

VDS-S144/M10N

**565-590W**

182 mm Half Cell, 144 Cells

TOPCon Monofacial Solar Module

Status: 12/2024

**22.8%**

Module Efficiency

**590W**

Highest Power Output

**12 YEARS**

Product Warranty

**30 YEARS**

Linear Power Warranty

**1.00%** First year power degradation

**0.40%** Annual degradation

## PRODUCT ADVANTAGES



### Half-cut cell technology

New circuit design, lower internal current, lower Rs 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

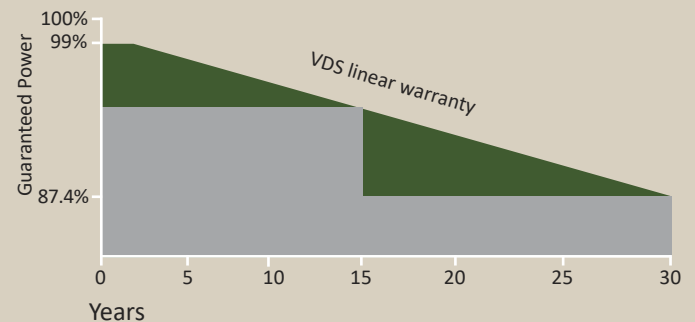
2 times of industry standard Anti-PID test by TUV SUD



### IP68 junction box

High waterproof level

## PERFORMANCE WARRANTY



## Certifications of Product and Manufacturer



**VDS Power GmbH**

Rudolf-Diesel-Strasse 10, 33178 Borchten

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

## ELECTRICAL PARAMETERS

	565	570	575	580	585	590
Maximum Power (Pmax/W)*	565	570	575	580	585	590
Operating Voltage (Vmp/V)	42.9	43.1	43.3	43.5	43.7	43.9
Operating Current (Imp/A)	13.18	13.23	13.28	13.34	13.39	13.44
Open-Circuit Voltage (Voc/V)	51.6	51.8	52.0	52.2	52.4	52.6
Short-Circuit Current (Isc/A)	13.94	14.01	14.08	14.15	14.22	14.29
Module Efficiency $\eta_m$ (%)	21.9	22.1	22.2	22.4	22.6	22.8
Power Tolerance (W)	0~+5					

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

## PERFORMANCE AT NMOT

	430	434	438	442	446	450
Maximum Power (Pmax/W)	430	434	438	442	446	450
Operating Voltage (Vmp/V)	40.4	40.6	40.8	41.0	41.2	41.4
Operating Current (Imp/A)	10.65	10.69	10.74	10.78	10.83	10.87
Open-Circuit Voltage (Voc/V)	48.9	49.1	49.3	49.5	49.7	49.9
Short-Circuit Current (Isc/A)	11.21	11.26	11.32	11.38	11.43	11.49

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

## MECHANICAL SPECIFICATION

Cell Type	N-Type TOPCon Monocrystalline Silicon
Cell Arrangement	144 (6*24)
Weight	29 kg
Module Dimensions	2279*1134*35 mm
Cable Length	Portrait 350 mm/Customized
Cable Cross Section Size	TÜV: 4 mm <sup>2</sup>
Front Glass	3.2 mm AR Coating Tempered Glass
No. of Bypass Diodes	3/6
Packing Configuration	31 pcs/Carton, 620 pcs/40HQ
Frame	Anodized Aluminium Alloy
Junction Box	IP68

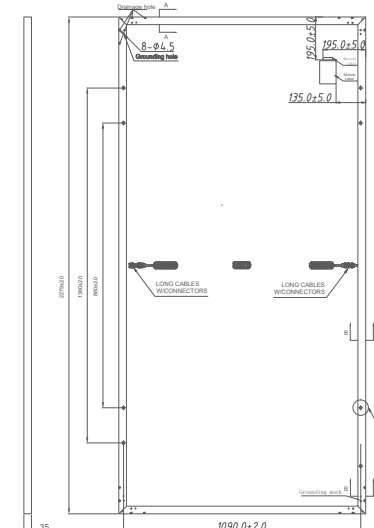
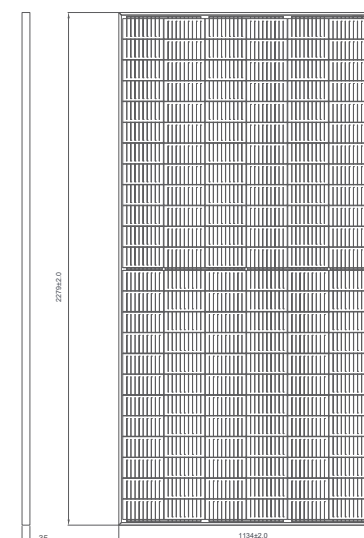
## OPERATING CONDITIONS

Maximum System Voltage	1000V/1500V/DC(IEC)
Operating Temperature	-40°C to +85°C
Maximum 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

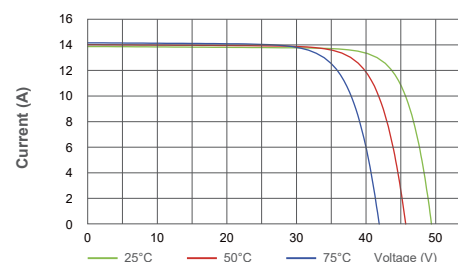
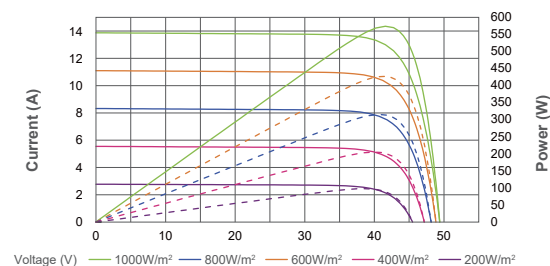
Temperature Coefficient Pmax	-0.29%/°C
Temperature Coefficient Voc	-0.25%/°C
Temperature Coefficient Isc	+0.046%/°C
NMOT	42±2°C

## TECHNICAL DRAWINGS



## I-V CURVE

## VDS-S144/M10N-565



## 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.