



# TWMPD-78HD580-600W

P-type Half-cell Bifacial Module (78)

## PRODUCT FEATURES



High Power Output  
Low LCOE



Maximum Power  
600W+



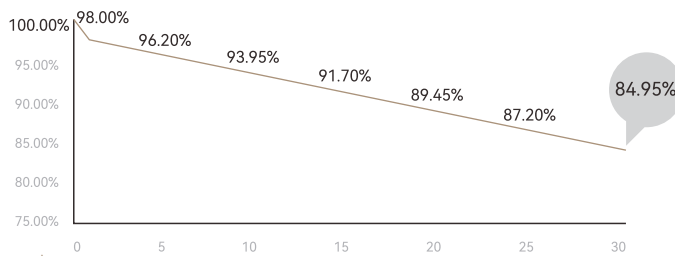
High Reliability



Low LID

## POWER WARRANTY

1st year <2%, 0.45% power degradation per year from 2 to 30 years



12-year Warranty for Materials



30-year Warranty for Linear Power Output

## MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

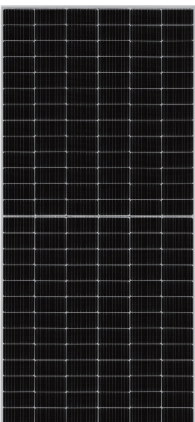
ISO9001: 2015/Quality Management System

ISO14001: 2015/Environment Management System

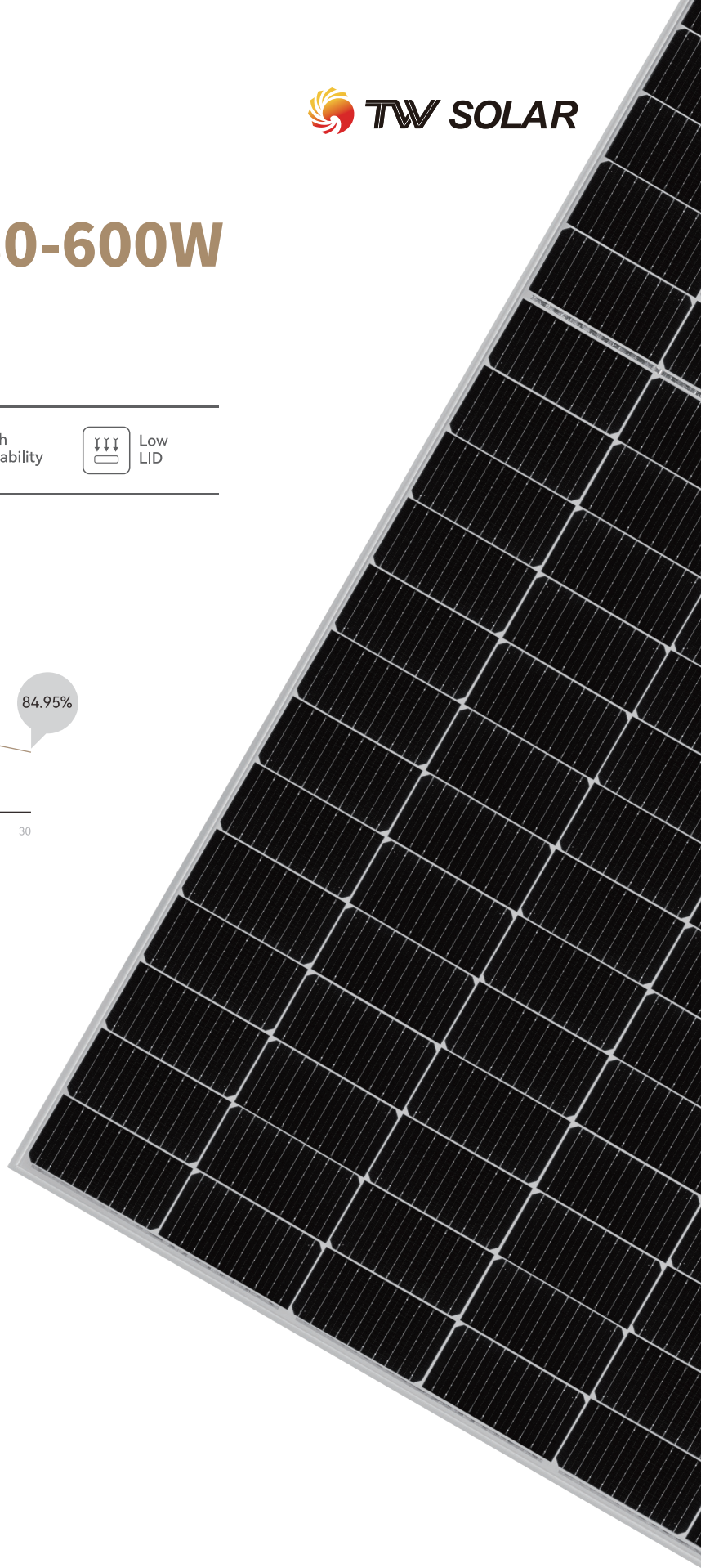
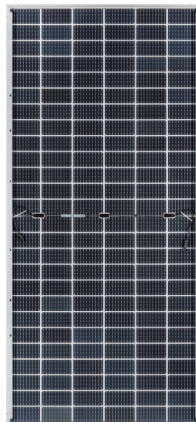
ISO45001: 2018/Occupational Health and Safety Management System



