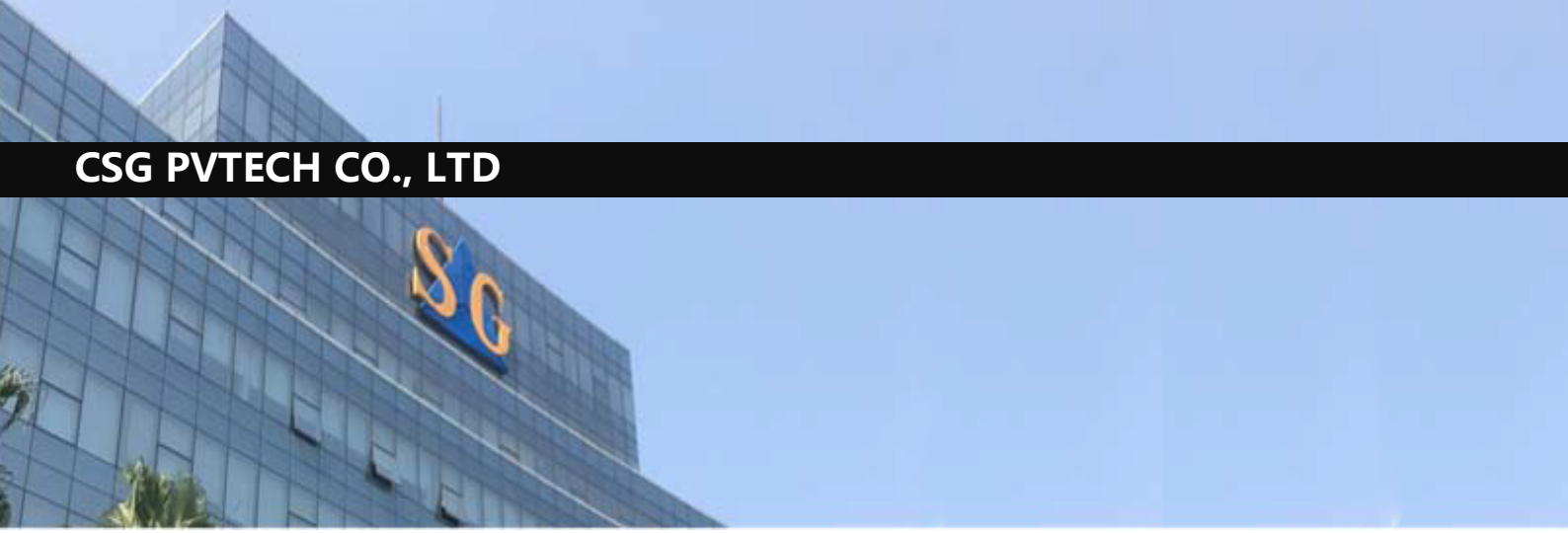
CSG PVTECH CO., LTD



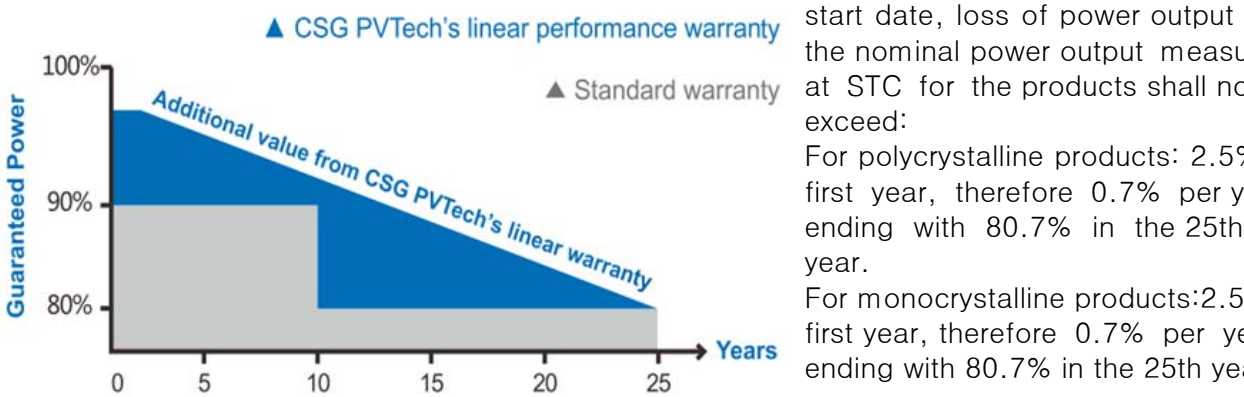
PV chain including silicon materials, wafer, solar glass,solar cell, solar module and solar project, and IS09001 &ISO14001 certified factory, ensure excellent raw materials and production control.

