



# ZONERGY

## Shingled

# ZPM380~415PMB

## Monocrystalline PERC 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

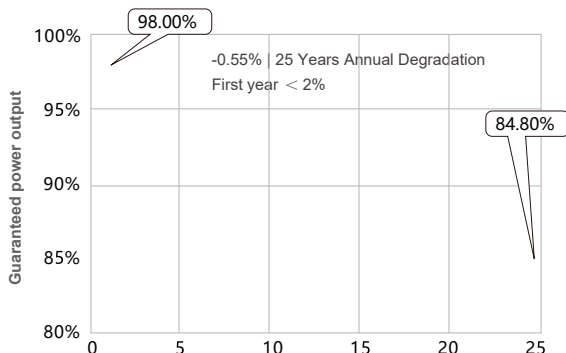
Parallel layout brings high effective generation hours



#### Load capacity

Surface Load Capacity (5400 Pascal) , Withstanding Hail Maximum diameter of 25 mm, impact speed of 23m·s<sup>-1</sup>

### 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)	380	385	390	395	400	405	410	415
Open Circuit Voltage (Voc/V)	46.1	46.2	46.3	46.3	46.4	46.5	46.6	46.7
Short Circuit Current (Isc/A)	10.77	10.82	10.87	10.92	10.97	11.02	11.07	11.12
Voltage at Maximum Power (Vmp/V)	38.3	38.4	38.5	38.5	38.6	38.7	38.8	38.9
Current at Maximum Power (Imp/A)	9.92	10.03	10.13	10.26	10.36	10.47	10.57	10.67
Module Efficiency (%)	19.4	19.6	19.9	20.2	20.4	20.7	20.9	21.2
Operating Temperature	-40° C~+85° C							
Maximum System Voltage	1000/1500V							
STC (Standard Testing Conditions): Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, AM1.5								

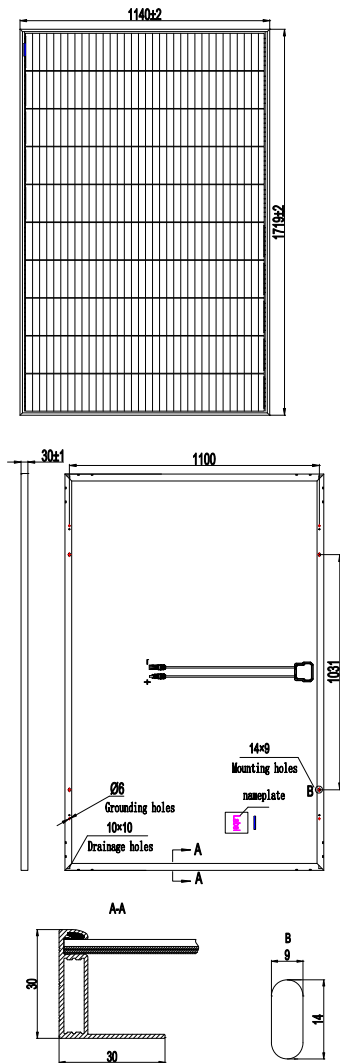
## Electrical Data (NMOT)

Maximum Power (Pmax/W)	286	290	294	297	301	305	309	312
Open Circuit Voltage (Voc/V)	43.9	44.0	44.1	44.1	44.2	44.3	44.4	44.5
Short Circuit Current (Isc/A)	8.69	8.73	8.77	8.81	8.85	8.89	8.93	8.97
Voltage at Maximum Power (Vmp/V)	36.5	36.6	36.7	36.7	36.8	36.9	37.0	37.1
Current at Maximum Power (Imp/A)	7.84	7.92	8.00	8.10	8.18	8.27	8.35	8.43
NMOT (Nominal Module Operating Temperature): Irradiance 800W/m <sup>2</sup> , Ambient Temperature 20°C, AM1.5, Wind Speed 1m/s.								

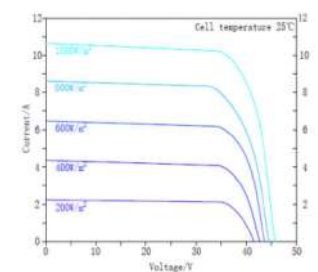
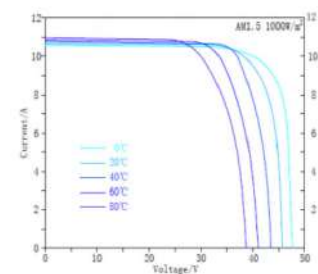
## Mechanical Data

Cell Type	166mm Mono
Cell Orientation	340(34*10)
Module Dimensions	1719×1140×30mm
Weight	21kg
Front Glass	AR coating tempered glass, 3.2mm
Backsheet	Anti-aging film
Frame Material	Anodized aluminum profile
Junction Box	IP68, two diodes
Cable	4.0 mm <sup>2</sup> 1200mm(Be customized by customers)

## Module Dimensions (mm)



## I-V Curve



## 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	DC1500/1000(IEC)
Series Fuse Rating	20
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	936pcs	36pcs +36pcs