

# CSG PVTECH CO.,LTD.



Several decades of experience in manufacturing, the complete PV chain including silicon materials, ingot, wafer, solar glass, solar cell, solar module and solar project, and ISO9001 & ISO14001 certified factory, ensure excellent raw materials and production control.



Modules certified by TUV Rheinland (IEC61215, IEC 61730 standards) in the extreme conditions (temperature, load, impact) with good performance. Pass strict tests of solar modules including Salt-mist Corrosion Test, Fire Test, Ammonia Resistance Test, PID Test, Sand Abrasion Test and Carbon Footprint Assessment in TUV.



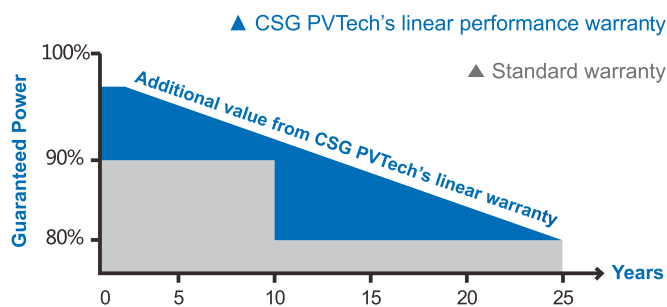
The good weak light performance (morning, evening and cloudy day) has been tested and approved by professional third-party.



Guaranteeing from 0 to +6W as power tolerance, customers can obtain 5.8% power more than conventional output.



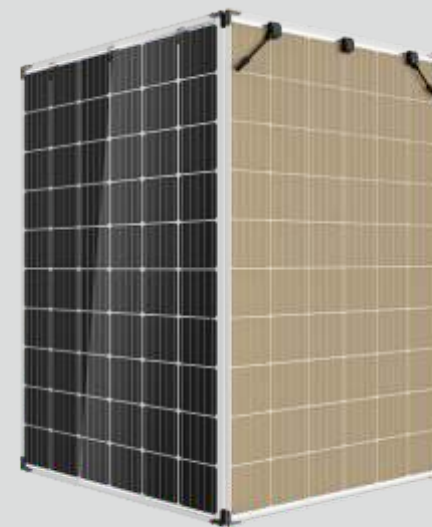
100% EL test before and after lamination, and finished products EL test, providing higher quality assurance.



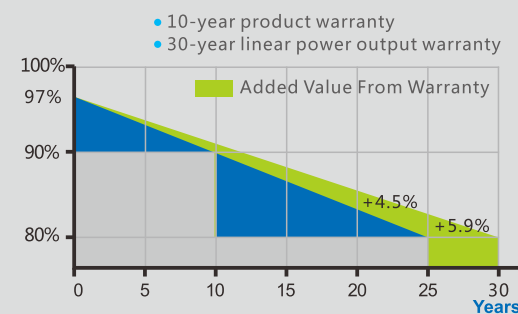
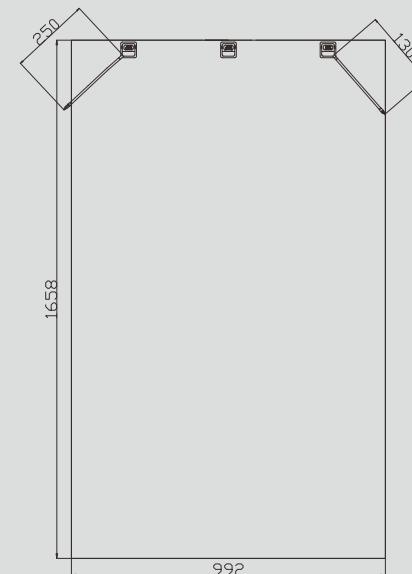
For a period of twenty-five (25) years commencing on the Warranty Start Date, loss of power output of the nominal power output measured at Standard Test Conditions (STC) for the Product(s) shall not exceed:

1. For Polycrystalline Products: 2.5% in the first year, thereafter 0.7% per year, ending with 80.7% in the 25th year after the Warranty Start Date.
2. For Monocrystalline Products: 3% in the first year, thereafter 0.708% per year, ending with 80.2% in the 25th year after the Warranty Start Date.

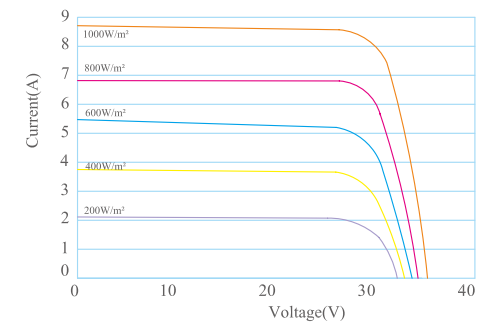
((5BBB))



High Efficiency Mono-crystalline Solar Module



## I-V Curves



I-V Curves of PV module CSG280W at different light power

## Typical Electrical Characteristics

Solar cells:	Mono-Crystalline 156.75×156.75mm 60pcs (6×10) — 5 bus bars					
Max-power	270	275	280	285	290	295
Power Tolerance	0 to +3%					
Voltage at Pmax (Vmp)	31.7	31.8	32.0	32.1	32.3	32.5
Current at Pmax (Imp)	8.52	8.65	8.75	8.88	8.98	9.08
Open-Circuit Voltage (Voc)	39.2	39.5	39.8	40.0	40.3	40.5
Short-Circuit Current (Isc)	9.01	9.10	9.20	9.32	9.41	9.53
Max-System Voltage (VDC)	1500V(IEC), 1000V(UL)					
Cell Efficiency	19.2	19.5	19.9	20.3	20.7	21.0
Module Efficiency	16.4	16.7	17.0	17.3	17.6	17.9
No. of Bypass Diodes (pcs.)	3					
Max. Series Fuse (A)	15A					
Temperature Coefficient of Pmax	-0.46%/°C					
Temperature Coefficient of Voc	-0.36%/°C					
Temperature Coefficient of Isc	0.08%/°C					
Nominal Operating Cell Temperature	45±2 °C					

\*STC Conditions (1000W/m<sup>2</sup>; 1.5 AM and 25°C Cell temperature)

## Mechanical Characteristics

Cable type, Diameter and Length	Φ=4mm <sup>2</sup> , L=Can Be Customized
Type of Connector	Compatible type MC4
Dimension A×B×C	1658×992×5/6/7.5mm
Weight	22.5/23.5/26kg
No. of Draining Holes In Frame	0
Construction	Glass: High Transmission, Low Iron, Tempered Glass 2.0/2.5/3.2mm Encapsulation: EVA
Junction Box	IP67 Rated

## Qualification Test Parameters

Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40°C ~ +85°C
Max load	5400Pa
Hailstone impact	25mm ( 1inch ) at 23m/s ( 52mph )
Fire rating	Class A

## Packaging Configuration

Packaging Configuration	30 pcs/box
Loading Capacity	780 pcs/40HQ    324 pcs/20GP