TW SOLAR

MBB Half-cell Monofacial Full-black Module (54)

TW390~415MAP

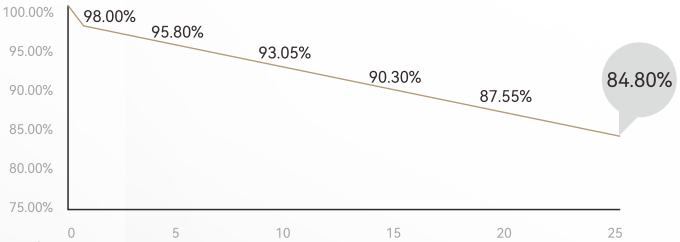
M10-108-H-F

PRODUCT FEATURES

- High Power Output Low LCOE
- Maximum Power 415W+
- High Reliability
- Low LID

POWER WARRANTY

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



12 12-year warranty for materials

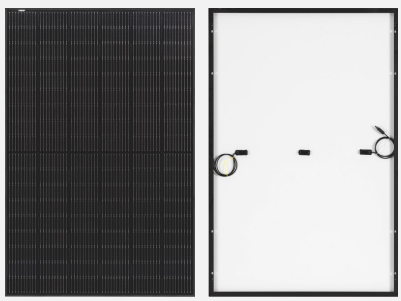
25 25-year warranty for linear power output

PRODUCT CERTIFICATIONS

ISO9001: 2015/Quality Management System

ISO14001: 2015/Environment Management System

ISO45001: 2018/Occupational Health and Safety



Front Rear

Electrical Characteristics (STC)

Module type: TW***MAP-108-H-F						
Maximum power: Pm (W)	390	395	400	405	410	415
Open circuit voltage: Voc (V)	36.48	36.63	36.78	36.93	37.08	37.23
Short circuit current: Isc (A)	13.33	13.42	13.52	13.61	13.70	13.80
Voltage at maximum power point: Vm (V)	30.71	30.86	31.01	31.16	31.31	31.46
Current at maximum power point: Im (A)	12.70	12.80	12.90	13.00	13.09	13.19
Module efficiency: η (%)	20.0	20.2	20.5	20.7	21.0	21.3
STC: Irradiance 1000W/m², Cell Temperature 25℃, Air Mass1.5, Measuring tolerance: ±3%						

Electrical Characteristics (NMOT)

Maximum power: Pm (W)	295.2	299.0	302.8	306.6	310.3	314.1
Open circuit voltage: Voc (V)	34.44	34.58	34.72	34.86	35.00	35.15
Short circuit current: Isc (A)	10.67	10.75	10.82	10.90	10.97	11.05
Voltage at maximum power point: Vm (V)	28.49	28.62	28.76	28.90	29.04	29.18
Current at maximum power point: Im (A)	10.36	10.44	10.52	10.60	10.68	10.76
NMOT: Irradiance 800W/m², Ambient Temperature 20 ℃, Wind Speed 1m/s						

Mechanical Parameters

Cells	Monocrystalline silicon cell
Orientation	108 (6×18)
Size	1722±2×1134±2×30mm
Weight	20.5kg
Glass	3.2mm high transmittance, AR coated heat strengthened glass
Backsheet	Black inside and white outside / All black
Frame	Anodized aluminum alloy frame with black
Junction Box	IP68, 3 diodes
Cable	4.0mm², Landscape: 1200/1200mm, Portrait: 280/280mm
Connector	MC4 Compatible
Wind/Snow Load	2400Pa/5400Pa
Packaging	36pcs per pallet, 936pcs per 40'HC

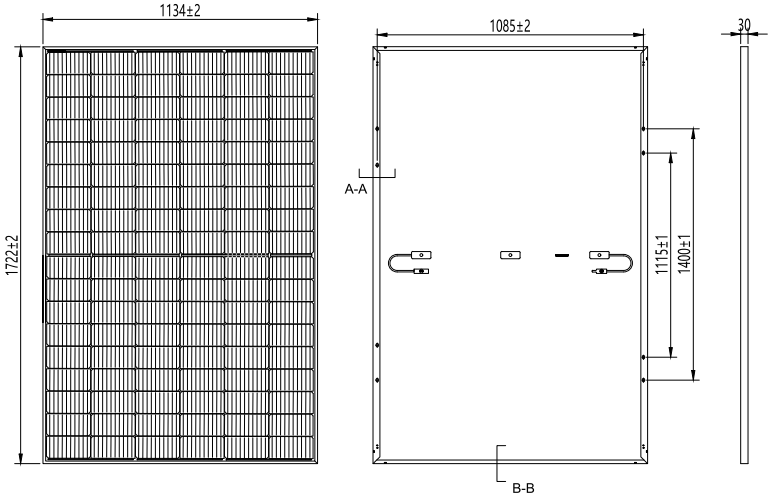
Operating Parameters

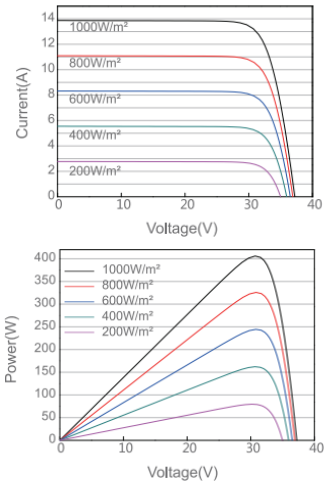
Operational Temperature	-40℃~+85℃
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	25A
Power Output Tolerance	0~+5W

Temperature Ratings

Temperature Coefficient (Pmax)	-0.35%/℃
Temperature Coefficient (Voc)	-0.27%/℃
Temperature Coefficient (Isc)	0.045%/℃
NMOT	43±2℃

Drawings (Unit: mm)





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