

SYMN156R02TBD

N-TYPE DOUBLE GLASS BIFACIAL MODULE

680w

Maximum Power Output

23.14%

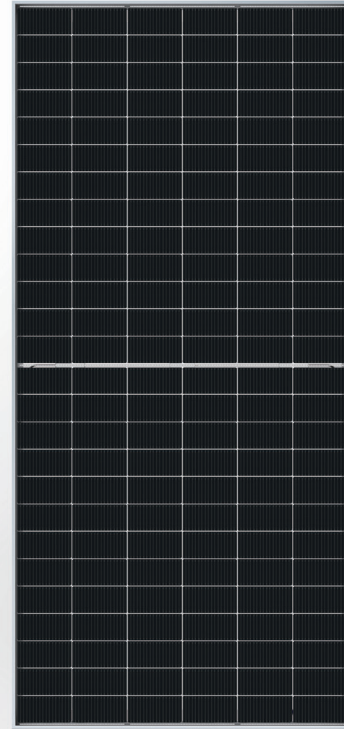
Maximum Module Efficiency

80%

Bifaciality

0~5w

Pmax 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.



PID Resistance

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



ZERO LID (Light Induced Degradation)

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



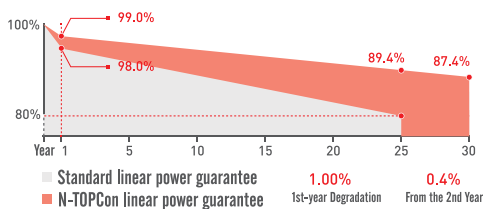
Better Low Light Performance

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



Mechanical Load Enhanced

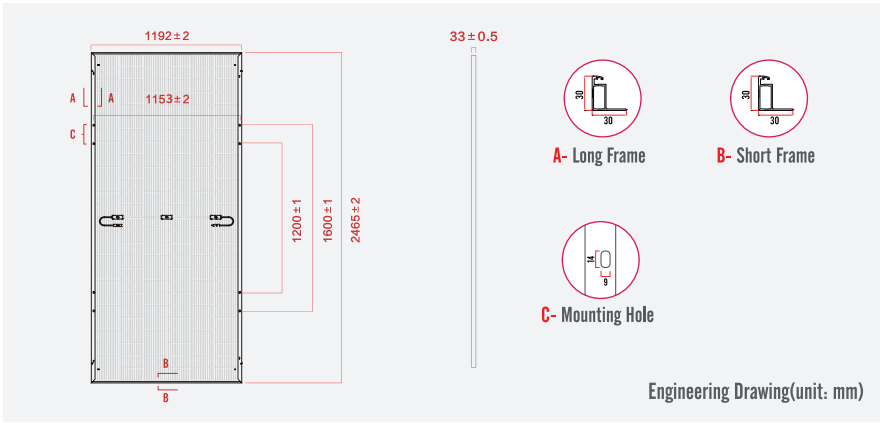
Certified to withstand: 5400 Pa front side max static test load and 2400 Pa rear side max static test load.



12 Years Product Material & Workmanship
30 Years Linear Performance Warranty

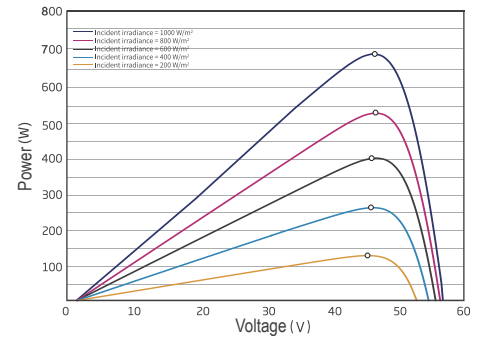
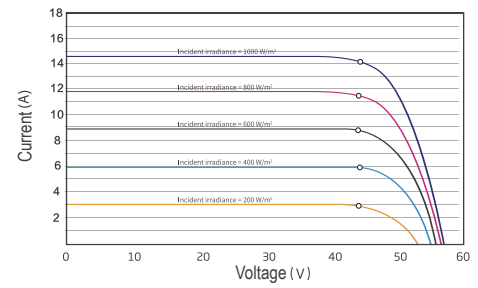
TÜVRheinland®
Precisely Right.





MECHANICAL PROPERTIES			
Cell Size	191mm*182mm series	Front Glass/Back Glass	Heat-strengthened Glass 2mm/2mm
Number of Cells	156 (2*78)	Frame	Anodized Aluminium Alloy
Module Dimension	2465mm × 1192mm × 30mm	Junction Box	IP68
Weight	36.5kg	Connector	MC4 Compatible Connector
Length of Cable	TUV 1 × 4.0mm ² (+): 410mm· (-): 290mm (Or Customized Length)		

Characteristic Curves (SYMN156R02TBD-680W)



SPECIFICATIONS	STC*						
	Front Side						
Testing Condition							
Maximum Power (Pmax/W)	655	660	665	670	675	680	
Peak Power Voltage (Vmp/V)	47.95	48.12	48.29	48.45	48.62	48.78	
Peak Power Current (Imp/A)	13.66	13.72	13.78	13.83	13.89	13.94	
Open Circuit Voltage (Voc/V)	56.91	57.05	57.19	57.33	57.47	57.61	
Short Circuit Current (Isc/A)	14.27	14.33	14.39	14.45	14.51	14.57	
Module Efficiency(%)	22.29%	22.47%	22.64%	22.81%	22.98%	23.15%	

The above data is for reference only, the actual data is subject to the actual test

*STC: Irradiance 1000 W/m², Cell Temperature 25°C, AM1.5

BIFACIAL OUTPUT-REAR SIDE POWER GAIN							
5%	Maximum Power (Pmax)	688	693	698	704	709	714
	Module Efficiency STC (%)	23.41%	23.59%	23.77%	23.95%	24.13%	24.31%
15%	Maximum Power (Pmax)	753	759	765	771	776	782
	Module Efficiency STC (%)	25.64%	25.84%	26.03%	26.23%	26.43%	26.62%
25%	Maximum Power (Pmax)	819	825	831	838	844	850
	Module Efficiency STC (%)	27.87%	28.09%	28.30%	28.51%	28.72%	28.94%

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	33 pcs
Maximum Series Fuse Rating (A)	30	Temperature Coefficient of Isc	+0.045%/°C	Pallet/Container	18 pallets
Pmax Tolerance (W)	0~+5W	Nominal Operating Cell Temperature (NOCT)	45±2°C	Pcs/Container	594 pcs
Bifaciality	80±5%				

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

