215 / IEC 61730 / IEC 61701 / IEC 62716

IEC 62804 / IEC 62782 / IEC60068

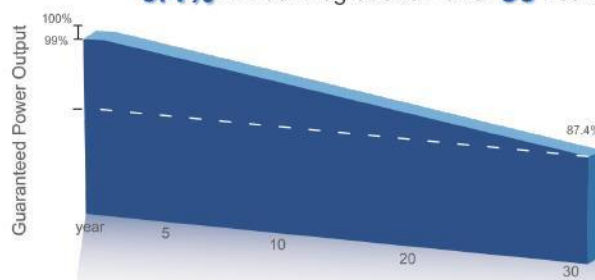


► Linear Performance Warranty

12 Year Product Warranty

30 Year Linear Warranty

0.4% Annual Degradation Over 30 Years



SUZHOU PRETA INTELLIGENCE AND TECHNOLOGY CO.,LTD

Add: Room 501-4, Building 2, Huijin Mansion, Huaqiao Town, Kunshan, Jiangsu, China

Tell: 0512-36684019

Web: www.pretapower.com

Mail: info@pretapower.com



ELECTRICAL DATA (STC)

Peak Power Watts-PMAX (Wp)	620	625	630	635	640	645	650
Power Output Tolerance-PMAX (W)	0~+5						
Maximum Power Voltage-VMPP (V)	48.55V	48.71V	48.87V	49.03V	49.19V	49.35V	49.51V
Maximum Power Current-IMPP(A)	12.78A	12.84A	12.90A	12.96A	13.02A	13.08A	13.14A
Open Circuit Voltage-Voc (V)	58.26V	58.36V	58.46V	58.56V	58.66V	58.76V	58.86V
Short Circuit Current-ISC(A)	13.37A	13.45A	13.53A	13.61A	13.69A	13.77A	13.85A
Module Efficiency (%)	22.18%	22.36%	22.54%	22.72%	22.90%	23.07%	23.25%

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5

TEMPERATURE RATINGS

Temperature Coefficients of Pmax	-0.290%/°C
Temperature Coefficients of Voc	-0.250%/°C
Temperature Coefficients of Isc	0.045%/°C

MAXIMUM RATINGS

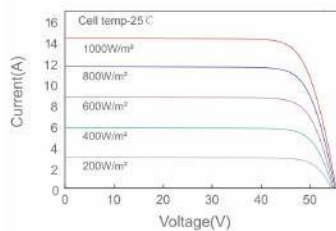
Operational Temperature	-40~+85C
Maximum System Voltage	1500V
Max Series Fuse Rating	25A

(DO NOT connect Fuse in Combiner Box with two or more strings in parallel connection)

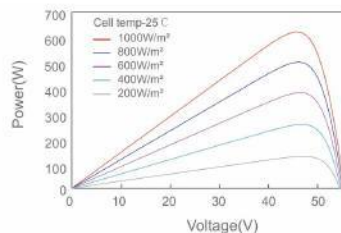
DOUBLE SIDE POWER GENERATION DATA (BACKSIDE GAIN)

5%	Pmax (Wp)	651Wp	656Wp	662Wp	667Wp	672Wp	677Wp	683Wp
	Module Efficiency (%)	23.29%	23.47%	23.68%	23.86%	24.04%	24.22%	24.43%
15%	Pmax (Wp)	713Wp	719Wp	725Wp	730Wp	736Wp	742Wp	748Wp
	Module Efficiency (%)	25.51%	25.72%	25.94%	26.12%	26.32%	26.54%	26.76%
25%	Pmax (Wp)	775Wp	781Wp	788Wp	794Wp	800Wp	806Wp	813Wp
	Module Efficiency (%)	27.73%	27.94%	28.19%	28.40%	28.62%	28.83%	29.08%

CHARACTERISTICS

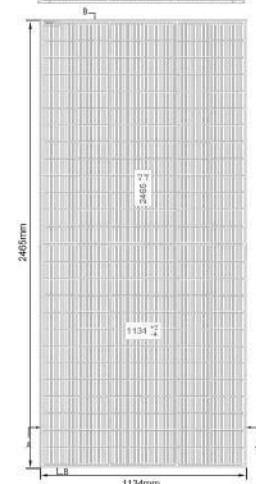
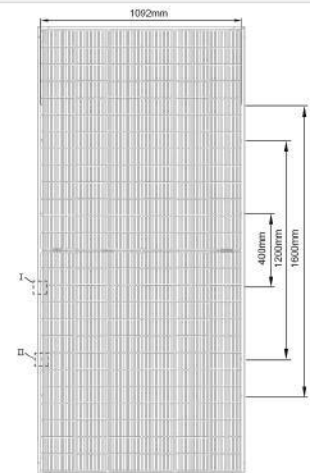


Current-Voltage Curve



Power-Voltage Curve

MECHANICAL DIAGRAMS

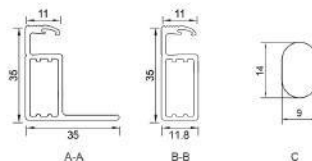


MECHANICAL DATA

Solar Cells	N Type Monocrystalline 182x91mm
Cell Orientation	156 cells (6×26)
Module Dimensions	2465×1134×35mm
Weight	35kg
Glass	2.0mm (0.08 inches), High Transmission, AR Coated Tempered Glass
Back glass	2.0mm mesh glaze plating
Frame	Silver Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	(+):400mm, (-):200mm or Customized Length
Connector	MC4 or MC4 Compatible

PACKAGING CONFIGURATION

Modules per box	36 pieces
Modules per 40' HQ container	576 pieces



© 2026 Suzhou Preta Intelligence and Technology Co., Ltd. All rights reserved. Specifications included in this datasheet are subject to change without notice.

SUZHOU PRETA INTELLIGENCE AND TECHNOLOGY CO.,LTD

Add: Room 501-4, Building 2, Huijin Mansion, Huaqiao Town, Kunshan, Jiangsu, China

Tell: 0512-36684019

Web: www.pretapower.com

Mail: info@pretapower.com

