

POWERTRONIK®

SuperSolar

www.powertronik.ch

TPVS-144/M10H
182mm Half Cell Series
530-550w

144-CELL HALF CUT MONOCRYSTALLINE SOLAR MODULE



Product Advantages



10BB half-cut cell technology

New circuit design, lower internal current, lower Rs loss
Ga doped wafer, attenuation < 2% (1st year) / ≤ 0.55% (Linear)



Significantly lower the risk of hot spot

Special circuit design with much lower hot spot temperature



Lower LCOE

2% more power generation, lower LCOE



Excellent Anti-PID performance

2 times of industry standard Anti-PID test by TÜV SÜD



IP68 junction box

High waterproof level

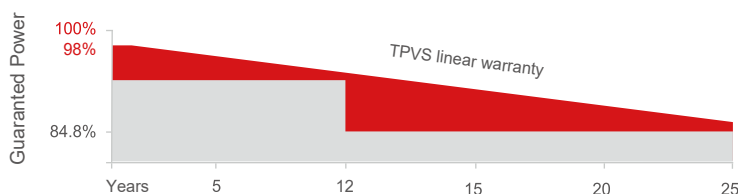
21.2%

Module
efficiency

550W

Highest
power output

Performance Warranty



- 2.00 %

First year power degradation

- 0.55 %

Annual degradation

12
Years

Materials and
workmanship warranty

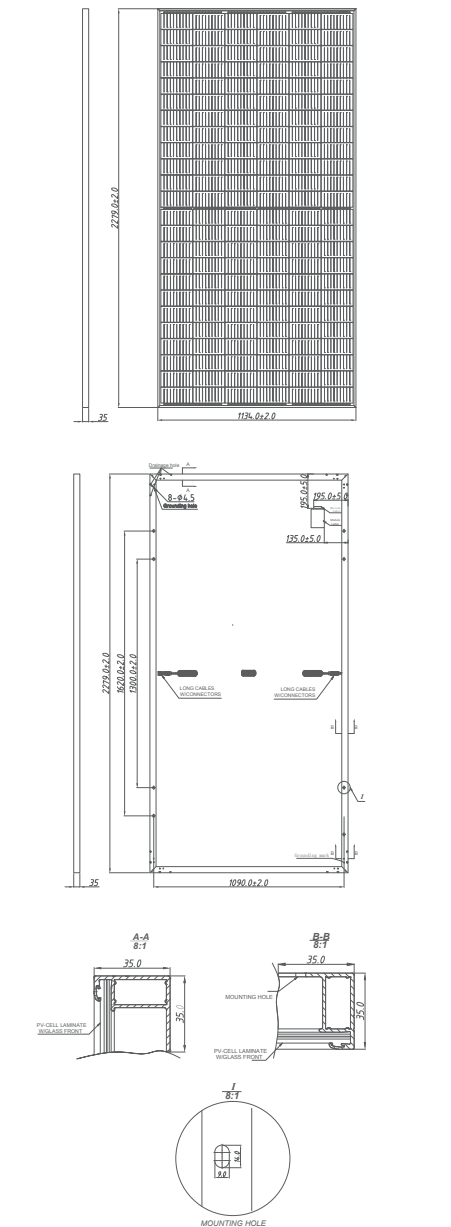
25
Years

Linear power
warranty

Product Certification



TECHNICAL DRAWINGS



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0 ~ +3%)

Maximum Power (P _{max} /W)	530	535	540	545	550
Operating Voltage (V _{mpp} /V)	40.8	41.0	41.2	41.4	41.6
Operating Current (I _{mpp} /A)	13.00	13.05	13.11	13.17	13.23
Open-Circuit Voltage (V _{oc} /V)	49.0	49.2	49.4	49.6	49.8
Short-Circuit Current (I _{sc} /A)	13.76	13.81	13.87	13.93	13.99
Module Efficiency η m(%)	20.4	20.6	20.8	21.0	21.2

Performance at NMOT

Maximum Power (P _{max} /W)	395	398	402	406	410
Operating Voltage (V _{mpp} /V)	38.0	38.2	38.4	38.6	38.8
Operating Current (I _{mpp} /A)	10.40	10.44	10.49	10.54	10.58
Open-Circuit Voltage (V _{oc} /V)	45.9	46.1	46.3	46.4	46.6
Short-Circuit Current (I _{sc} /A)	11.09	11.13	11.18	11.23	11.28

STC: Irradiance 1000W/m², Cell Temperature 25 °C, Air Mass AM1.5 NMOT: Irradiance at 800W/m², Ambient Temperature 20 °C, Air Mass AM1.5, Wind Speed 1m/s

MECHANICAL SPECIFICATION

Cell Type	Monocrystalline
Cell Dimensions	182*182mm
Cell Arrangement	144 (6*24)
Weight	29kg
Module Dimensions	2279*1134*35mm
Cable Length	Portrait 1000mm
Cable Cross Section Size	TÜV: 4mm ²
Front Glass	3.2mm AR Coating Tempered Glass
No. of Bypass Diodes	3/6
Packing Configuration	31pcs/Carton, 620pcs/40HQ
Frame	Anodized Aluminium Alloy
Junction Box	IP68

OPERATING CONDITIONS

Maximun System Voltage	1000V/1500V/DC(IEC)
Operating Temperature	-40 °C ~ +85 °C
Maximun Series Fuse	25A
Static Loading	Snow Loading: 5400Pa/ Wind Loading: 2400Pa
Conductivity at Ground	≤0.1Ω
Safety Class	II
Resistance	≥100MΩ
Connector	MC4 compatible

TEMPERATURE COEFFICIENT

Temperature Coefficient P _{max}	-0.36%/°C
Temperature Coefficient V _{oc}	-0.26%/°C
Temperature Coefficient I _{sc}	+0.043%/°C
NMOT	43±2 °C

I-V CURVE

