

# SYMN144TBD

N-TYPE DOUBLE GLASS BIFACIAL MODULE

595w

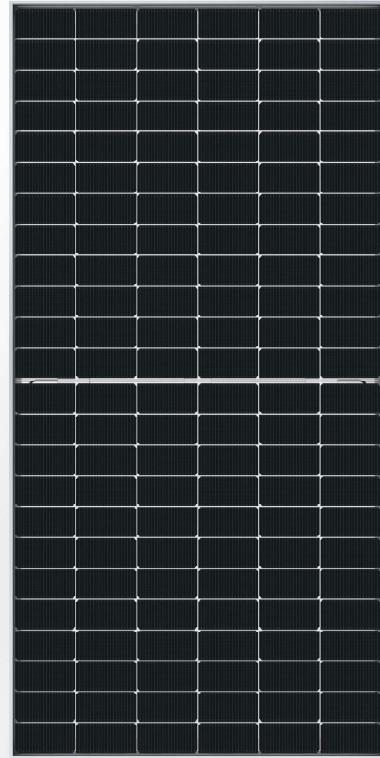
Maximum Power Output

23.23%

Maximum Module Efficiency

±3%

Power Tolerance



## Lower LCOE

N-TOPCon bifacial technology: lower degradation, higher bifaciality, ≥30 year service life and lower BOS



## Lower Temperature Coefficient

Lower temperature coefficient and higher power generation under high-temperature conditions.



## Mechanical Load Enhanced

Certified to withstand: 5400 Pa front side max static test load and 2400 Pa rear side max static test load.



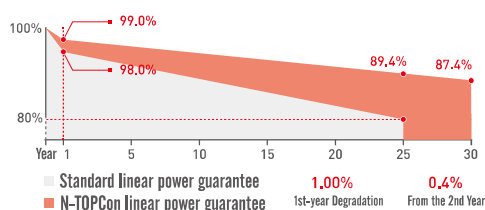
## ZERO LID (Light Induced Degradation)

N-type solar cell has no LID naturally which can increase power generation.



## Better Low Light Performance

Higher power output even under low-light environments like on cloudy or foggy days.



12 Years Product Material & Workmanship

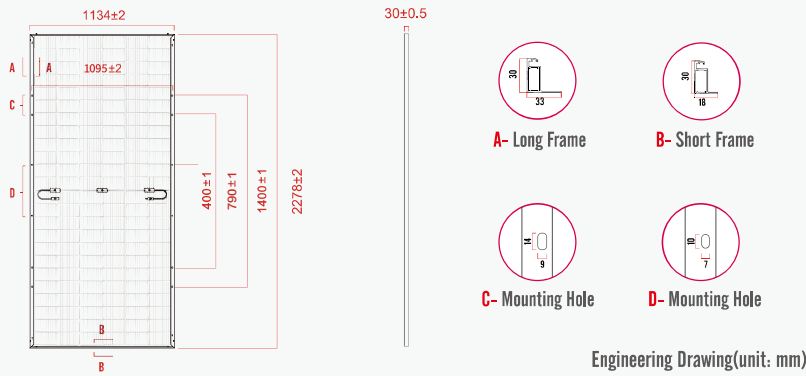
30 Years Linear Performance Warranty

Limited Power Warranty only covers the front side of Bifacial module

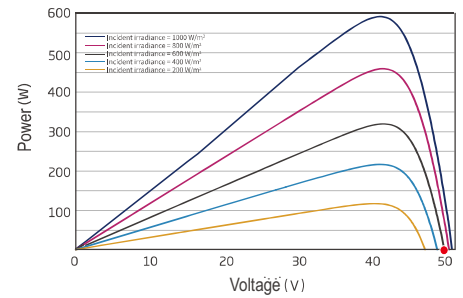
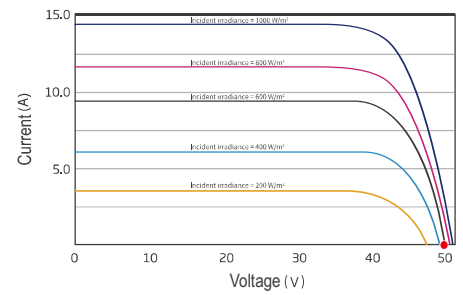
TÜVRheinland®  
Precisely Right.