Solar modules certified by TUV NORD (IEC61215& IEC61730:2016) in the extreme conditions (Temperature, load, impact) with good performance. Pass TUV Salt Mist Corrosion Test, PID Test, Ammonia Resistance Test, Carbon Footprint Test, Fire Test, Sand Test, EMC and LVD Test.

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

Guarantee from 0 to +3% as power tolerance, customer can obtain 5.8% power more than conventional output.

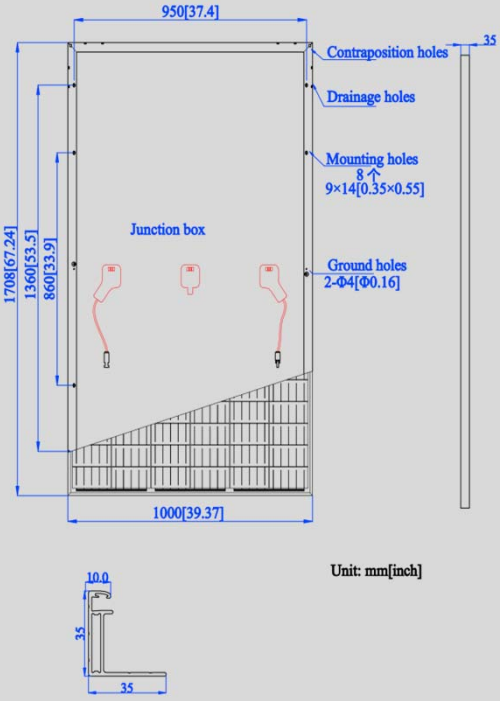
100% EL test before and after lamination, and finished products EL test, providing higher quality assurance.



Warranty : For a period of 25 years commencing on the warranty start date, loss of power output of the nominal power output measured at STC for the products shall not exceed:
For polycrystalline products: 2.5%in first year, therefore 0.7% per year, ending with 80.7% in the 25th year.
For monocrystalline products:2.5% in first year, therefore 0.7% per year, ending with 80.7% in the 25th year.

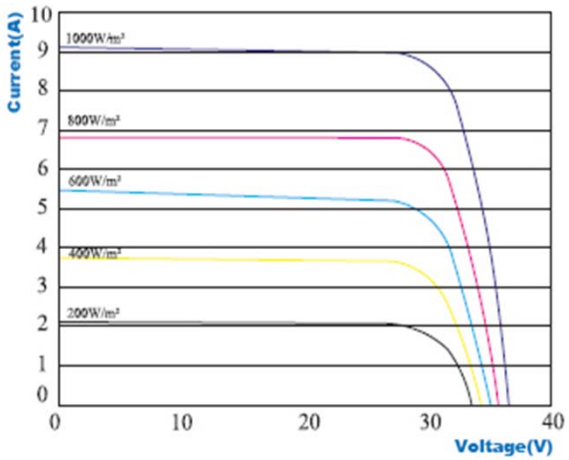
CSGXXXS2HC-120 (XXX=325W-340W)

High Efficiency PERC Half Cell
Mono-Crystalline Solar Module



Unit: mm[inch]

I-V Curves



I-V Curves of PV module CSG330W at different light power

Typical Electrical Characteristics

Solar Cell	Mono Crystalline 158.75×79.38mm 120 Cell (6×20) —— 5BB PERC			
Max Power	325	330	335	340
Power Tolerance	0 to +3%			
Voltage at Pmax (Vmp)	34	34.2	34.4	34.6
Current at Pmax (Imp)	9.56	9.65	9.74	9.79
Open-circuit Current(Voc)	40.6	40.8	41	49.2
Short-circuit Current (Isc)	10.11	10.2	10.29	10.29
Max System Voltage(VDC)	1000V(IEC), 600V(UL)			
Cell Efficiency (%)	21.3	21.6	21.8	22.1
Module Efficiency (%)	19.1	19.4	19.6	19.9
No. Of Bypass Diodes (pcs)	3			
Max Series Fuse (A)	15A			
Temperature Coefficient at Pmax	-0.36%/℃			
Temperature Coefficient at Voc	-0.28%/℃			
Temperature Coefficient at Isc	0.04%/℃			
NOCT	45±2 ℃			

