



# TWMND-54HS415-435W

N-type Half-cell Monofacial Module (54)

## PRODUCT FEATURES



High Power Output  
Low LCOE



Maximum Power  
435W+



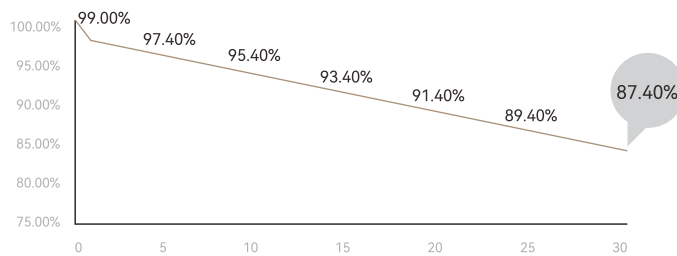
High Reliability



Low LID

## POWER WARRANTY

1st year <1%, 0.4% power degradation per year from 2 to 30 years



12-year Warranty for Materials



30-year Warranty for Linear Power Output

## MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

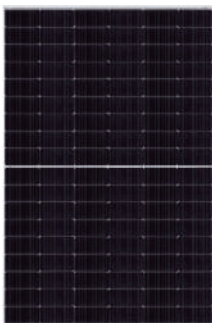
ISO9001: 2015/Quality Management System

ISO14001: 2015/Environment Management System

ISO45001: 2018/Occupational Health and Safety Management System



Front



Rear



## Electrical Characteristics (STC)

Module Type: TWMND-54HSXXX

Maximum Power: Pmax [W]	415	420	425	430	435
Open Circuit Voltage: Voc [V]	37.85	38.00	38.15	38.30	38.45
Short Circuit Current: Isc [A]	14.22	14.27	14.32	14.37	14.42
Voltage at Maximum Power: Vmp [V]	31.25	31.41	31.57	31.73	31.89
Current at Maximum Power: Imp [A]	13.28	13.37	13.46	13.55	13.64
Module Efficiency: $\eta$ [%]	21.3	21.5	21.8	22.0	22.3

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance:  $\pm$ 3%

## Electrical Characteristics (NMOT)

Maximum Power: Pmax [W]	312.0	316.0	320.0	324.0	328.0
Open Circuit Voltage: Voc [V]	35.98	36.14	36.30	36.46	36.62
Short Circuit Current: Isc [A]	11.51	11.57	11.63	11.69	11.75
Voltage at Maximum Power: Vmp [V]	29.18	29.34	29.50	29.66	29.82
Current at Maximum Power: Imp [A]	10.69	10.77	10.85	10.92	11.00

NMOT: Irradiance 800W/m<sup>2</sup>, Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

## Mechanical Parameters

Cells	TNC
Cell Orientation	108[6X18]
Dimension	1722 $\pm$ 2 X 1134 $\pm$ 2X30mm
Weight	20.5kg
Front Glass	3.2mm high transmittance, AR coated tempered glass
Backsheet	White
Frame	Anodized aluminum alloy frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm <sup>2</sup>
Cable Length	+400mm, -200mm or $\pm$ 1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 936pcs per 40'HC

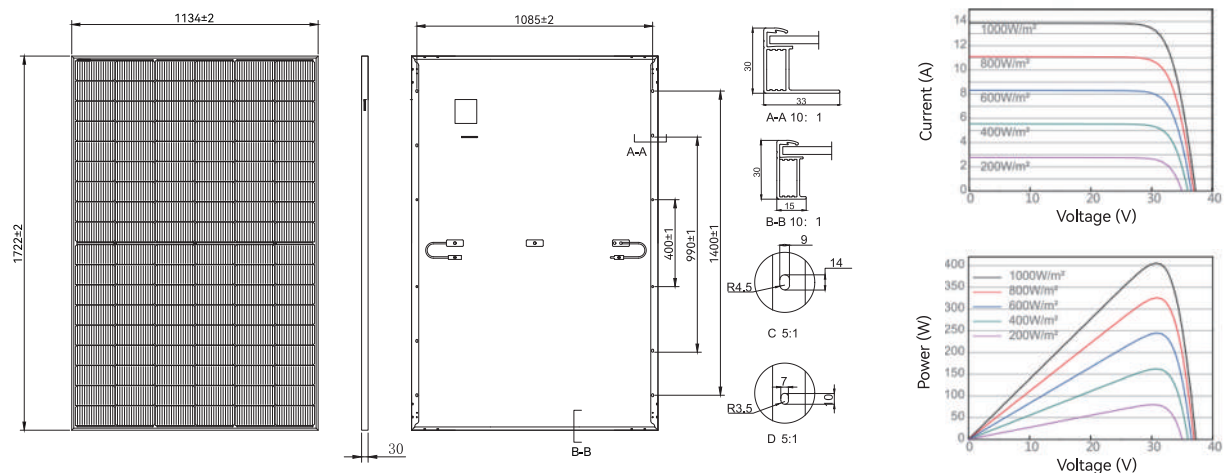
## Operating Parameters

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25A
Power Output Tolerance	0~+5W

## Temperature Ratings

Temperature Coefficient (Pmax)	-0.30%/°C
Temperature Coefficient (Voc)	-0.25%/°C
Temperature Coefficient (Isc)	+0.046%/°C
NMOT	45 $\pm$ 2°C

## Drawings (Unit: mm)



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