

POWERTRONIK®

SuperSolar

www.powertronik.ch

TPVS-132/G12R-BG TOPCon Half Cell Series 600-630W

132-CELLS BIFACIAL MONOCRYSTALLINE SOLAR MODULE



Product Advantages



16BB half-cut cell technology

New circuit design, lower internal current, lower R_s loss Ga doped wafer, attenuation <1% (1st year) / ≤0.40% (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

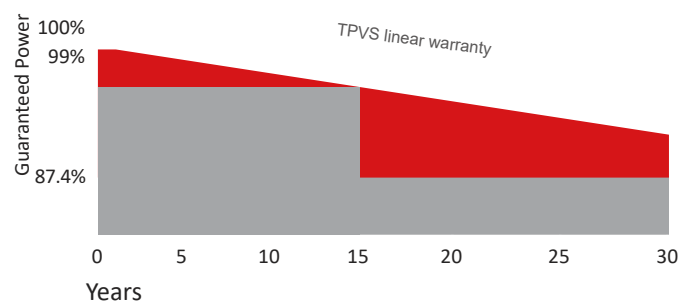
23.3%

Module efficiency

630W

Highest power output

Performance Warranty



- 1.00 %

First year power degradation

- 0.40 %

Annual degradation

15
Years

Materials and workmanship warranty

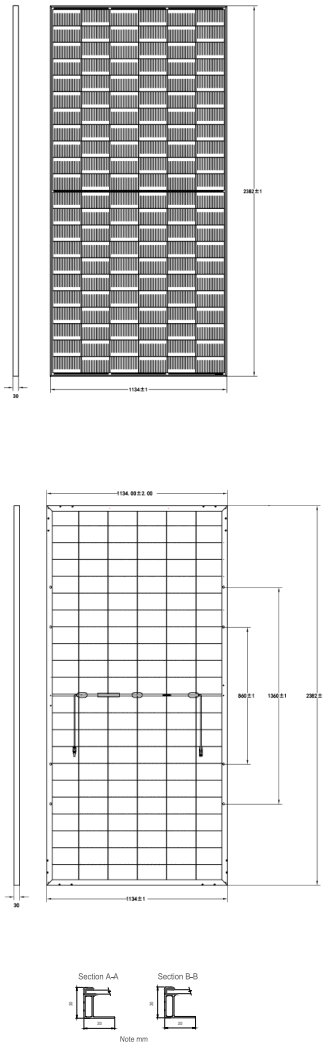
30
Years

Linear power warranty

Product Certification



TECHNICAL DRAWINGS



ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0 ~ +5W)

Maximum Power (P _{max} /W)*	600	610	615	620	630
Operating Voltage (V _{mpp} /V)	40.1	40.5	40.7	40.9	41.3
Operating Current (I _{mpp} /A)	14.97	15.07	15.12	15.17	15.26
Open-Circuit Voltage (V _{oc} /V)	48.2	48.6	48.8	49.0	49.4
Short-Circuit Current (I _{sc} /A)	15.9	16.03	16.1	16.16	16.29
Module Efficiency η m(%)	22.2	22.6	22.8	23.0	23.3

Performance at NMOT

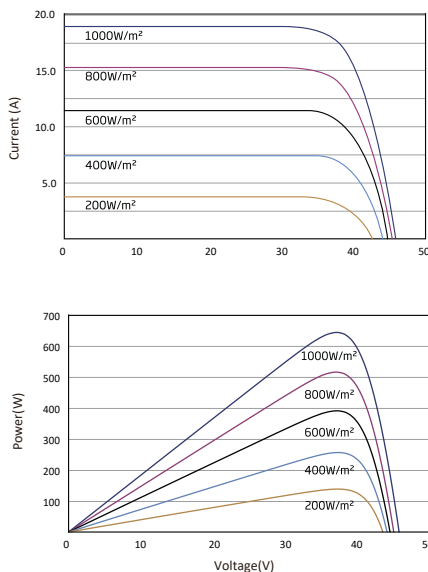
Maximum Power (P _{max} /W)*	453	461	465	469	477
Operating Voltage (V _{mpp} /V)	37.4	37.8	38.0	38.2	38.6
Operating Current (I _{mpp} /A)	12.11	12.20	12.24	12.32	12.36
Open-Circuit Voltage (V _{oc} /V)	45.8	46.2	46.4	46.6	47.0
Short-Circuit Current (I _{sc} /A)	12.76	12.88	12.93	12.99	13.10

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
*Measuring tolerance: +3%

MECHANICAL SPECIFICATION

Cell Type	N-Type TOPCon Monocrystalline
Cell Dimensions	182*210mm
Cell Arrangement	132 (6*22)
Weight	34kg
Module Dimensions	2382*1134*30mm
Cable Length	Portrait 350mm, or customized length
Cable Cross Section Size	TÜV: 4mm ²
Front/Back Glass	2mm AR Coated Heat Strengthened Glass / 2mm Heat Strengthened Glass
No. of Bypass Diodes	3/6
Packing Configuration	36pcs/Carton, 720pcs/40HQ
Frame	30mm Anodized Aluminium Alloy
Junction Box	IP68

I-V CURVE



OPERATING CONDITIONS

Maximum System Voltage	1500V/DC(IEC)
Operating Temperature	-40 °C ~ +85 °C
Maximum Series Fuse	35A
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}	-0.29%/°C
Temperature Coefficient V _{oc}	-0.25%/°C
Temperature Coefficient I _{sc}	+0.046%/°C
NMOT	42 ± 2 °C