Front



Rear



### Electrical Characteristics (STC)

|  |       |       |       |       |       |
|--|-------|-------|-------|-------|-------|
| Module Type: TWMPD-78HDXXX   |       |       |       |       |       |
| Maximum Power: Pmax [W]  | 580   | 585   | 590   | 595   | 600   |
| Open Circuit Voltage: Voc [V]  | 53.45 | 53.65 | 53.85 | 54.05 | 54.25 |
| Short Circuit Current: Isc [A]   | 13.93 | 13.98 | 14.03 | 14.08 | 14.13 |
| Voltage at Maximum Power: Vmp [V]  | 44.0  | 44.2  | 44.4  | 44.6  | 44.8  |
| Current at Maximum Power: Imp [A]  | 13.18 | 13.24 | 13.29 | 13.34 | 13.39 |
| Module Efficiency: $\eta$ [%]  | 20.7  | 20.9  | 21.1  | 21.3  | 21.5  |
| STC: Irradiance 1000W/m <sup>2</sup> , Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: $\pm$ 3% |       |       |       |       |       |

### Electrical Characteristics (NMOT)

|   |       |       |       |       |       |
|---|-------|-------|-------|-------|-------|
| Maximum Power: Pmax [W]   | 438.9 | 442.7 | 446.5 | 450.3 | 454.1 |
| Open Circuit Voltage: Voc [V]   | 49.99 | 50.25 | 50.53 | 50.80 | 50.99 |
| Short Circuit Current: Isc [A]  | 11.2  | 11.2  | 11.2  | 11.3  | 11.3  |
| Voltage at Maximum Power: Vmp [V]   | 40.7  | 40.9  | 41.2  | 41.4  | 41.6  |
| Current at Maximum Power: Imp [A]   | 10.77 | 10.81 | 10.85 | 10.88 | 10.93 |
| NMOT: Irradiance 800W/m <sup>2</sup> , Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s |       |       |       |       |       |

### Electrical characteristics with different rear side power gain

|     |                               |       |       |       |       |       |
|-----|-------------------------------|-------|-------|-------|-------|-------|
| 5%  | Maximum Power: Pmax[W]        | 609.0 | 614.3 | 619.5 | 624.8 | 630.0 |
|     | Module Efficiency: $\eta$ [%] | 21.8  | 22.0  | 22.2  | 22.3  | 22.5  |
| 15% | Maximum Power: Pmax[W]        | 667.0 | 672.8 | 678.5 | 684.3 | 690.0 |
|     | Module Efficiency: $\eta$ [%] | 23.9  | 24.1  | 24.3  | 24.5  | 24.7  |
| 25% | Maximum Power: Pmax[W]        | 725.0 | 731.3 | 737.5 | 743.8 | 750.0 |
|     | Module Efficiency: $\eta$ [%] | 25.9  | 26.2  | 26.4  | 26.6  | 26.8  |

### Temperature Ratings

|                                |              |
|--------------------------------|--------------|
| Temperature Coefficient (Pmax) | -0.34%/°C    |
| Temperature Coefficient (Voc)  | -0.28%/°C    |
| Temperature Coefficient (Isc)  | 0.05%/°C     |
| NMOT                           | 45 $\pm$ 2°C |

### Mechanical Parameters

|                  |  |
|------------------|--|
| Cells            | TPC  |
| Cell Orientation | 156[6X26]  |
| Dimension        | 2465 $\pm$ 2X1134 $\pm$ 2X35mm                     |
| Weight           | 34.6kg   |
| Front Glass      | 2.0mm high transmittance, AR coated tempered glass |
| Rear Glass       | 2.0mm high transmittance, coated tempered glass    |
| Frame            | Anodized aluminum alloy frame                      |
| Junction Box     | IP68, 3 diodes                                     |
| Output Cable     | 4.0mm <sup>2</sup>                                 |
| Cable Length     | +400mm, -200mm, length can be customized           |
| Wind/Snow Load   | 2400Pa/5400Pa                                      |
| Packaging        | 31pcs per pallet, 496pcs per 40HC                  |

### Operating Parameters

|                            |             |
|----------------------------|-------------|
| Operational Temperature    | -40°C~+85°C |
| Maximum System Voltage     | 1500V DC    |
| Maximum Series Fuse Rating | 30A         |
| Power Output Tolerance     | 0~+5W       |
| Maximum Bifaciality        | 70 $\pm$ 5% |

### Drawings (Unit: mm)