STC Conditions(1000W/m^2; 1.5AM and 25℃ Cell Temperature)

Mechanical Characteristics

Cable Type, diameter, Length	Φ=4mm^2, L=300±5mm customized allowed
Type of Connector	Compatible type MC4
Dimension A×B×C	1708×1000×35mm
Weight	18.8kg
No. Of Draining Holes in Frame	16
Construction	Glass: High Transmission, Low Iron, Tempered Glass 3.2mm Encapsulation: EVA Backsheet: Fluorinated, white
Junction box	IP68 Rated
Frame	Clear anodized aluminum alloy Type 6063T5 frame

Qualification Test Parameters

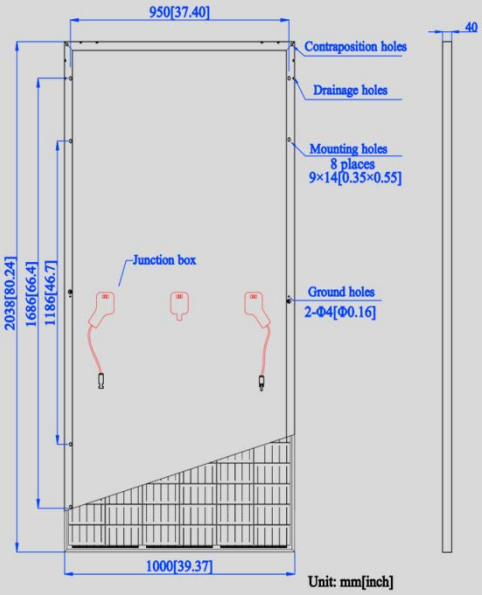
Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40℃ ~ +85℃
Max Load	5400Pa
Hailstone Impact	25mm (1inch) at 23m/s (52mph)
Fire Rating	Class C

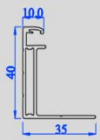
Packing Configuration

Packing Configuration	31pcs/ carton, 2pcs/carton
Loading Capacity	858pcs/40HQ, 330pcs/20GP

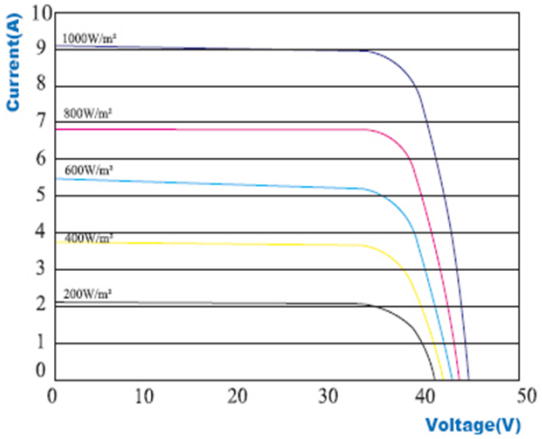
CSGXXXS2HC-144 (XXX=390W-405W)

High Efficiency PERC Half Cell
Mono-Crystalline Solar Module





I-V Curves



I-V Curves of PV module CSG395W at different light power

Typical Electrical Characteristics

Solar Cell	Mono Crystalline 158.75×79.38mm 144 Cell (6×24) —— 5BB PERC			
Max Power	390	395	400	405
Power Tolerance	0 to +3%			
Voltage at Pmax (Vmp)	40.8	41	41.2	41.4
Current at Pmax (Imp)	9.56	9.64	9.71	9.79
Open-circuit Current(Voc)	48.6	48.8	49	49.2
Short-circuit Current (Isc)	10.06	10.13	10.21	10.29
Max System Voltage(VDC)	1000V(IEC), 600V(UL)			
Cell Efficiency (%)	21.3	21.6	21.8	22.1
Module Efficiency (%)	19.1	19.4	19.6	19.9
No. Of Bypass Diodes (pcs)	3			
Max Series Fuse (A)	15A			
Temperature Coefficient at Pmax	-0.36%/℃			
Temperature Coefficient at Voc	-0.28%/℃			
Temperature Coefficient at Isc	0.04%/℃			
NOCT	45±2 ℃			

STC Conditions(1000W/m^2; 1.5AM and 25℃ Cell Temperature)

