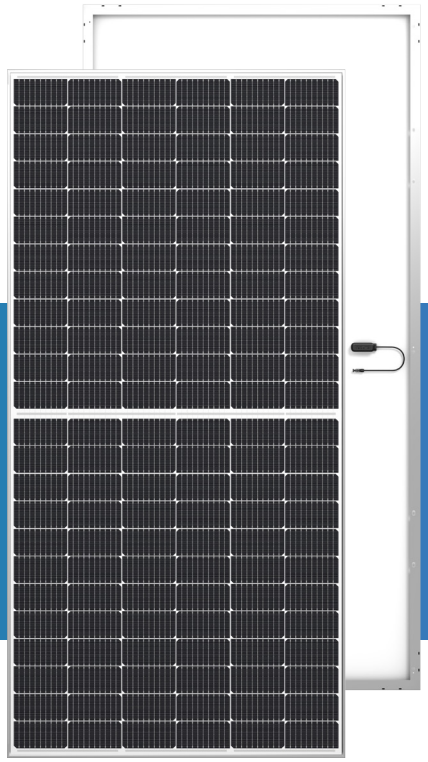
DuDrive Series

TSHM-144HW
TSHM-144W

High Efficiency Mono PERC Half-cell Solar Module (166)



ABOUT BEYONDSUN

Founded in 2008, Beyondsun is the world's leading PV manufacturer and one-stop solution provider. With multiple manufacturing bases and more than 8 branches around the world, our business covers cells, modules, aluminum frame and PV projects. With its advantages of continuous technological innovation, strong financial performance, and well-established global sales and service networks, Beyondsun has been highly recognized by its global partners. Until now, Beyondsun has distributed more than 8 GW PV products to over 30 countries all over the world. We are committed to collaborate with our partners in driving renewable energy together.

HIGHER MODULE EFFICIENCY

Brings 5-10W power gain due to half-cut production system

MORE ENERGY YIELD

Lower NMOT and better temperature coefficient by lower cell series resistance, helps boost energy yield

LOWER OPERATING TEMPERATURE, MORE RELIABLE

Lower operating temperature and hot spot temperature during the sunny day, making the module prevail during the sunny days

BETTER SHADING TOLERANCE

Thanks to paralleling circuit design, more power generated under shading condition and during morning & evening time

BETTER MICRO CRACK RESISTANCE

Minimize the impact by micro crack by limiting cell damage and potentially extending area by half-cut module architecture

QUALIFICATIONS & CERTIFICATES

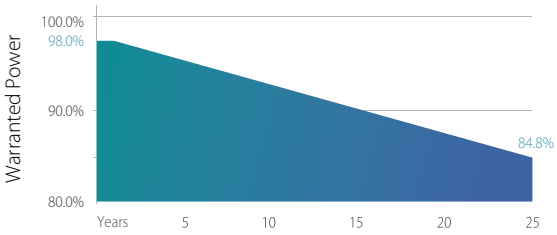
- IEC 61215 / IEC 61730
- ISO 9001: Quality Management System
- ISO 14001: Environment Management System
- OHSAS 18001: Occupational Health and Safety

INDUSTRY LEADING WARRANTY

25-Year Linear Performance Warranty

12-Year Product Material & Workmanship Warranty

LLOYD'S Product & Performance Insured by LLOYD'S



THE IDEAL SOLUTION FOR

Ground-mounted projects

Commercial / industrial rooftop projects

E-mail: sales@beyondsunpv.com Web: www.beyondsunpv.com

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DuDrive Series TSHM-144HW/TSHM-144W

ELECTRICAL PARAMETERS @ STC*

Module Type	TSHM435-144HW TSHM435-144W	TSHM440-144HW TSHM440-144W	TSHM445-144HW TSHM445-144W	TSHM450-144HW TSHM450-144W	TSHM455-144HW TSHM455-144W	TSHM460-144HW TSHM460-144W
Max. Power Output Pmax (W)	435	440	445	450	455	460
Power Tolerance	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%	0~+3%
Max. Power Voltage Vmp (V)	41.47	41.67	41.87	42.06	42.25	42.44
Max. Power Current Imp (A)	10.49	10.56	10.63	10.70	10.77	10.84
Open Circuit Voltage Voc (V)	49.85	50.05	50.26	50.43	50.63	50.84
Short Circuit Current Isc (A)	11.15	11.22	11.29	11.36	11.43	11.50
Module Eficiency (%)	20.01	20.24	20.47	20.70	20.93	21.16

