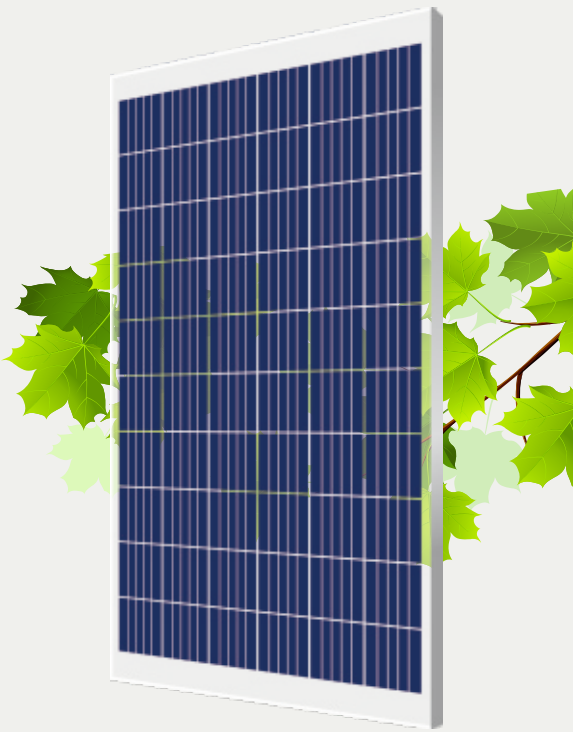


Thaisun Double Glass TSG60DG 280P/270P/260P



Thaisun Green Energy Co., Ltd.

Thaisun is a world-leading manufacturer of high-performance PV Products that convert sunlight into electricity for residential, commercial and utility-scale power generation. The factory is based in Thailand with the capacity of 200MW for the solar cell and solar module. The PV products are approved by worldly certificate as UL, ETL, CEC, TUV, IEC, ROHS, MCS.

We set up a global rapid reaction mechanism and global quality tracking system. As a brand committed to the responsibility of "Sustainable Energy, Aspirational Life", we offer advanced, reliable, safer and cost-effective range of the PV products which are engineered to meet the world's growing energy demands. Thaisun is the most trustworthy long-term partner in the PV industry.

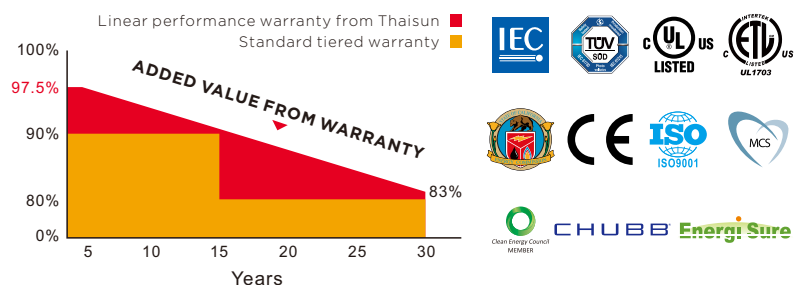


Key Features

- Improved Durability and Reliability**
 Double tempered glass increases the module robustness to mini-mize micro-cracks.
- PID Free and Snail Free**
 Without backsheet and frame reduces the water permeability and PID risks.
- Good Performance In low Irradiance**
 Excellent power generation in low radiation provides better performance in dawn, dusk and no-sun days to create more value for customers.
- Reduced System Cost**
 1500V higher maximum system voltage reduces BOS cost.
- Longer Lifetime**
 Less annual power loss of 0.5% and provide 30 years performance warranty.
- World Insurance**
 CHUBB insurance.

Warranty

- 12 years limited workmanship warranty.
- No less than 97.5% output power in the first year.
- No more than 0.5% annual declination since the second year.
- 30 year warranty at 83% power output.
- Product liability and E&O insurance has been covered by Chubb Insurance.



