

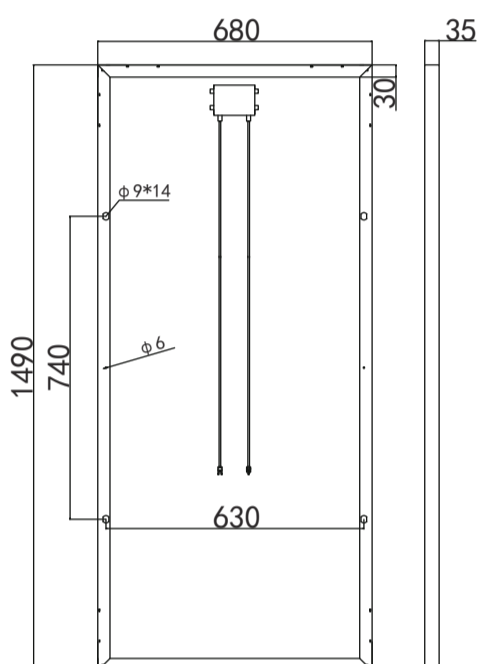
Monocrystalline Solar PV Module

36 Cells, 190W

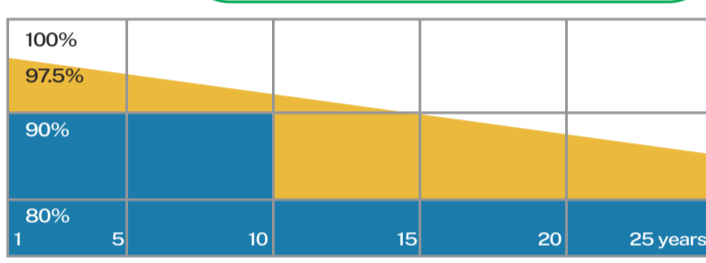


The main features

- +3W Power and tolerance**
0~+3W positive power tolerance guarantee
- Anti PID Resistance to the PID**
Harsh conditions for 96 hours testing qualified (@ 85 °C / 85%). For special severity installation environment, can meet higher standards
- Stronger surface resistance to mechanical loads**
It has passed the certification of 6000Pa snow load and 3600Pa wind load
- High reliability and weather resistance**
Through dust, salt fog, ammonia corrosion test, can effectively deal with the harsh environment
- The hail test**
It passed the hail test with a diameter of 45mm and a speed of 30.7m/s
- Lower temperature coefficient**
Better temperature coefficient makes the power attenuation less at high temperature



Best quality assurance



Shine Solar linear power output warranty

Industry quality assurance

12 12 years of product material and process quality assurance

25 25 years linear power output warranty



Product information

Monocrystalline 190W

MODEL	SN-M190
Maximum Power/Pmax(Wp)	190
Optimum Operating Voltage/Vmp(V)	18.50
Optimum Operating Current/Imp(A)	10.27
Open Circuit Voltage/Voc(V)	22.20
Short Circuit Current/Isc(A)	11.30
Cell Efficiency	20.94%
Module Efficiency	18.75%
Power Tolerance	0~+3W
Maximum Series Fuse Rating(A)	15A
Maximum System Voltage	1000VDC

Maximum Data

Operating Module Temperature	-40 °C to +80 °C	°C
Storage Temperature	From -40 °C to +80 °C	°C
Insulation Cut Voltage	1000	DC
Maximum Wind Resistance	60m/s	N/m ² or max KM/h
Surface Maximum Load Capacity	200	Kg/m ²
Maximum Hail Load Capacity	5mm	80km/h

Mechanical Characteristics

Number of cells	36(9*4)
Cell Dimension(mm)	158.75*158.75
Dimension(mm)	1490*680*35
Weight(Kg)	12
Frame Material	Clear anodized aluminium frame
Thickness of Glass	3.2mm tempered glass
Frame	Anodized aluminum alloy
Laminating Material	EVA (Light transmittance more than 92%)
Backsheet Material	TPT (High weather resistance)
Junction Box	Ip65 (1500V system voltage available)
Output cable	90cm 2x4.0mm ² MC4 connector
Bus Bar	5BB

Temperature Characteristics

Nominal Operating Cell Temperature(NOTC)	45±2 °C
Temperature Coefficient of Pmax	-0.37%/°C
Temperature Coefficient of Voc	-0.29%/°C
Temperature Coefficient of Isc	-0.048%/°C

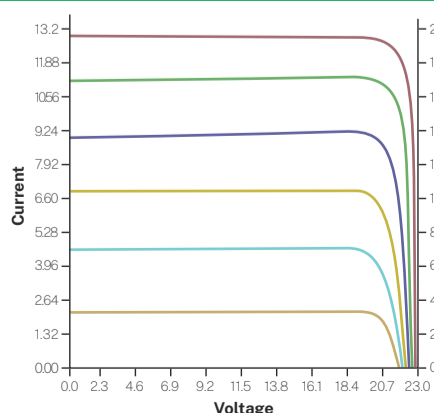
STC

AM Condition	AM1.5
Irradiance conditions	1000W/m ²
Temperature Cell	25 °C

Packing Configuration

Container	20'GP	40'HQ
Pieces per container	600	1500

I-V Curve



- Sun:1200, Vmp:17.820, Pmax:211.660
- Sun:1000, Vmp:18.502, Pmax:190.034
- Sun:800, Vmp:18.596, Pmax:153.966
- Sun:600, Vmp:18.553, Pmax:114.857
- Sun:400, Vmp:18.454, Pmax:76.109
- Sun:200, Vmp:18.043, Pmax:36.011

(SN-M190)

Caution: The Installation, Operation and cleaning should be done by professional skills and qualified engineers. Please read the datasheet and Operation manual carefully before installing and Operating the PV modules.