

SYMN156TBD

N-TYPE DOUBLE GLASS BIFACIAL MODULE



650W

Maximum Power Output

23.25%

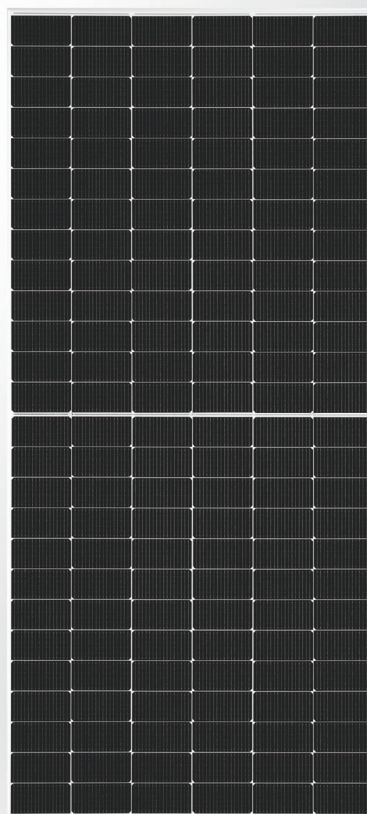
Maximum Module Efficiency

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.



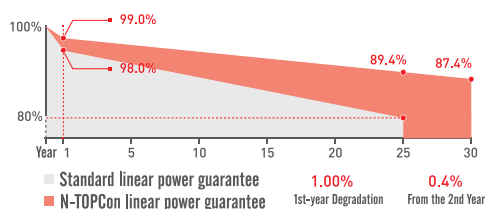
Better Low Light Performance

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



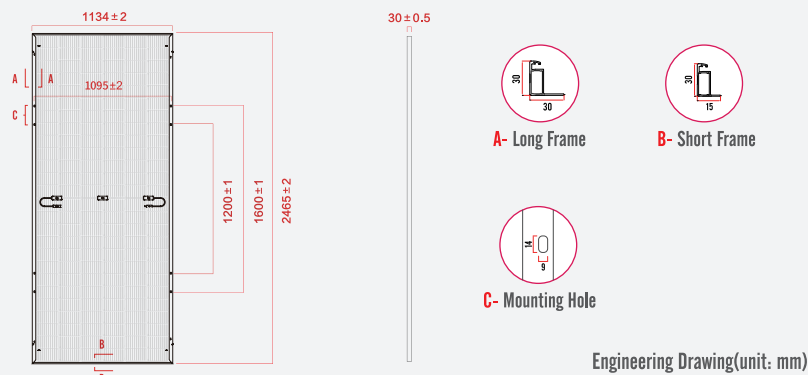
Mechanical Load Enhanced

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

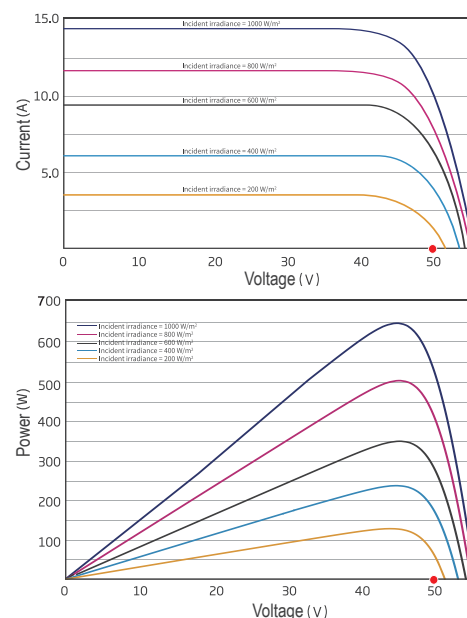


12 Years Product Material & Workmanship
30 Years Linear Performance Warranty





Characteristic Curves (SYM156TBD-650W)



MECHANICAL PROPERTIES

Cell Size	182mm*183mm series	Front Glass/Back Glass	Heat-strengthened Glass 2mm/2mm
Number of Cells	156 (2*78)	Frame	Anodized Aluminium Alloy
Module Dimension	2465mm×1134mm×30mm	Junction Box	IP68
Weight	33.2kg	Connector	MC4 Compatible Connector
Length of Cable	TUV 1×4.0mm ² (+): 300mm,(-):200mm(Or Customized Length)		

SPECIFICATIONS

Testing Condition	STC*					
	Front Side					
Maximum Power (Pmax/W)	625	630	635	640	645	650
Peak Power Voltage (Vmp/V)	47.89	48.05	48.22	48.37	48.53	48.69
Peak Power Current (Imp/A)	13.05	13.11	13.17	13.23	13.29	13.35
Open Circuit Voltage (Voc/V)	56.75	56.97	57.14	57.32	57.51	57.70
Short Circuit Current (Isc/A)	13.69	13.75	13.81	13.87	13.93	13.99
Module Efficiency(%)	22.36%	22.54%	22.72%	22.90%	23.07%	23.25%

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)	656	662	667	672	677	683
	Module Efficiency STC (%)	23.48%	23.66%	23.85%	24.04%	24.23%	24.42%
15%	Maximum Power (Pmax)	719	725	730	736	742	748
	Module Efficiency STC (%)	25.71%	25.92%	26.12%	26.33%	26.54%	26.74%
25%	Maximum Power (Pmax)	781	788	794	800	806	813
	Module Efficiency STC (%)	27.95%	28.17%	28.40%	28.62%	28.84%	29.07%

OPERATING PROPERTIES

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	16 pallets
Pmax Tolerance (W)	0~+5 W	Nominal Operating Cell Temperature (NOCT)	45±2°C	Pcs/Container	576 pcs
Bifaciality	80±5%				

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