The TÜV certificate holder is Sany Silicon Energy (Zhuzhou) Co., Ltd.  
Made in China





Characteristic Curves (SYM144TBD595)



**MECHANICAL PROPERTIES**

Cell Size	182mm*183mm series	Front Glass/Back Glass	Heat-strengthened Glass 2mm/2mm
Number of Cells	144 (2*72)	Frame	Anodized Aluminium Alloy
Module Dimension	2278mm×1134mm×30mm	Junction Box	IP68
Weight	31.2kg	Connector	QC4.10-cds from QC Solar PV-XT101.2 from Suzhou Xtong
Length of Cable	TUV 1×4.0mm <sup>2</sup> (+): 410mm- (-):290mm (Or Customized Length)		
Fire rating(According to UL 790)	Class A		

SPECIFICATIONS	STC*				
Testing Condition Front Side	SYM144TBD575	SYM144TBD580	SYM144TBD585	SYM144TBD590	SYM144TBD595
(Pmax) (W) Peak Power(Pmax)(W)	575	580	585	590	595
MPP Voltage(Vmp)(V)	44.07	44.24	44.42	44.60	44.77
MPP Current(Imp)(A)	13.05	13.11	13.17	13.23	13.29
Open Circuit Voltage(Voc)(V)	51.54	51.68	51.82	51.96	52.10
Short Circuit Current(Isc)(A)	13.84	13.90	13.96	14.02	14.08
Module Efficiency(%)	22.26%	22.45%	22.65%	22.84%	23.03%

The above data is for reference only, the actual data is subject to the actual test, the power test tolerance ±3%

\*STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, AM1.5

**Bifacial output-rearside power gain (10%)**

Maximum Power - Pmax [Wp]	633	638	644	649	655
Maximum Power Voltage - Vmp [V]	44.07	44.24	44.42	44.60	44.77
Maximum Power Current - Imp [A]	14.36	14.42	14.49	14.55	14.62
Open-circuit Voltage - Voc [V]	51.54	51.68	51.82	51.96	52.10
Short-circuit Current - Isc [A]	15.22	15.29	15.36	15.42	15.49

The bifacial gain is the additional gain from the back side of PV. It depends on the mounting method, orientation, tilt angle of the PV module and the albedo of the ground.

**Specifications (BNPI)**

Maximum Power - Pmax [Wp]	633	638	644	649	655
Open-circuit Voltage - Voc [V]	51.54	51.68	51.82	51.96	52.10
Short-circuit Current - Isc [A]	15.22	15.29	15.36	15.42	15.49

BNPI: Irradiance: front 1000W/ m<sup>2</sup>, rear 135W/ m<sup>2</sup>, Cell Temperature 25 °C, AM=1.5

The above data is for reference only, the actual data is subject to the actual test, the power test tolerance ±3%

OPERATING PROPERTIES		TEMPERATURE COEFFICIENT		PACKAGING CONFIGURATION	
Operating Temperature (°C)	-40°C~+85°C	Temperature Coefficient of Pmax	-0.29%/°C	Packing Type	40'HQ Container
Maximum System Voltage (V)	DC1500V (IEC)	Temperature Coefficient of Voc	-0.25%/°C	Pcs/Pallet	36 pcs
Maximum Series Fuse Rating (A)	30	Temperature Coefficient of Isc	+0.045%/°C	Pallet/Container	20 pallets
Power Sorting (W)	0~+4.99 W	Nominal Operating Cell Temperature (NOCT)	45 ± 2°C	Pcs/Container	720 pcs
Bifaciality	φPmax= 80%±5%, φIsc= 80%±5%, φVoc= 99%±1%		Module(T98)max: 70 °C		

\*Bifaciality=Pmaxrear (STC) /Pmaxfront (STC)

