

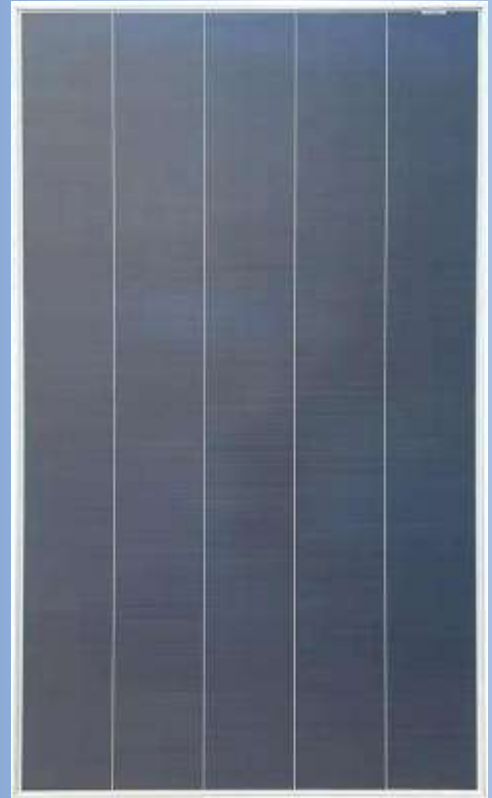


# ZONERGY

## Shingled

# ZMP420~445PMB

## Monocrystalline Solar Modules



### PRODUCT FEATURES



#### Technology

Innovative structure; Low temperature adhesive; High density setting



#### Beautiful appearance

Module's layout is homogeneous and consistent; With more aesthetic feeling of science and technology



#### Safety and reliability

No micro-crack caused by welding; Lower operating temperature; High pressure resistance



#### Green and environmental friendly

Insist environmental friendly faith; Fluorine-free and low Pb in module



#### Lower system cost

High screen-to-body ratio which reduce system cost



#### Low hot spot effect

Prolong module lifetime; Reduce electricity loss during generating



#### Lower occlusion loss

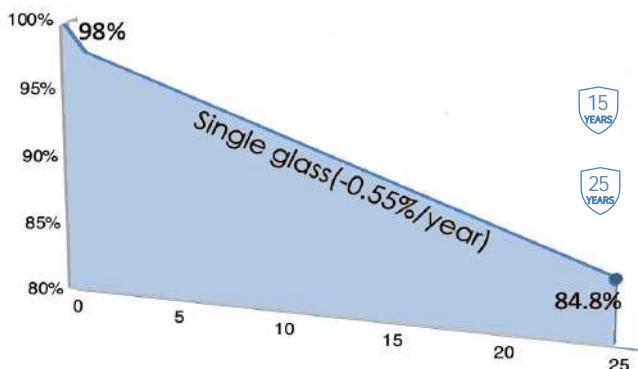
Parallel layout brings high effective generation hours



#### Loda capacity

Surface Load Capacity (Front5400/Back2400) , Withstanding Hail Maximum diameter of 25 mm, impact speed of 23m-s -1

### LINEAR PERFORMANCE WARRANTY



Material process warranty



linear power warranty

IEC 61215/61730 IEC62804(PID) IEC61701(Salt) IEC62716(Ammonia)

ISO 9001:2015 / Quality management System

ISO 14001:2015 / Environmental management System

ISO 45001:2018 / Occupational health and safety Management System

ISO 50001:2011 / Energy management Systems

IEC TS 62941-2016 / Photovoltaic industry Quality management System



## Electrical Data (STC)

Maximum Power (Pmax/W)	420	425	430	435	440	445
Open Circuit Voltage (Voc/V)	43.3	43.4	43.5	43.6	43.7	43.8
Short Circuit Current (Isc/A)	12.46	12.56	12.68	12.79	12.90	13.01
Voltage at Maximum Power (Vmp/V)	35.9	36.0	36.1	36.2	36.3	36.4
Current at Maximum Power (Imp/A)	11.71	11.81	11.92	12.02	12.13	12.23
Module Efficiency (%)	20.2	20.4	20.7	20.9	21.1	21.4
Operating Temperature	-40° C~+85° C					
Maximum System Voltage	DC 1500V (IEC)					
STC (Standard Testing Conditions): Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, AM1.5						

