

QUNA **BLACK**
MONOFACIAL MODULE

BSM480PM5-78SA

470~490W
N-type SHINGLED

MANAGEMENT SYSTEM CERTIFICATES

ISO 9001:2015 / Quality management system
ISO 14001:2015 / Standards for environmental
ISO 45001: 2018 / International standards for occupational health & safety

PRODUCT CERTIFICATES

IEC 61215 / IEC 61730 / CE



THE IDEAL SOLUTION FOR:

- Rooftop arrays on residential buildings
- Ground-mounted solar power plants



Shingled Technology

Innovative structure, low -temperature adhesive bonding, high-density layout



Lower LID

N-type with lower LID



Beautiful Appearance

Deep black, uniform layout, better aesthetic



Compact Design

Upto 440Wp output within 2m² perfect for residential rooftop



Low System Cost

High module efficiency, reducing system cost



Low Shading Loss

Full parallel arrangement brings high effective power generation hours

PERFORMANCE WARRANTY

15

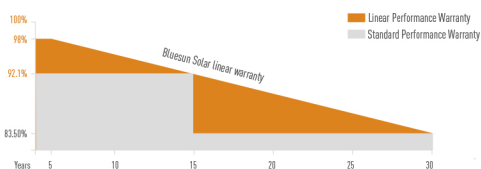
Enhanced Product Warranty on Materials and Workmanship

30

Linear Power Performance Warranty*

0.55%

Annual Degradation Over 30 years no more than 0.55%

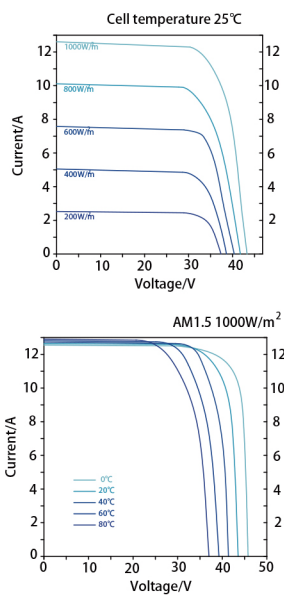


SPECIFICATIONS

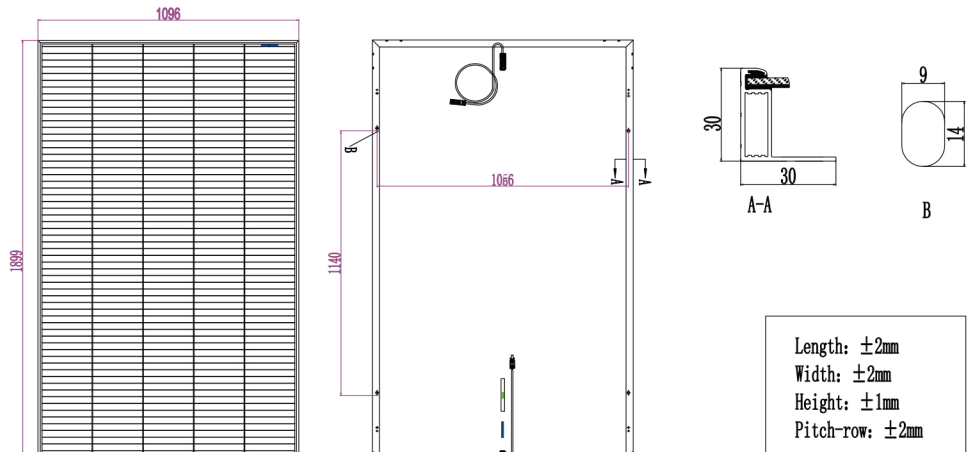
Module Type	BSM470PM5-78SA		BSM475PM5-78SA		BSM480PM5-78SA		BSM485PM5-78SA		BSM490PM5-78SA	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum Power (Pmax/W)	470	355	475	359	480	363	485	367	490	371
Operating Voltage (Vmp/V)	36.90	35.20	37.00	35.30	37.10	35.40	37.20	35.50	37.30	35.60
Operating Current (Imp/A)	12.74	10.09	12.84	10.17	12.95	10.26	13.05	10.34	13.15	10.43
Open-Circuit Voltage (Voc/V)	44.30	42.30	44.40	42.40	44.50	42.50	44.60	42.60	44.70	42.70
Short-Circuit Current (Isc/A)	13.56	10.95	13.67	11.04	13.78	11.13	13.89	11.22	13.99	11.31
Module Efficiency $\eta_m(\%)$	22.60		22.80		23.10		23.30		23.50	

STC: Irradiance 1000W/m² , Cell Temperature 25°C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20°C, Air Mass AM1.5, Wind Speed 1m/s

I-V CURVE



ENGINEERING DRAWINGS



MECHANICAL SPECIFICATION

Cell Type	N-type monocrystalline
Weight	21.8kg
Module Dimensions	1899*1096*30mm
Cable Length	+500mm/-1100(Vertikal) +250mm/-150mm(Horizontal)
Cable Cross Section Size	TUV: 4mm ² (0.006inches ²)/UL: 12AWG
Front Glass	3.2mm (0.13inches) AR Coating Tempered Glass
No. of Bypass Diodes	3
Packing Configuration	36pcs/carton, 864pcs/40hq
Frame	Anodized Aluminium Alloy
Junction Box	IP68

OPERATING CONDITIONS

Maximun System Voltage	1500V DC(IEC)
Operating Temperature	-40°C~ +85°C
Maximun Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	T01/LJQ-3-CSY/MC4/MC4-EVO2

TEMPERATURE COEFFICIENT

Temperature Coefficient Pmax	-0.34%/°C
Temperature Coefficient Voc	-0.27%/°C
Temperature Coefficient Isc	+0.04%/°C
NMOT	42.3±2°C