



TWMPF-60HS590-610W

P-type Half-cell Monofacial Module (60)

PRODUCT FEATURES

High Power Output
Low LCOE

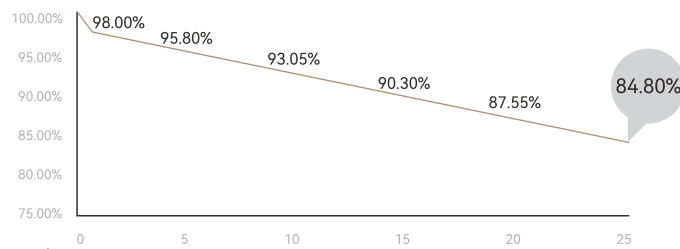
Maximum Power
610W+

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

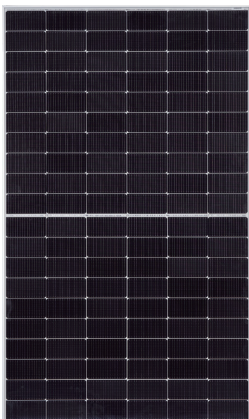
ISO9001: 2015/Quality Management System

ISO14001: 2015/Environment Management System

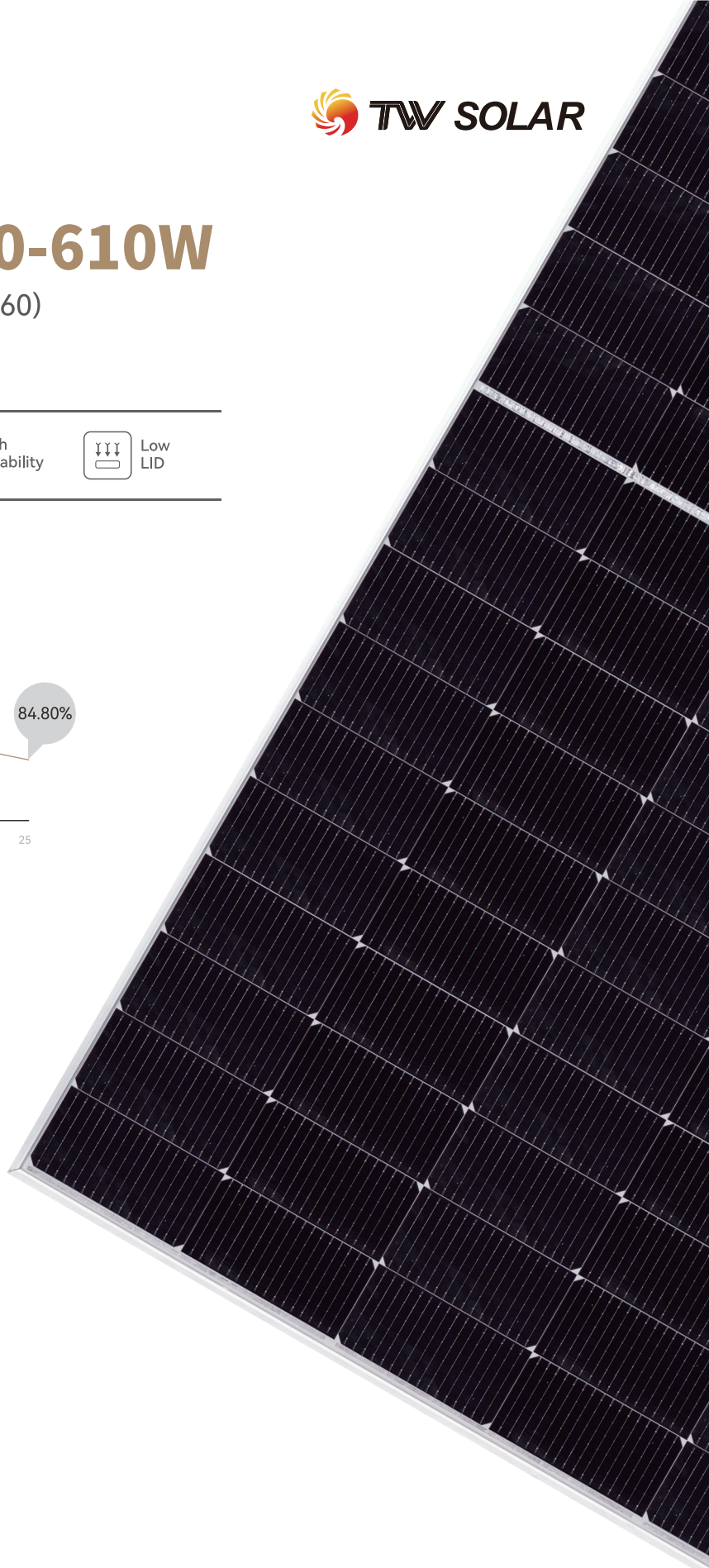
ISO45001: 2018/Occupational Health and Safety Management System



Front



Rear



Electrical Characteristics (STC)

Module Type: TWMPF-60HSXXX

Maximum Power: Pmax [W]	590	595	600	605	610
Open Circuit Voltage: Voc [V]	41.05	41.25	41.45	41.65	41.85
Short Circuit Current: Isc [A]	18.45	18.50	18.55	18.61	18.66
Voltage at Maximum Power: Vmp [V]	33.96	34.16	34.36	34.56	34.76
Current at Maximum Power: Imp [A]	17.37	17.41	17.46	17.50	17.55
Module Efficiency: η [%]	20.8	21.0	21.2	21.4	21.6

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

Electrical Characteristics (NMOT)

Maximum Power: Pmax [W]	446.4	450.2	454.0	457.7	461.5
Open Circuit Voltage: Voc [V]	38.67	38.86	39.05	39.24	39.43
Short Circuit Current: Isc [A]	14.87	14.92	14.96	15.00	15.04
Voltage at Maximum Power: Vmp [V]	31.69	31.88	32.06	32.25	32.43
Current at Maximum Power: Imp [A]	14.09	14.12	14.16	14.19	14.23

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

Mechanical Parameters

Cells	TPC
Cell Orientation	120[6X20]
Dimension	2172 \pm 2 X1303 \pm 2X35mm
Weight	31kg
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	+400mm, -200mm, length can be customized
Wind/Snow Load	2400Pa/5400Pa
Packaging	31pcs per pallet, 558pcs per 40'HC

Operating Parameters

Operational Temperature	-40°C~+85°C
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30A
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)

