



TWMPD-60HS445-465W

P-type Half-cell Monofacial Module (60)

PRODUCT FEATURES



High Power Output
Low LCOE



Maximum Power
465W+



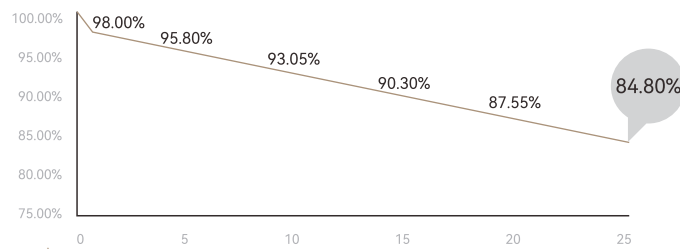
High
Reliability



Low
LID

POWER WARRANTY

1st year <2%, 0.55% power degradation per year from 2 to 25 years



12-year Warranty for Materials



25-year Warranty for Linear Power Output

MANAGEMENT SYSTEM AND PRODUCT CERTIFICATION

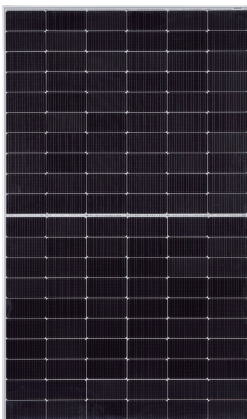
ISO9001: 2015/Quality Management System

ISO14001: 2015/Environment Management System

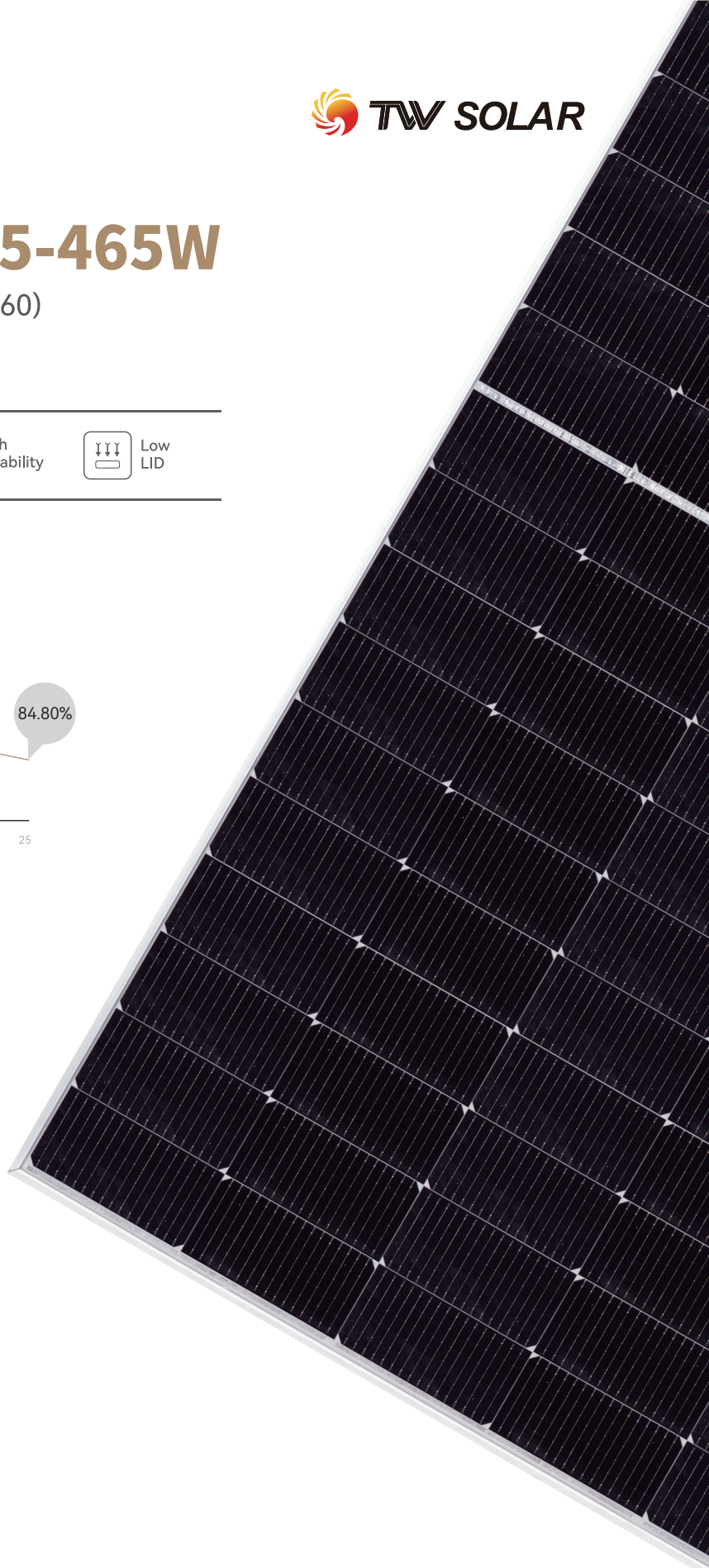
ISO45001: 2018/Occupational Health and Safety Management System



