



TWMND

N-type Half-cell
Monofacial Full-black Module (54)

54HB415-435W

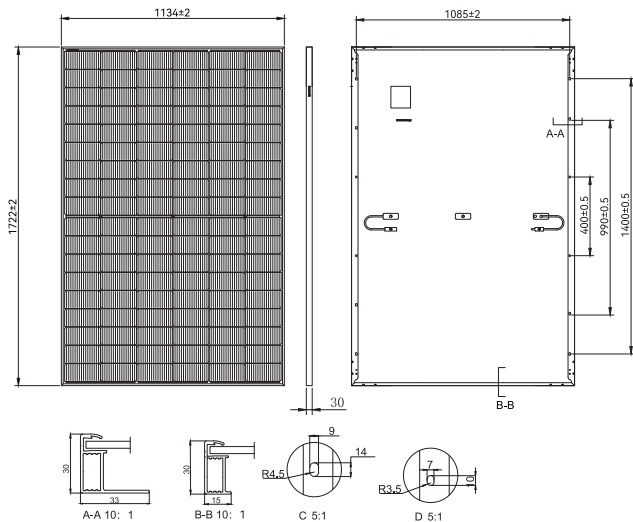


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DRAWINGS (Unit: mm)



MECHANICAL PARAMETERS

Cells	TNC (N Type Monocrystalline Cell)
Cell Orientation	108[6X18]
Dimension	1722±2X1134±2X30mm
Weight	20.5kg
Front Glass	3.2mm high transmittance, AR coated tempered glass
Backsheet	Black inside and white outside/Black
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm ²
Cable Length	±1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 936pcs per 40'HC

ELECTRICAL CHARACTERISTICS (STC)

Module Type:	TWMND-54HBXXX				
Maximum Power: Pmax [W]	415	420	425	430	435
Open Circuit Voltage: Voc [V]	38.70	38.85	39.00	39.15	39.30
Short Circuit Current: Isc [A]	13.52	13.57	13.62	13.67	13.72
Voltage at Maximum Power: Vmp [V]	32.75	32.92	33.09	33.26	33.43
Current at Maximum Power: Imp [A]	12.67	12.76	12.85	12.93	13.01
Module Efficiency: η [%]	21.3	21.5	21.8	22.0	22.3

ELECTRICAL CHARACTERISTICS (NMOT)

Maximum Power: Pmax [W]	312.0	316.0	320.0	324.0	327.8
Open Circuit Voltage: Voc [V]	36.73	36.89	37.04	37.19	37.33
Short Circuit Current: Isc [A]	10.84	10.90	10.96	11.02	11.06
Voltage at Maximum Power: Vmp [V]	30.47	30.64	30.81	30.98	31.14
Current at Maximum Power: Imp [A]	10.24	10.31	10.39	10.46	10.52

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: ±3%
* NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

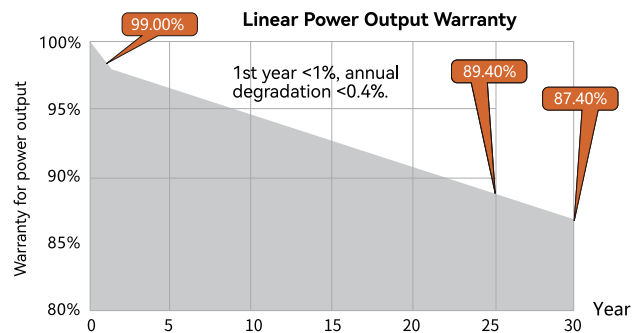
TEMPERATURE PARAMETERS

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

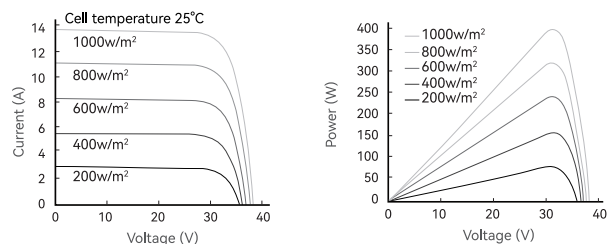
MAXIMUM RATINGS

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

WARRANTY



I-V CURVE



CERTIFICATIONS

Quality Management System and Product Certification

- ISO 9001:2015 / quality management system
- ISO 14001:2015 / environmental management system
- ISO 45001:2018 / occupation health safety management system
- ISO 50001:2011 / energy management system
- IEC TS 62941—2016 / PV industry quality management system
- IEC 61215/61730, IEC 62804(PID), IEC 61701(Salt), IEC 62716 (Ammonia), IEC 60068-2-68(Sand)