Double Glass Polycrystalline Series

ELECTRICAL CHARACTERISTICS

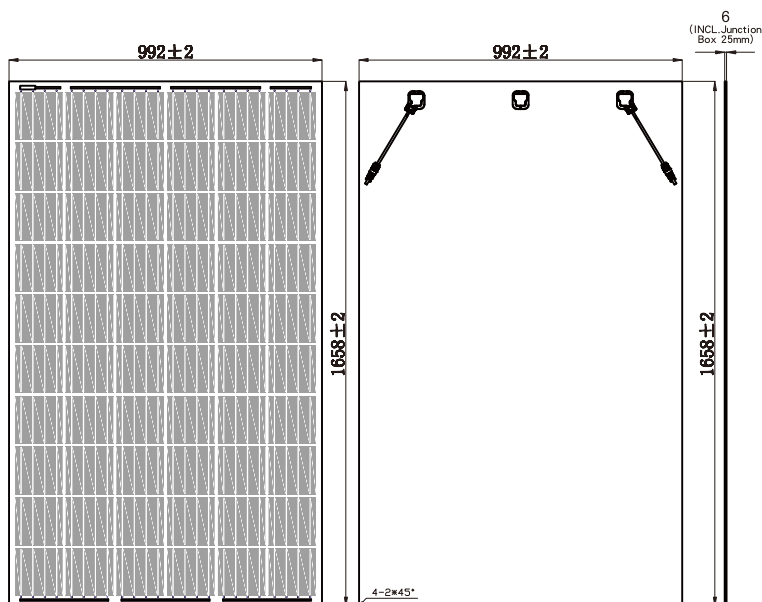
Characteristics	TSG60DG-280P	TSG60DG-270P	TSG60DG-260P
Max.Power (Pmax)	280Wp	270Wp	260Wp
Optimum Operating Voltage (Vm)	31.41V	31.08V	30.73V
Optimum Operating Current (Im)	8.92A	8.69A	8.47A
Open-circuit Voltage (Voc)	38.45V	38.26V	37.90V
Short-circuit Current (Isc)	9.40A	9.22A	9.01A
Cell Efficiency	19.20%	18.50%	17.80%
Module Efficiency	17.03%	16.42%	15.80%

*STC (Standard Test Condition): Irradiance 1000W/m², Module Temperature 25°C, AM=1.5.

*NOCT: Irradiance 800W/m², ambient Temperature 20°C, wind speed 1m/s.

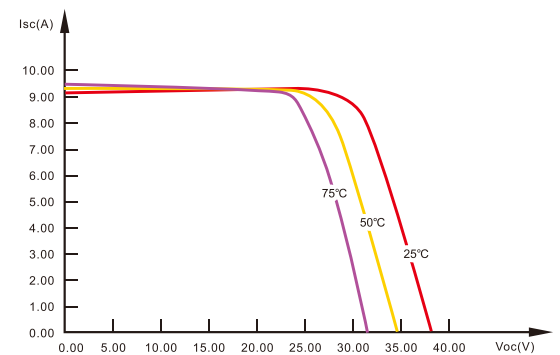
THERMAL CHARACTERISTICS

Solar Cell	Poly-crystalline 156x156mm
Output Tolerance(Pmax)	0 - +3%
Number of cells	60 cells in series
Module Dimension	1658x992x6mm 1658x992x25mm(with junction box)
Weight	22.70kg
Max.System Voltage	1500V(TUV)
Max.Series Fuse Rating	15A
Output Cable	PV 4mm ²
Junction Box	IP67
Number of bypass diodes	3
Temperature cycling range	-40 - 85°C
NOCT	47°C ± 2°C
Temperature coefficients of Isc	+0.053%/K
Temperature coefficients of Voc	-0.303%/K
Temperature coefficients of Pmax	-0.40%/K
Load Capacity	780PCS/40'HQ

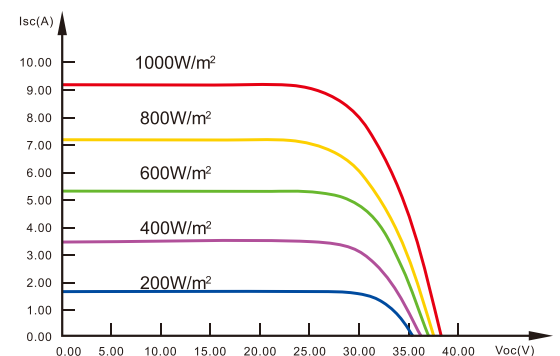


I-V Curves

I-V Curves of PV module TSG60DG-280P at various cell temperatures



I-V Curves of PV module TSG60DG-280P at various solar irradiance



- Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.
- The data do not refer to a single module and they are not part of the offer, they only serve for comparison to different module types.

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