



TWMPD

P-type Half-cell
Monofacial Module (60)

60HS445-465W

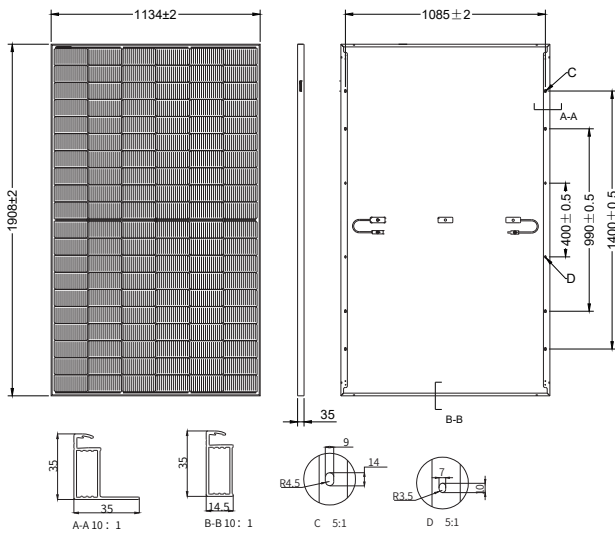


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DRAWINGS (Unit: mm)



ELECTRICAL CHARACTERISTICS (STC)

Module Type: TWMPD-60HSXXX					
Maximum Power: Pmax [W]	445	450	455	460	465
Open Circuit Voltage: Voc [V]	41.04	41.21	41.38	41.55	41.72
Short Circuit Current: Isc [A]	13.79	13.84	13.89	13.94	13.99
Voltage at Maximum Power: Vmp [V]	33.67	33.83	33.99	34.15	34.31
Current at Maximum Power: Imp [A]	13.22	13.30	13.39	13.47	13.55
Module Efficiency: η [%]	20.6	20.8	21.0	21.3	21.5

ELECTRICAL CHARACTERISTICS (NMOT)

Maximum Power: Pmax [W]	336.7	340.5	344.3	348.1	351.9
Open Circuit Voltage: Voc [V]	38.93	39.11	39.30	39.49	39.68
Short Circuit Current: Isc [A]	10.88	10.91	10.95	10.97	11.01
Voltage at Maximum Power: Vmp [V]	32.15	32.37	32.59	32.81	33.02
Current at Maximum Power: Imp [A]	10.47	10.52	10.56	10.61	10.65

* 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

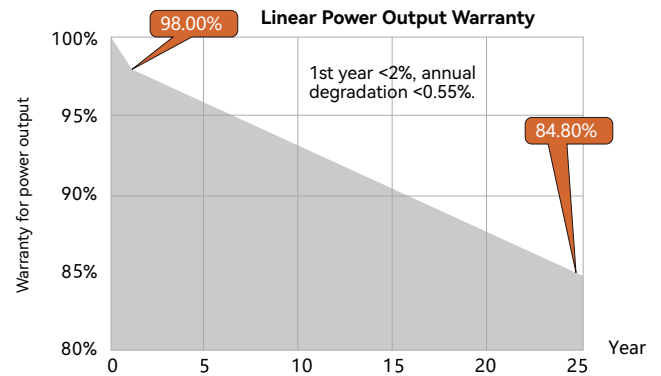
MAXIMUM RATINGS

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

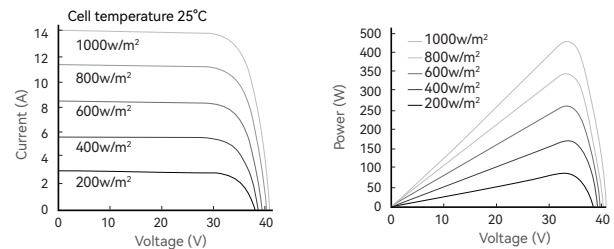
MECHANICAL PARAMETERS

Cells	TPC (P Type Monocrystalline Cell)
Cell Orientation	120[6X20]
Dimension	1908±2 X1134±2X35mm
Weight	24.2kg
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 ²
Cable Length	±1200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	31pcs per pallet, 744pcs per 40'HC

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)