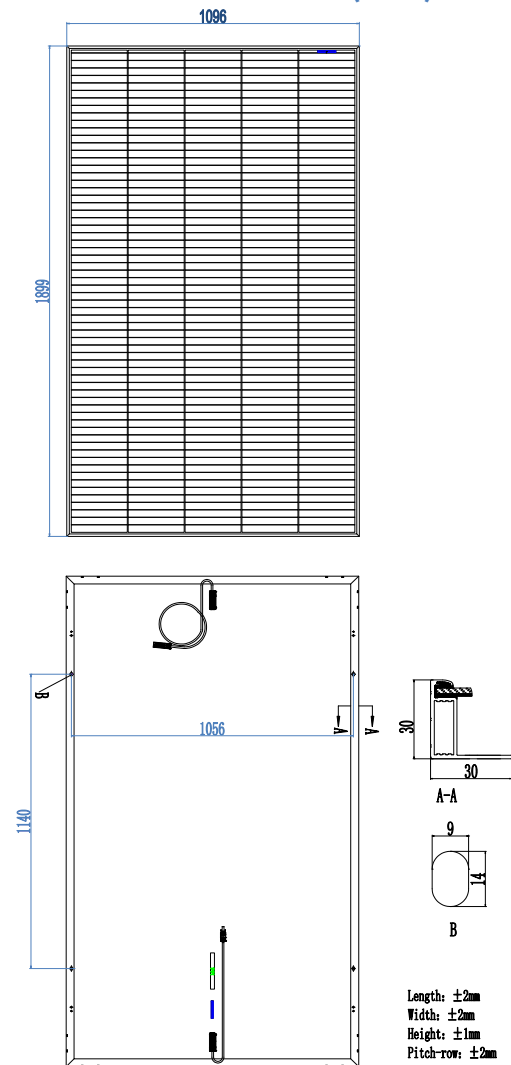
## Electrical Data (NMOT)

Maximum Power (Pmax/W)	316	320	324	328	331	335
Open Circuit Voltage (Voc/V)	41.3	41.8	41.7	41.6	41.5	41.4
Short Circuit Current (Isc/A)	10.05	10.14	10.23	10.32	10.41	10.50
Voltage at Maximum Power (Vmp/V)	34.2	34.3	34.4	34.5	34.6	34.7
Current at Maximum Power (Imp/A)	9.24	9.32	9.41	9.49	9.57	9.66
NMOT (Nominal Module Operating Temperature): Irradiance 800W/m <sup>2</sup> , Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s.						

## Mechanical Data

Cell Type	210mm Mono
Cell Orientation	320(64*5)
Module Dimensions	1899×1096×30mm
Weight	21.8kg
Front Glass	Tempered glass, 3.2mm
Frame Material	Anodized aluminum profile
Junction Box	IP68, two diodes
Cable	4mm <sup>2</sup> ,+500mm/-1100(Vertical),+250mm/-150mm(Horizontal)

## Module Dimensions (mm)



## Temperature Coefficients

Temperature Coefficient (Pm)	-0.270%/°C
Temperature Coefficient (Voc)	-0.340%/°C
Temperature Coefficient (Isc)	0.040%/°C

## Operating Parameters

Maximum System Voltage	DC1500 (IEC)
Series Fuse Rating	25A
Operating Temperature	-40°C ~+85°C
NMOT (Nominal Module Operating Temperature)	42.3±2°C

## Packaging

Transportation methods	Number of modules per cabinet	Number of modules per pallet
40HQ container	864pcs	36pcs +36pcs

## I-V Curve

