

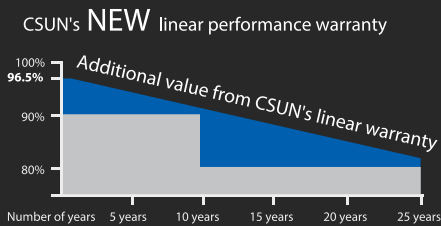
# Mono



## Powerguard insurance global coverage

Within the first year, the output power shall not be less than 96.5% of the minimum output power in CSUN's product datasheet, thereafter the loss of output power shall not exceed 0.68% per year, ending with 80.18% in the 25<sup>th</sup> year.

■ CSUN      ■ Standard warranty



## CSUN280-60M

Highest efficiency offer: QSAR™



CSUN280-60M  
CSUN275-60M  
CSUN270-60M  
CSUN265-60M

**19%**  
Cell efficiency

**280 W**  
Highest power output

**10 Jahre**  
Material & workmanship warranty

**25 Jahre**  
Linear power output warranty

- Higher efficiency – perfect for rooftop projects
- Positive tolerance offer
- Excellent current distribution performance reduces power loss
- Passed salt mist & ammonia corrosion, blowing sand and hail testing
- Certificated to withstand wind (2400 Pa) and snow load (5400 Pa)
- Excellent performance under weak light conditions
- Good temperature coefficient performance enables better output in tropical zones

- CSUN, established in 2004, is a hi-tech corporation with its core business in R&D, manufacturing, and sale of high efficiency silicon based solar cells and modules.
- As one of the leading PV enterprises in the world, CSUN has delivered more than 1GW solar products, to residential, commercial, utility and off-grid projects all around the world.
- Through strict selection of raw materials, stringent quality control and rigorous test in state of the art facilities in Istanbul, Nanjing and Shanghai, CSUN has always committed to higher efficiency, more stable and better cost performance products.

**QSAR™** is the trade mark owned by CSUN, also the brand name of high efficiency solar module produced by CSUN. From March 2012, CSUN will change "QUASAR" originally used into "QSAR".

All information and data are subject to change without notice.



## Electrical characteristics at Standard Test Conditions (STC)

Module	QSAR 280-60M	QSAR 275-60M	QSAR 270-60M	QSAR 265-60M
Maximum Power - P <sub>mpp</sub> (W)	280	275	270	265
Positive power tolerance	0~3%	0~3%	0~3%	0~3%
Open Circuit Voltage - Voc (V)	38.7	38.5	38.3	38.2
Short Circuit Current - Isc (A)	9.21	9.13	9.07	8.98
Maximum Power Voltage - V <sub>mpp</sub> (V)	31.5	31.3	31.2	31,0
Maximum Power Current - I <sub>mpp</sub> (A)	8.89	8.79	8.65	8.55
Module efficiency	17.24%	16.97%	16.63%	16.32%

Electrical data relates to standard test conditions (STC) : irradiance 1000W/m<sup>2</sup>; AM 1.5; cell temperature 25°C measuring uncertainty of power is within ±3%. Certified in accordance with IEC61215, IEC61730-1/2 and UL 1703.

## Electrical Characteristics at Normal Operating Cell Temperature (NOCT)

Module	QSAR 280-60M	QSAR 275-60M	QSAR 270-60M	QSAR 265-60M
Maximum Power - P <sub>mpp</sub> (W)	205	202	198	195
Maximum Power Voltage - V <sub>mpp</sub> (V)	29.2	29.0	28.8	28.6
Maximum Power Current - I <sub>mpp</sub> (A)	7.02	6.96	6.88	6.82
Open Circuit Voltage - Voc (V)	35.7	35.5	35.3	35.2
Short Circuit Current - Isc (A)	7.51	7.42	7.36	7.28

Electrical data relates to normal operating cell temperature (NOCT): irradiance 800 W/m<sup>2</sup>; wind speed 1 m/s; cell temperature 45°C ambient temperature 20°C measuring uncertainty of power is within ±3%

## Temperature Characteristics

Voltage Temperature Coefficient	-0.307%/K
Current Temperature Coefficient	+0.039%/K
Power Temperature Coefficient	-0.423%/K

## Maximum Ratings

Maximum system voltage (V)	1000
Series fuse rating (A)	20
Reverse current overload (A)	27

## Mechanical Characteristics

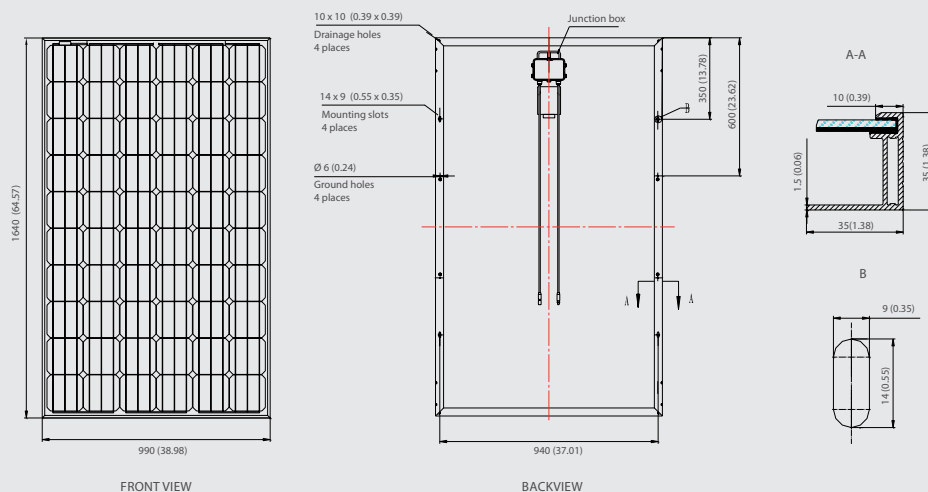
Dimensions	1640 × 990 × 35 mm
Weight	18.3 kg
Frame	Anodized aluminum profile
Front glass	White toughened safety glass, 3.2 mm
Cell Encapsulation	EVA (Ethylene-Vinyl-Acetate)
Back Sheet	Composite film
Cells	6 × 10 pieces monocrystalline solar cells series strings (156 mm × 156 mm)
Junction Box	Rated current ≥ 12A, IP ≥ 65, TUV & UL
Cable	Length 900 mm, 1 × 4 mm <sup>2</sup>
Connector	MC 4/ compatible with MC 4

## System Design

Temp. range	-40°C to + 85°C
Hail	max. diameter of 25mm with impact speed of 23m/s
Max. capacity	Snow 5400 Pa, wind 2400 Pa
Application class	A
Safety class	II

## Dimensions

Note: Module layout below only valid for modules with 35mm thickness. All dimensions in mm (inch).



## IV-Curves