*STC (Standard Test Condition): Irradiance 1000W/m², Cell Temperature 25 ℃, Air Mass 1.5

ELECTRICAL PARAMETERS @ NMOT*

Max. Power Output Pmax (W)	327	331	334	338	342	345
Max. Power Voltage Vmp (V)	38.64	38.82	39.01	39.19	39.33	39.48
Max. Power Current Imp (A)	8.46	8.52	8.57	8.63	8.69	8.75
Open Circuit Voltage Voc (V)	47.38	47.57	47.77	47.93	48.14	48.34
Short Circuit Current Isc (A)	8.99	9.05	9.10	9.16	9.22	9.28

*NMOT (Nominal Module Operating Temperature), Irradiance of 800W/ m², Spectrum AM 1.5, Ambient Temperature 20°C, Wind Speed 1m/s

TEMPERATURE COEFFICIENTS

Temperature Coefficients of Pmp	-0.36%/°C
Temperature Coefficients of Voc	-0.29%/°C
Temperature Coefficients of Isc	+0.048 %/°C
NMOT	41°C±3°C

MECHANICAL PARAMETERS

Cell Type	Mono, 166×83mm
Cell Arrangement	144 pcs (2×(6×12))
Dimension (L×W×H)	2094×1038×35mm
Weight	26kg
Front Cover	3.2mm Tempered Glass
Frame	Anodized Aluminium Alloy
Junction Box	IP68, 3 bypass diodes, FT50xy with 25A
Cable	4mm² solar cable, 350mm (customizable)
Connector	Zhejiang Renhe 05-8 for 1500V and 05-6 for 1000V

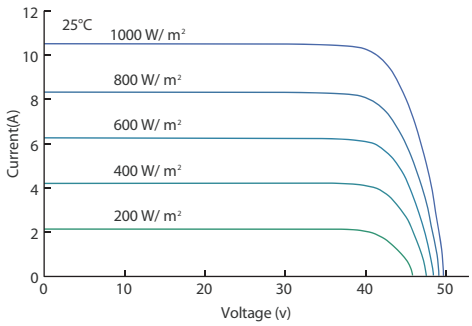
OPERATING PARAMETERS

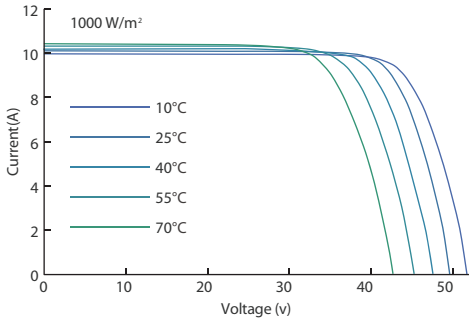
Maximum System Voltage(V)	1500/1000(DC)
Operating Temperature(°C)	-40~+85
Max. Wind Load / Snow Load(Pa)	2400/5400
Max. Over Current(A)	25
Application Class	Class A
Fire Rating	Class C

PACKAGE INFORMATION

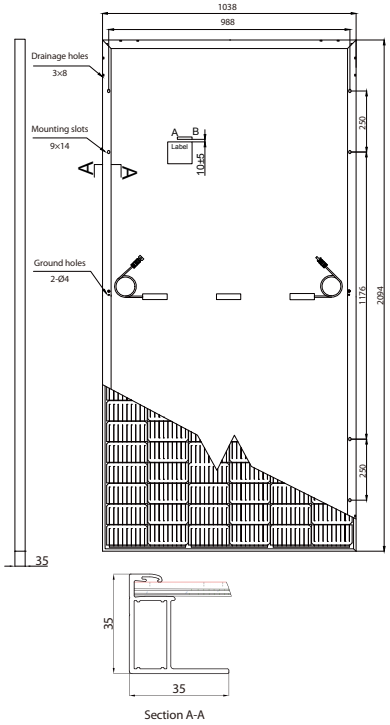
Quantity / Pallet	30 pcs
Container 40'HQ	22 pallets, 660 pcs

I-V CURVES





TECHNICAL DRAWINGS



*Power measurement tolerance: ±3%
*Voc measurement tolerance: ±3%
*Isc measurement tolerance: ±4%
*Power Sorting: 5W
*Modules Shipped to AU are made in China

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