Front



Rear



Electrical Characteristics (STC)

Module Type: TWMPD-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 |

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass1.5, Measuring Tolerance: \pm 3%

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 |

NMOT: Irradiance 800W/m², Ambient Temperature 20°C, Air Mass1.5, Wind Speed 1m/s

Mechanical Parameters

| | |
|------------------|--|
| Cells | TPC |
| Cell Orientation | 120[6X20] |
| Dimension | 1908 \pm 2 X1134 \pm 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, -1200mm, length can be customized |
| Wind/Snow Load | 2400Pa/5400Pa |
| Packaging | 31pcs per pallet, 744pcs per 40'HC |

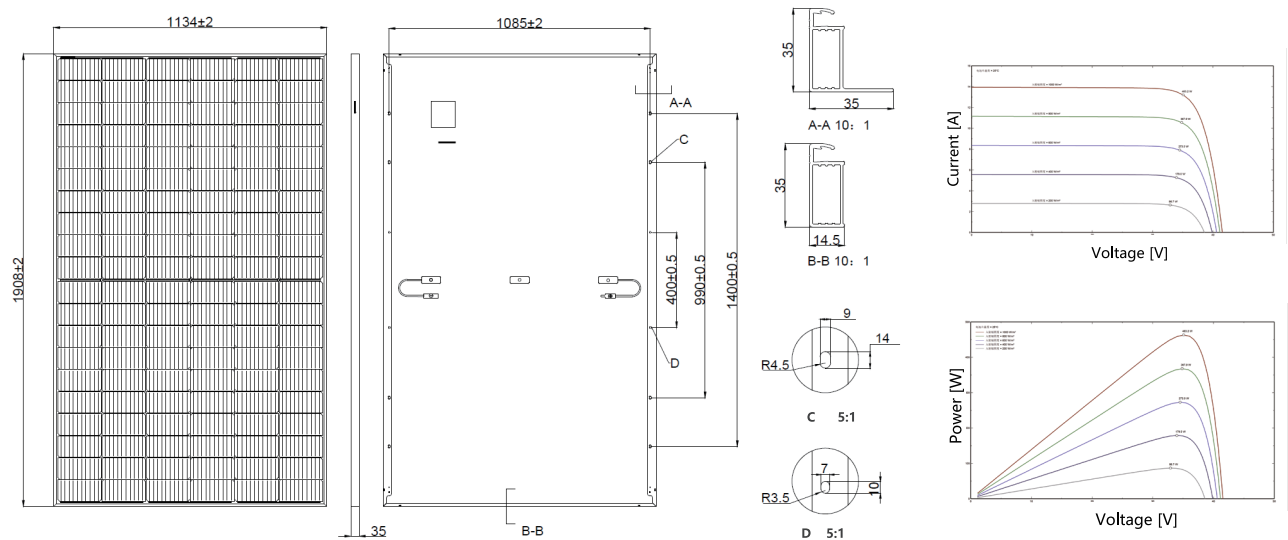
Operating Parameters

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

Temperature Ratings

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

Drawings (Unit: mm)



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