

Hanwha Solar is a brand of Hanwha Q CELLS - the world's largest solar cell producer and a manufacturer with an unmatched passion for research. Hanwha Q CELLS is backed by the strength and resources of Korea's Hanwha Group a 'FORTUNE® Global 500 Company' with a diversified business portfolio, founded in 1952.



 <p><b>12 YEAR PRODUCT WARRANTY</b> LINEAR-PERFORMANCE WARRANTY 82% / 25 YEARS.</p>	 <p><b>NO. 1 LARGEST SOLAR CELL MANUFACTURER</b></p>	 <p><b>GLOBAL R&amp;D NETWORK</b></p>	 <p><b>TIER 1 BLOOMBERG RATING</b></p>	 <p><b>A LOCAL TEAM</b></p>	 <p><b>THE SAFEST WARRANTY AVAILABLE</b> BACKED BY THE HANWHA GROUP</p>
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## SUPERIOR YIELD



### HIGH POWER OUTPUT

thanks to advanced four-busbar technology.

## LONG TERM DURABILITY



### CERTIFIED WIND RATING

withstands 4000 Pa wind loads.



### OUTSTANDING PERFORMANCE

in real world conditions such as in low light and high temperatures.



### CERTIFIED RESISTANCE

against PID effects.



### ANTI REFLECTIVE GLASS

with hydrophobic surface encourages sunlight absorption & self-cleaning.



### CERTIFIED RESISTANCE

in harsh environments (salt mist, ammonia corrosion).



# HSL 60S POLY

## Electrical Characteristics at Standard Test Conditions (STC)

Module type	HSL 60 Poly: HSL60P6-PC-1-xxx (xxx = power class)		
Power Class	260 W	265 W	270 W
Maximum Power ( $P_{max}$ )	260 W	265 W	270 W
Open Circuit Voltage ( $V_{oc}$ )	38.1 V	38.3 V	38.5 V
Short Circuit Current ( $I_{sc}$ )	8.98 A	9.12 A	9.22 A
Voltage at Maximum Power ( $V_{mpp}$ )	30.9 V	31.1 V	31.2 V
Current at Maximum Power ( $I_{mpp}$ )	8.42 A	8.53 A	8.66 A
Module Efficiency (%)	15.6 %	15.9 %	16.2 %

STC: Irradiance at 1000 W/m<sup>2</sup> – Air mass 1.5 – Cell temperature at 25±2° C. Measurement tolerance  $P_{max}$ : ±3%. Positive power sorting of module power class: 0 to + 5 W. Efficiency at 200 W/m<sup>2</sup> in relation to 1000 W/m<sup>2</sup> is at least 97% of STC efficiency.

## Electrical Characteristics at NOCT

NOCT = Nominal Operating Cell Temperature

Power Class	260 W	265 W	270 W
Maximum Power ( $P_{max}$ )	191 W	196 W	199 W
Open Circuit Voltage ( $V_{oc}$ )	35.7 V	35.9 V	36.1 V
Short Circuit Current ( $I_{sc}$ )	7.26 A	7.37 A	7.45 A
Voltage at Maximum Power ( $V_{mpp}$ )	28.4 V	28.6 V	28.7 V
Current at Maximum Power ( $I_{mpp}$ )	6.73 A	6.84 A	6.92 A
Module Efficiency (%)	14.3 %	14.7 %	14.9 %

NOCT: Irradiance at 800 W/m<sup>2</sup> – Ambient temperature of 20° C – Wind speed at 1 m/s. Measurement tolerance  $P_{max}$ : ± 3%.

## Temperature Characteristics

Normal Operating Cell Temperature (NOCT)	45°C + / - 3°C
Temperature Coefficients of $P_{max}$	-0.41 % / °C
Temperature Coefficients of $V_{oc}$	-0.31 % / °C
Temperature Coefficients of $I_{sc}$	+0.055% / °C

## Maximum Ratings

Maximum System Voltage	1000 V (IEC)
Series Fuse Rating	15 A
Maximum Reverse Current	Series fuse rating multiplied by 1.35

## Mechanical Characteristics

Dimensions	1670mm × 1000mm × 32 mm
Weight	18.5±0.5kg
Frame	Aluminum-alloy
Front	3.2mm tempered glass with anti reflective coating
Encapsulant	EVA
Back Cover	Composite sheet
Cell Technology	4 busbar Polycrystalline
Cell Size	156 mm × 156 mm (6 in × 6 in)
Number of Cells (Pieces)	60 (6 × 10)
Junction Box	Protection class IP 67
Output Cables	Solar cable: 4 mm <sup>2</sup> ; length: 1000 mm
Connector	H4

## System Design

Operating Temperature	- 40 °C to 85 °C
Hail Safety Impact Velocity	25 mm at 23 m/s
Fire Safety Classification (IEC 61730)	Class C
Static Load Wind / Snow	4000/5400Pa

## Packaging and Storage

Storage Temperature	- 40 °C to 85 °C
Packaging Configuration	32 pieces per pallet
Loading Capacity (40 ft. HQ Container)	832 pieces

## STAYING POWER

- Withstands 5400 Pa (550 kg/m<sup>2</sup>) snow and 4000 Pa (210 km/h) wind loads\*
- PID-resistance verified by TÜV Rheinland\*\*
- 12-year product warranty, 25-year linear performance warranty\*\*\*

\* See the Hanwha Solar Installation Guide

\*\* Test conditions: module negatively charged with 1000 V at 25° C for 168 hours with al-foil coverage

\*\*\* See warranty terms

## PROVEN QUALITY

Hanwha Solar products comply with international standards; certificates include:

- IEC 61215 (Design approval)
- IEC 61730 (Safety approval)
- IEC 61701 (Salt-mist resistance)
- IEC 62716 (Ammonia resistance)
- EN 13501 (Fire classification)
- Conformity to CE
- MCS, SII approved
- ISO 9001 quality standards and ISO 14001 environmental standards
- OHSAS 18001 occupational health and safety standards



Please contact Hanwha Solar for a full list of certifications.

## Various Irradiance Levels

