



## Product Features



### High Module Conversion Efficiency

Solar cells average efficiency 19.0%  
Module efficiency up to 15.6%



### Positive Tolerance

Guaranteed positive tolerance from 0~3%  
ensures power output reliability



### Strong Compressive Strength

Entire module certified to withstand high wind loads of 2.4kPa and snow loads of 5.4kPa



### Outstanding Performance

Excellent performance under weak light environments



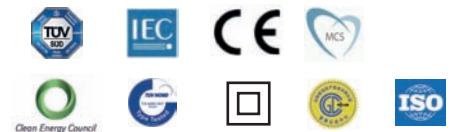
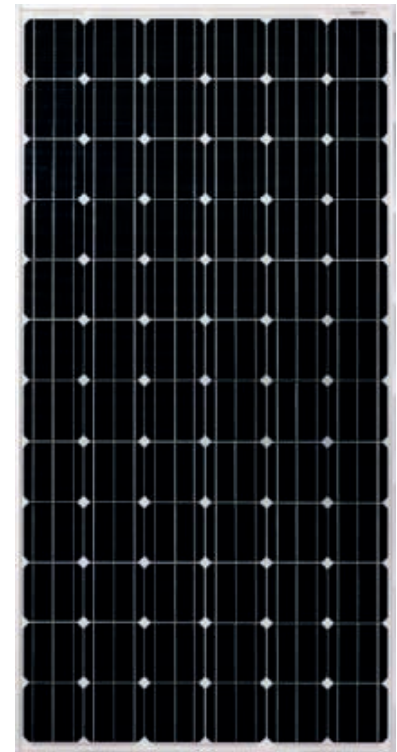
### Premium Quality of Raw Materials

Premium quality of 9-N poly-silicon as raw material, advanced process and the authorized agency test guarantees the reliability of modules



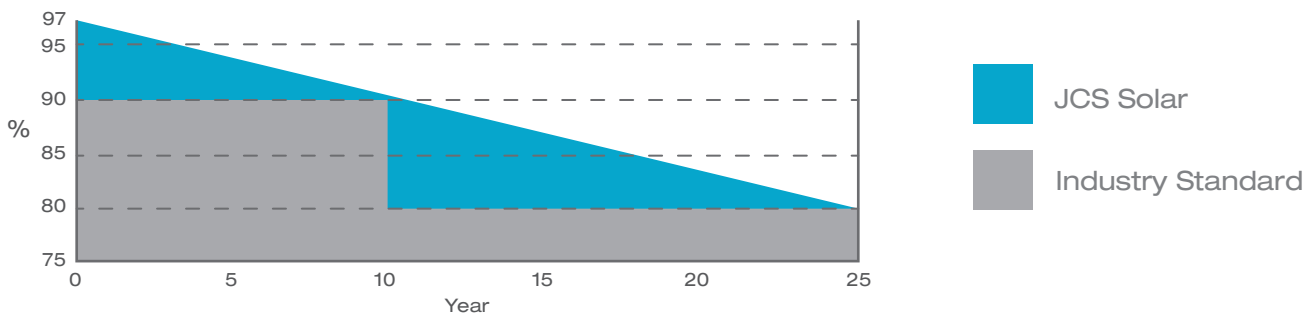
### Junction Box

Superior conductivity, top protection class, good anti-weathering & sealing



## Leading Warranty in PV Industry

- 25-year transferrable power output warranty: 12 years/90%, 18years/85%, 25years/80%\*
- Based on nominal power
- 10 years material and workmanship warranty



\* Please refer to JCS Solar Product Warranty for details.

