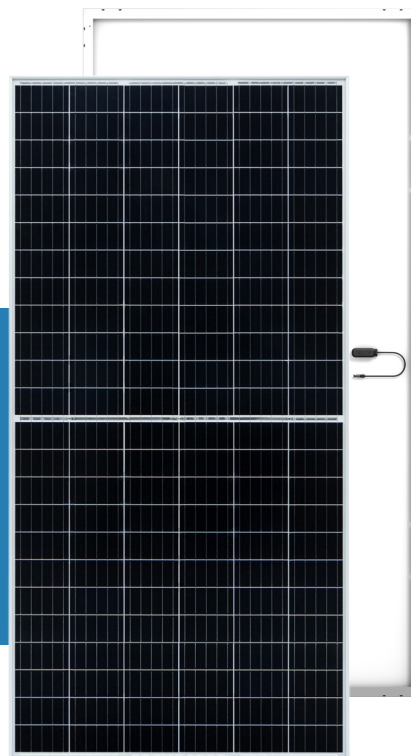


DuDrive Series

TSHM-144HL TSHM-144L

High Efficiency Mono PERC Half-cell Solar Module (158.75)



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

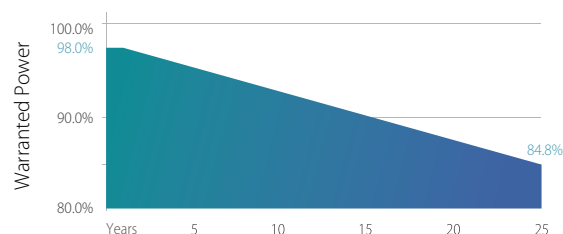
QUALIFICATIONS & CERTIFICATES

- 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

DuDrive Series TSHM-144HL/TSHM-144L

ELECTRICAL PARAMETERS @ STC*

| Module Type | TSHM400-144HL TSHM400-144L | TSHM405-144HL TSHM405-144L | TSHM410-144HL TSHM410-144L |
|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Max. Power Output Pmax (W) | 400 | 405 | 410 |
| Power Tolerance | 0~+3% | 0~+3% | 0~+3% |
| Max. Power Voltage Vmp (V) | 41.28 | 41.46 | 41.64 |
| Max. Power Current Imp (A) | 9.69 | 9.77 | 9.85 |
| Open Circuit Voltage Voc (V) | 49.71 | 49.94 | 50.16 |
| Short Circuit Current Isc (A) | 10.46 | 10.53 | 10.60 |
| Module Efficiency (%) | 19.88 | 20.13 | 20.38 |

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

ELECTRICAL PARAMETERS @ NMOT*

| | | | |
|-------------------------------|-------|-------|-------|
| Max. Power Output Pmax (W) | 302 | 306 | 310 |
| Max. Power Voltage Vmp (V) | 38.19 | 38.39 | 38.59 |
| Max. Power Current Imp (A) | 7.92 | 7.97 | 8.03 |
| Open Circuit Voltage Voc (V) | 46.74 | 46.95 | 47.15 |
| Short Circuit Current Isc (A) | 8.44 | 8.49 | 8.55 |

*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, 158.75x 79.38mm |
| Cell Arrangement | 144 pcs (2x(6x12)) |
| Dimension (LxWxH) | 2008x1002x35mm |
| Weight | 22.5kg |
| Front Cover | 3.2mm Tempered Glass |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP68, 3 bypass diodes |
| Cable | 4mm ² 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) | 20 |
| Application Class | Class A |
| Fire Rating | Class C |

PACKAGE INFORMATION

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

*Power measurement tolerance: ±3%

*Voc measurement tolerance: ±3%

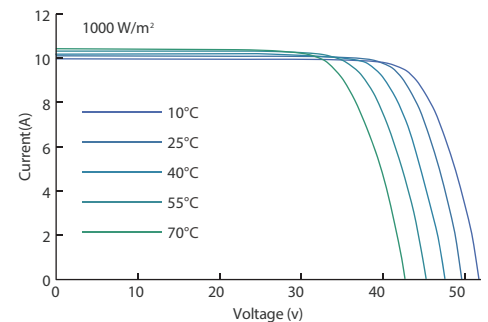
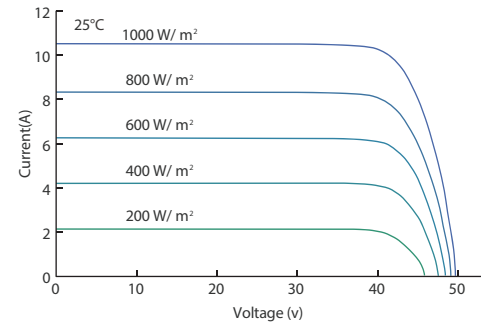
*Isc measurement tolerance: ±4%

*Power Sorting: 5W

*Modules Shipped to AU are made in China

*The specification and key features described in this datasheet may deviate slightly and are not guaranteed. Due to ongoing innovation, R&D enhancement, Zhejiang Beyondsun Green Energy Technology Co., Ltd. reserves the right to make any adjustment to the information described herein at any time without notice. Please always obtain the most recent version of the datasheet which shall be duly incorporated into the binding contract made by the parties governing all transactions related to the purchase and sale of the products described herein.

I-V CURVES



TECHNICAL DRAWINGS

