



High Power Output
Low LCOE 

Maximum Power
415W+ 

TWMPD
P-type Half-cell
Monofacial Full-black Module (54)
54HB395-415W

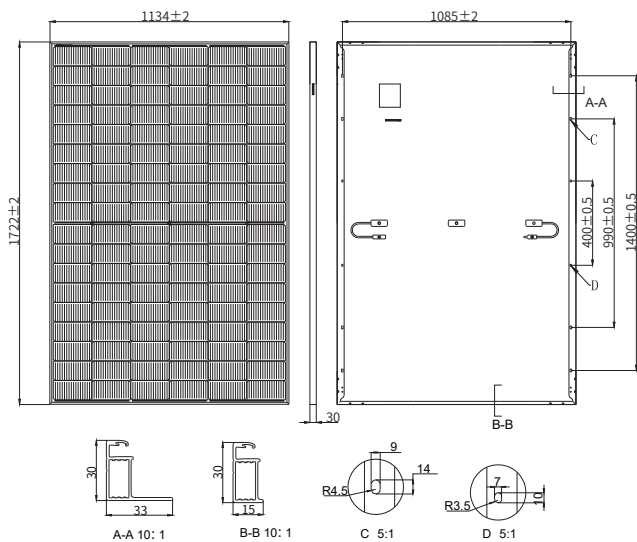


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DRAWINGS (Unit: mm)



MECHANICAL PARAMETERS

Cells	TPC (P Type Monocrystalline Cell)
Cell Orientation	108[6X18]
Dimension	1722±2 X1134±2X30mm
Weight	20.5kg
Front Glass	3.2mm high transmittance, AR coated tempered glass
Backsheet	Black inside and white outside
Frame	Anodized aluminum alloy black frame
Junction Box	IP68, 3 diodes
Output Cable	4.0mm ²
Cable Length	+400mm, -200mm or ±1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 936pcs per 40'HC

ELECTRICAL CHARACTERISTICS (STC)

Module Type:	TWMPD-54HBXXX				
Maximum Power: Pmax [W]	395	400	405	410	415
Open Circuit Voltage: Voc [V]	36.98	37.07	37.23	37.38	37.53
Short Circuit Current: Isc [A]	13.70	13.79	13.87	13.93	13.99
Voltage at Maximum Power: Vmp [V]	30.84	31.01	31.21	31.40	31.60
Current at Maximum Power: Imp [A]	12.81	12.90	12.98	13.06	13.14
Module Efficiency: η [%]	20.2	20.5	20.7	21.0	21.3

ELECTRICAL CHARACTERISTICS (NMOT)

Maximum Power: Pmax [W]	298.2	302.0	306.0	310.0	314.0
Open Circuit Voltage: Voc [V]	34.80	34.88	35.12	35.31	35.50
Short Circuit Current: Isc [A]	10.96	11.03	11.10	11.16	11.22
Voltage at Maximum Power: Vmp [V]	29.10	29.26	29.47	29.68	29.89
Current at Maximum Power: Imp [A]	10.25	10.32	10.38	10.44	10.51

* 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

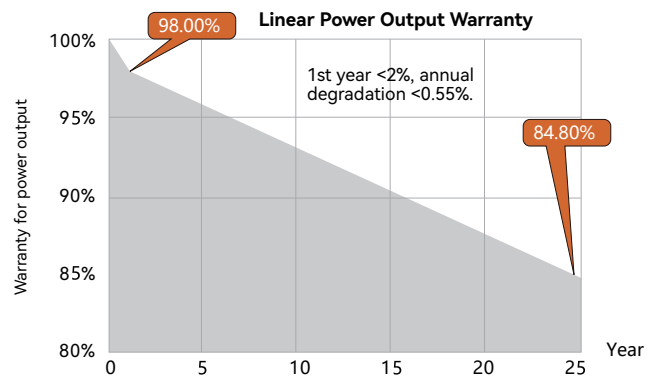
TEMPERATURE PARAMETERS

Temperature Coefficient (Pmax)	-0.34%/°C
Temperature Coefficient (Voc)	-0.27%/°C
Temperature Coefficient (Isc)	+0.045%/°C
NMOT	45±2°C

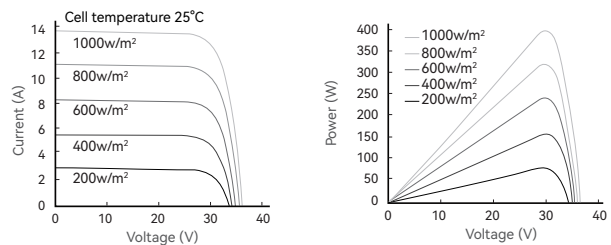
MAXIMUM RATINGS

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)



Email: sales@tongwei.com Website: www.tongwei.com.cn Add: 888 Changning Avenue, High-tech Zone, Hefei City, Anhui Province

Declaration: With the technical progress and product updates, there exists a deviation between the technical parameter of the TW Solar's future products and the technical parameter in this specification. The TW Solar reserves the right to adjust the technical parameter at any time without notifying the customers. TW Solar reserves the final right of interpretation. (20230512)