### JCS SOLAR CO.,LTD SALES CONTACTS

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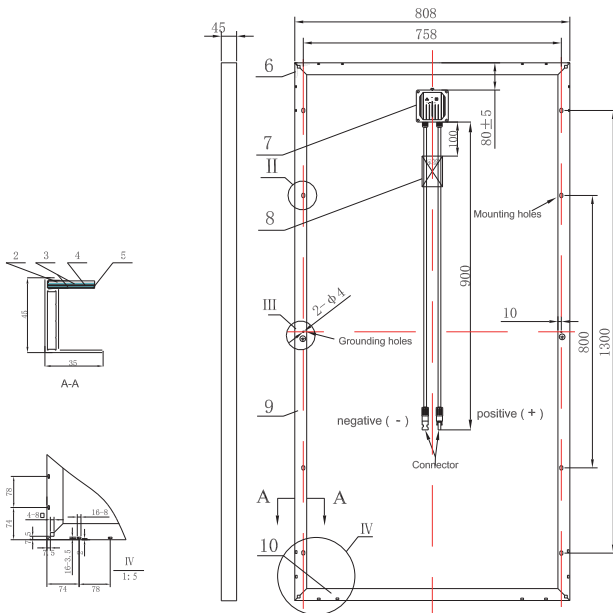
HTTP://WWW.JCSOLAR.COM

### Electrical Characteristics

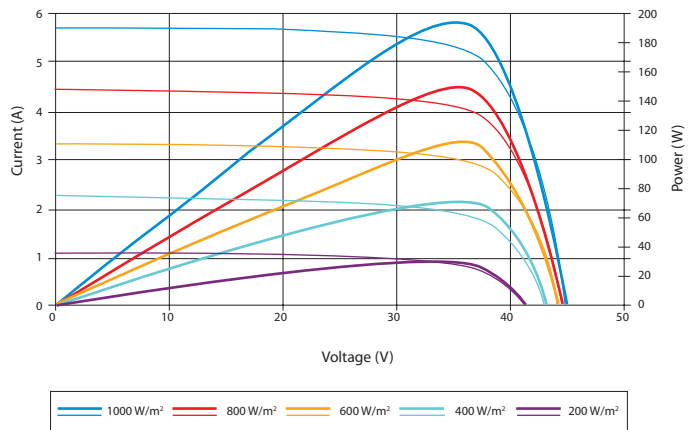
Module Type	JCSM180M-72	JCSM185M-72	JCSM190M-72	JCSM195M-72	JCSM200M-72
Optimum Operating Voltage (Vmax/V)	36	36	36.5	37.3	37
Optimum Operating Current (Impp/A)	5	5.14	5.21	5.23	5.41
Open-Circuit Voltage (Voc/V)	44.2	44.6	44.8	45.36	45
Short-Circuit Current (Isc/A)	5.4	5.54	5.66	5.73	5.8
Maximum Power at STC (Pmax/W)	180	185	190	195	200
Module Efficiency (%)	14.0%	14.4%	14.8%	15.2%	15.6%
Operating Module Temperature (°C)	-40°C to +85°C				
Maximum System Voltage (V)	1000V DC				
Maximum Series Fuse Rating (A)	15A				
Power Tolerance (%)	0/+3				

STC: Irradiance 1000W/m<sup>2</sup>, module temperature 25°C, AM1.5; Power measurement tolerance:±3%

### Dimensions of PV Module 190W



### Current-Voltage & Power-Voltage Curve 190W



### Temperature Characteristics

Nominal Operating Cell Temperature(NOCT)	45 °C
Temperature Coefficient of Pmax	-0.45% / °C
Temperature Coefficient of Voc	-0.37% / °C
Temperature Coefficient of Isc	0.060% / °C

### Mechanical Characteristics

Solar Cell	monocrystalline(125*125mm)
No.of Cells	72(6*12)
Dimensions	1580*808*45mm
Weight	15.5kg
Front Glass	3.2mm tempered glass
Frame	anodized aluminum alloy
Junction Box	TUV certified/IP65/IP67
Output Cables (length/cross-sectional area)	900mm/4.0mm <sup>2</sup>

### Packing Specifications

Container	20'GP	40'GP	40'HQ
Pieces per pallet	52	52	58
Pallets per container	6	14	14
Pieces per container	312	728	812
MC4 Connectors (Option)	20	30	50

### Remark

For more product information, please contact us.