Mechanical Characteristics

Cable Type, diameter, Length	Φ=4mm2, L=300±5mm customized allowed
Type of Connector	Compatible type MC4
Dimension A×B×C	2038×1000×40 mm
Weight	21.8kg
No. Of Draining Holes in Frame	16
Construction	Glass: High Transmission, Low Iron, Tempered Glass 3.2mm Encapsulation: EVA Backsheet: Fluorinated, white
Junction box	IP68 Rated
Frame	Clear anodized aluminum alloy Type 6063T5 frame

Qualification Test Parameters

Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40℃ ~ +85℃
Max Load	5400Pa
Hailstone Impact	25mm (1inch) at 23m/s (52mph)
Fire Rating	Class C

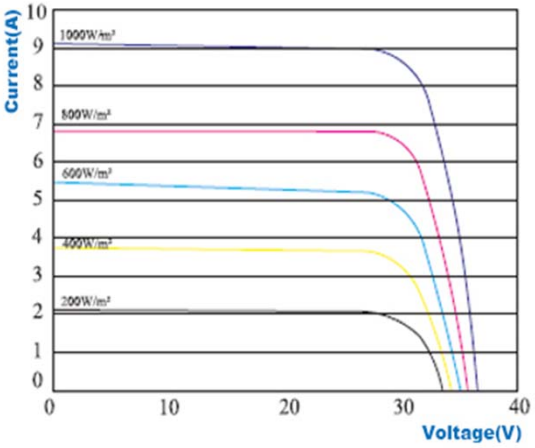
Packing Configuration

Packing Configuration	27pcs/ carton, 2pcs/carton
Loading Capacity	638pcs/40HQ, 253pcs/20GP

CSGXXXS2-60 (XXX=315W-330W)

High Efficiency PERC Mono-Crystalline Solar Module

I-V Curves

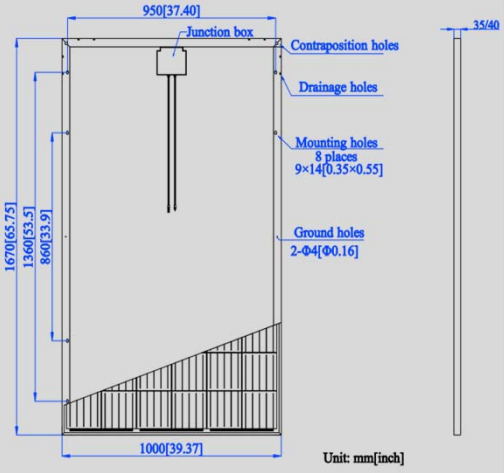


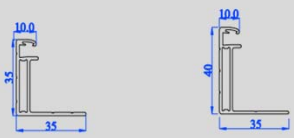
I-V Curves of PV module CSG320W at different light power

Typical Electrical Characteristics

Solar Cell	Mono Crystalline 158.75×158.75 mm 60 Cell (6×10) —— 5BB PERC			
Max Power	315	320	325	330
Power Tolerance	0 to +3%			
Voltage at Pmax (Vmp)	33.2	33.4	33.6	33.8
Current at Pmax (Imp)	9.49	9.58	9.67	9.77
Open-circuit Current(Voc)	40.6	40.8	41	41.2
Short-circuit Current (Isc)	9.98	10.07	10.16	10.26
Max System Voltage(VDC)	1000V(IEC), 600V(UL)			
Cell Efficiency（%）	21.2	21.5	21.8	22.1
Module Efficiency（%）	18.9	19.2	19.5	19.8
No. Of Bypass Diodes (pcs)	3			
Max Series Fuse (A)	15A			
Temperature Coefficient at Pmax	-0.37%/℃			
Temperature Coefficient at Voc	-0.27%/℃			
Temperature Coefficient at Isc	0.04%/℃			
NOCT	45±2℃			

STC Conditions(1000W/m^2; 1.5AM and 25℃ Cell Temperature)





Mechanical Characteristics

Cable Type, diameter, Length	Φ=4mm2, L=900±5mm customized allowed
Type of Connector	Compatible type MC4
Dimension A×B×C	1670×1000×40/35mm
Weight	18.7/18.4kg
No. Of Draining Holes in Frame	16
Construction	Glass: High Transmission, Low Iron, Tempered Glass 3.2mm Encapsulation: EVA Backsheet: Fluorinated, white
Junction box	IP68 Rated
Frame	Clear anodized aluminum alloy Type 6063T5 frame

