



# Pioneer 2.0

## 580-600W

144-TOPCon BIFACIAL MODULE WITH DUAL GLASS

**12** Years Product Warranty

**30** Years Linear Power Warranty



### SMBB Technology

Better light trapping and current collection, less optical and resistance losses, effectively improving module power output and reliability.



### >85% Bifaciality

Greater backside generation gain with significantly LCOE reduced.



### PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process.



### Low Temperature Coefficients

Excellent temperature coefficients, and more stable power generation performance.



### LID Resistance

N-type modules have higher reliability and lower LID/LETID.



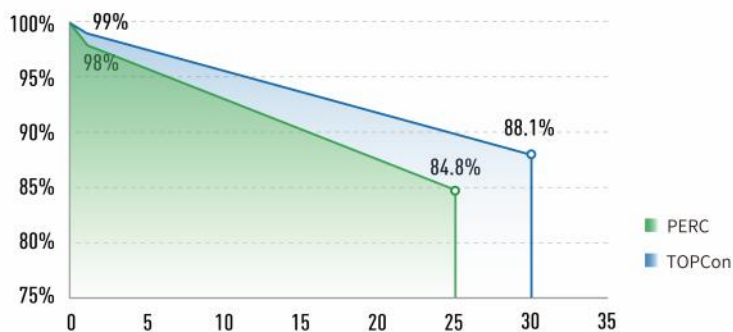
IEC61215:2021 / IEC61730:2023

IEC60068 / IEC61701 / IEC62716 / IEC62804

ISO9001:2015: ISO Quality Management System

ISO14001:2015: ISO Environment Management System

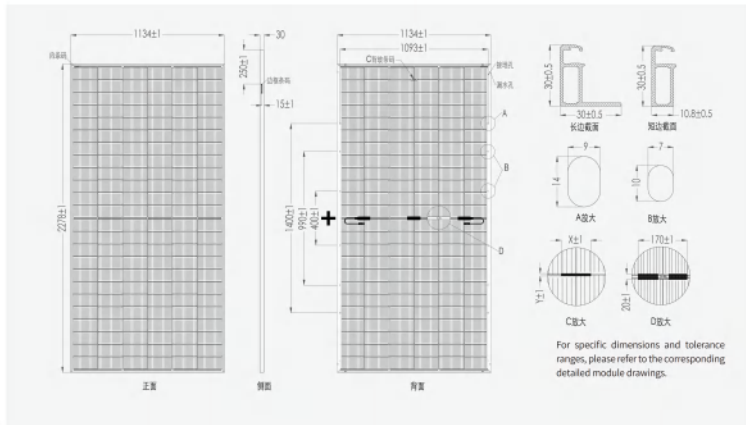
ISO45001:2018: Occupational Health and Safety Management Systems



Less than **1%** degradation in the 1st year

**30** years power warranty

**0.375%** linear degradation


**Mechanical Characteristics**

Cell Type	TOPCon Mono-crystalline
No. of Cells	144 (6×24)
Dimensions	2278×1134×30mm
Weight	31.0kg
Front Glass	2.0mm Anti-reflection Coating
Back Glass	2.0mm Heat Strengthened Glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68 Rated
Output Cables	4mm <sup>2</sup> (+):350mm,(-):250mm; or Customized Length
Connectors Type	MC4 Compatible
Front Load	5400 Pa
Back Load	2400 Pa

**Electrical Characteristics (STC)**

Module Types	SETS182X-144D-580CS	SETS182X-144D-585CS	SETS182X-144D-590CS	SETS182X-144D-595CS	SETS182X-144D-600CS
Max Power(Pmax)[W]	580	585	590	595	600
Open Circuit Voltage(Voc)[V]	52.93	53.02	53.11	53.20	53.29
Short Circuit Current(Isc)[A]	13.59	13.65	13.71	13.76	13.82
Max.Power Voltage(Vmp)[V]	44.86	45.01	45.16	45.31	45.46
Max.Power Current(Imp)[A]	12.98	13.04	13.10	13.15	13.21
Module Efficiency(%)	22.45	22.65	22.84	23.03	23.23
Power Tolerance	0 ~ +5W				
Bifaciality Coefficients	$\phi P_{max}=85\% \pm 10\%$ $\phi Voc=99\% \pm 10\%$ $\phi Isc=85\% \pm 10\%$				
STC (Standard Test Conditions): Irradiance 1000W/m <sup>2</sup> , Cell temperature 25°C, AM 1.5, Tolerance of Pmax is within +/-3%					

**Electrical Characteristics (BNPI)**

Max Power(Pmax)[W]	645	650	655	660	665
Open Circuit Voltage(Voc)[V]	52.93	53.02	53.11	53.20	53.29
Short Circuit Current(Isc)[A]	15.14	15.21	15.28	15.33	15.40
Max.Power Voltage(Vmp)[V]	44.86	45.01	45.16	45.31	45.46
Max.Power Current(Imp)[A]	14.47	14.54	14.60	14.66	14.73
BNPI (Bifacial Nameplate Irradiance): Irradiance: front 1000W/m <sup>2</sup> , rear 135W/m <sup>2</sup> , Cell temperature 25°C, AM=1.5, Tolerance of Pmax is within +/-3%					

**Packaging Configuration**

	Flat car	Flat car	Container
Size	13m	17.5m	40HC
Pallets Per	20	24	20
Modules Per Pallet (pcs)	36	36	36
Total Modules (pcs)	720	936	720

**Temperature Coefficients**

Nominal Operating Cell Temp. (NOCT)	45±2°C
Temperature Coefficient of max $\delta$ (%/°C)	-0.28
Temperature Coefficient of Voc $\beta$ (%/°C)	-0.25
Temperature Coefficient of Isc $\alpha$ (%/°C)	0.046

**Application Conditions**

Operating Temperature	-40°C~ 85°C
Maximum System Voltage	1500V
Maximum Series Fuse Rating	25A

**Safety & Warranty**

Safety Class	Class II
Product Warranty	12 yrs Workmanship
Power Warranty	30 yrs Linear Warranty

