



VDS-S132/M12N-BG

**695-720W**

210 mm Half Cell, 132 cells  
TOPCon Bifacial Solar Module

Status: 09/2024

**23.2%**

Module Efficiency

**720W**

Highest Power Output

**12 YEARS**

Product Warranty

**30 YEARS**

Linear Power Warranty

**1.00% First year power degradation**

**0.40% Annual degradation**

## PRODUCT ADVANTAGES



### High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance Of System) cost, shorter payback time
- Designed for compatibility with existing mainstream system components
- Lower guaranteed first year and annual degradation
- Higher return on Investment



### High power up to 720W

- Large area cells based on 210 mm silicon wafers and half-cut cell technology
- Up to 23.2% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



### High reliability

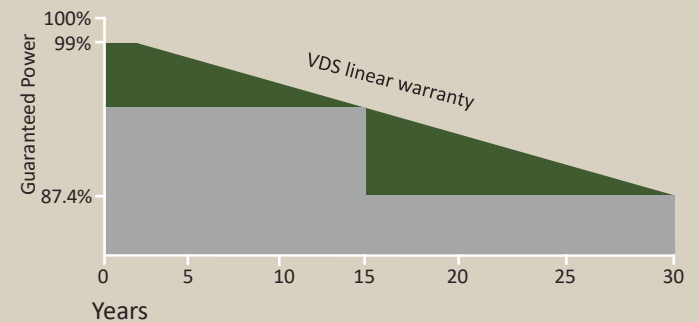
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



### High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions

## PERFORMANCE WARRANTY



## Certifications of Product and Manufacturer



**VDS Power GmbH**

Rudolf-Diesel-Strasse 10, 33178 Borchten

[www.vdspower.eu](http://www.vdspower.eu)

## ELECTRICAL DATA (STC)

Peak Power Watts-P <sub>MAX</sub> (Wp)*	695	700	705	710	715	720
Maximum Power Voltage-V <sub>MPP</sub> (V)	40.0	40.2	40.4	40.6	40.8	41.0
Maximum Power Current-I <sub>MPP</sub> (A)	17.38	17.42	17.46	17.49	17.53	17.56
Open Circuit Voltage-V <sub>OC</sub> (V)	47.7	47.9	48.1	48.3	48.5	48.7
Short Circuit Current-I <sub>SC</sub> (A)	18.44	18.50	18.55	18.61	18.66	18.72
Module Efficiency η <sub>m</sub> (%)	22.4	22.5	22.7	22.9	23.0	23.2
Power Tolerance-P <sub>MAX</sub> (W)	0~+5					

STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM=1.5; \*Measuring tolerance: ±3%

## ELECTRICAL DATA (BNPI)

Peak Power-P <sub>MAX</sub> (Wp)*	740	745	750	755	760	765
Maximum Power Voltage-V <sub>MPP</sub> (V)	40.0	40.2	40.4	40.6	40.8	41.0
Maximum Power Current-I <sub>MPP</sub> (A)	18.50	18.53	18.56	18.60	18.63	18.66
Open Circuit Voltage-V <sub>OC</sub> (V)	47.7	47.9	48.1	48.3	48.5	48.7
Short Circuit Current-I <sub>SC</sub> (A)	19.64	19.69	19.74	19.79	19.84	19.88

BNPI: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C

## ELECTRICAL DATA (NMOT)

Maximum Power-P <sub>MAX</sub> (Wp)*	528	532	536	540	544	548
Maximum Power Voltage-V <sub>MPP</sub> (V)	37.4	37.6	37.8	38.0	38.2	38.4
Maximum Power Current-I <sub>MPP</sub> (A)	14.12	14.15	14.18	14.21	14.24	14.27
Open Circuit Voltage-V <sub>OC</sub> (V)	45.0	45.2	45.4	45.6	45.8	46.0
Short Circuit Current-I <sub>SC</sub> (A)	14.85	14.90	14.94	14.99	15.04	15.08

NMOT: Irradiance 800W/m<sup>2</sup>, module temperature 20°C, AM=1.5, wind speed 1m/s

## MECHANICAL DATA

Solar Cells	N-Type TOPCon Monocrystalline Silicon
Cell Orientation	132pcs
Module Dimensions	2384x1303x33 mm
Weight	38.8 kg
Front Glass	2.0 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Back Glass	2.0 mm, Heat Strengthened Glass (White Grid Glass)
Frame	30mm Anodized Aluminium Alloy
Junction Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0 mm <sup>2</sup> Cable length 350 mm or customized length

\*Please refer to regional datasheet for specied connector.

## TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	42°C (±2°C)
Temperature Coefficient of P <sub>MAX</sub>	-0.29%/°C
Temperature Coefficient of V <sub>OC</sub>	-0.25%/°C
Temperature Coefficient of I <sub>SC</sub>	+0.046%/°C

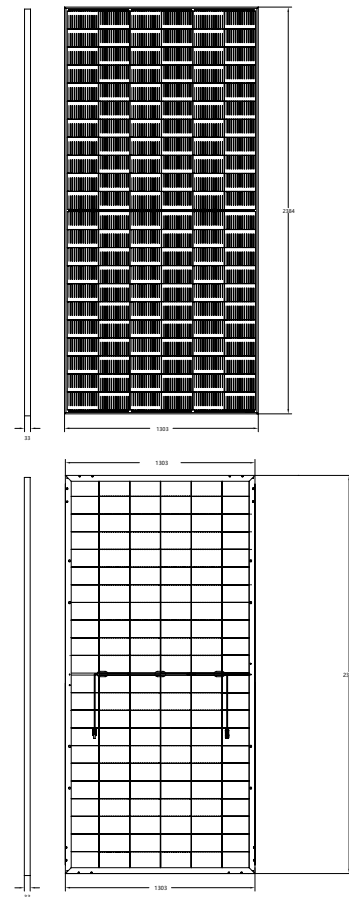
## MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	35A

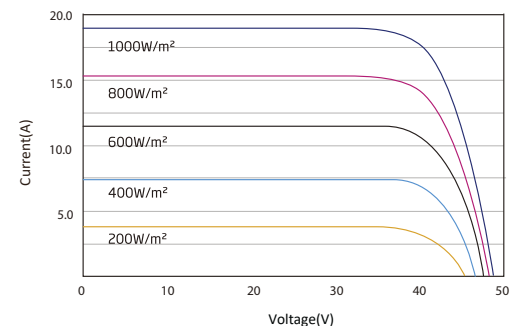
## PACKAGING CONFIGURATION

Modules per box	33 pieces
Modules per 40' container	594 pieces

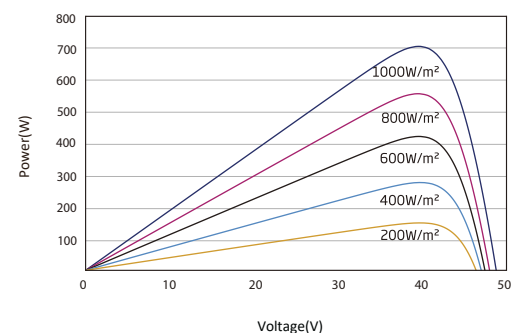
## DIMENSIONS OF PV MODULE (mm)



## I-V CURVES OF PV MODULE(705 W)



## P-V CURVES OF PV MODULE(705 W)



## COMPANY PROFILE

VDS Power GmbH is a German based company with vast experience in providing photovoltaic solutions worldwide. Our management team has been focusing on the European market for more than 10 years. We have satisfied customers in Germany, Spain, Italy, Bulgaria and many other European countries. Through direct access to production, we control the quality of photovoltaic modules by monitoring and documenting the manufacturing processes from material procurement to final testing. With a warehouse in Rotterdam, we ensure fast delivery within the EU. This enables us to respond quickly to the needs of different purchase quantities. We attach great importance to a reliable partnership and cooperation with our customers. We value reliability, commitment, safety and transparency.