Qualification Test Parameters

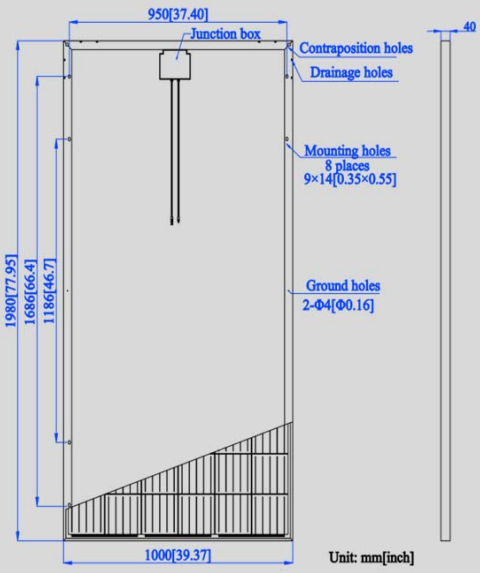
Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40℃ ~ +85℃
Max Load	5400Pa
Hailstone Impact	25mm (1inch) at 23m/s (52mph)
Fire Rating	Class C

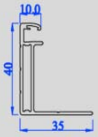
Packing Configuration

Packing Configuration	31pcs/ carton, 2pcs/carton
Loading Capacity	858pcs/40HQ, 330pcs/20GP

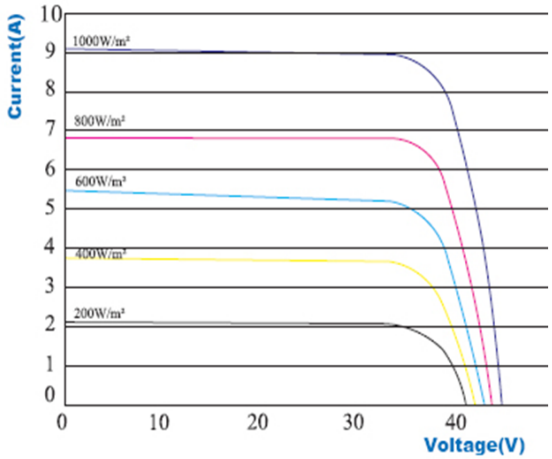
CSGXXXS2-72 (XXX=380W-395W)

High Efficiency PERC Mono-Crystalline Solar Module





I-V Curves



I-V Curves of PV module CSG385W at different light power

Typical Electrical Characteristics

Solar Cell	Mono Crystalline 158.75×158.75 mm 72 Cell (6×12) —— 5BB PERC			
Max Power	380	385	390	395
Power Tolerance	0 to +3%			
Voltage at Pmax (Vmp)	40	40.2	40.4	40.6
Current at Pmax (Imp)	9.5	9.58	9.66	9.73
Open-circuit Current(Voc)	48.8	49	49.2	49.4
Short-circuit Current (Isc)	10	10.08	10.15	10.22
Max System Voltage(VDC)	1000V(IEC), 600V(UL)			
Cell Efficiency (%)	21.3	21.6	21.9	22.2
Module Efficiency (%)	19.2	19.4	19.7	19.9
No. Of Bypass Diodes (pcs)	3			
Max Series Fuse (A)	15A			
Temperature Coefficient at Pmax	-0.37%/℃			
Temperature Coefficient at Voc	-0.27%/℃			
Temperature Coefficient at Isc	0.04%/℃			
NOCT	45±2 ℃			

STC Conditions(1000W/m^2; 1.5AM and 25℃ Cell Temperature)

Mechanical Characteristics

Cable Type, diameter, Length	Φ=4mm2, L=1000±5mm customized allowed
Type of Connector	Compatible type MC4
Dimension A×B×C	1980×1000×40mm
Weight	21.2kg
No. Of Draining Holes in Frame	16
Construction	Glass: High Transmission, Low Iron, Tempered Glass 3.2mm Encapsulation: EVA Backsheet: Fluorinated, white
Junction box	IP68 Rated
Frame	Clear anodized aluminum alloy Type 6063T5 frame

Qualification Test Parameters

Dielectric Insulation Voltage	6000VDC max
Operating Temperature	-40℃ ~ +85℃
Max Load	5400Pa
Hailstone Impact	25mm (1inch) at 23m/s (52mph)
Fire Rating	Class C

Packing Configuration

Packing Configuration	27pcs/ carton, 2pcs/carton
Loading Capacity	638pcs/40HQ, 253pcs/20GP