HYUNDAI SOLAR MODULE

PERC Shingled
HIE-S340SG  HIE-S345SG  HIE-S350SG

PERC Shingled Technology

Shingled Technology

For Both
Residential &
Commercial
Applications

More Power
Generation
In Low Light

PERC Shingled Technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.

Both LID (Light Induced Degradation) and PID (Potential Induced Degradation) are strictly eliminated to ensure higher actual yield during lifetime.

Tempered glass and reinforced frame design withstand rigorous weather conditions such as heavy snow and strong wind.

Hyundai’s Warranty Provisions

- 25-Year Product Warranty
  - On materials and workmanship

- 25-Year Performance Warranty
  - Initial year: 98.0%
  - Linear warranty after second year: 84.8% is guaranteed up to 25 years

About Hyundai Energy Solutions

Established in 1972, Hyundai Heavy Industries Group is one of the most trusted names in the heavy industries sector and is a Fortune 500 company. As a global leader and innovator, Hyundai Heavy Industries is committed to building a future growth engine by developing and investing heavily in the field of renewable energy.

As a core energy business entity of HHI, Hyundai Energy Solutions has strong pride in providing high-quality PV products to more than 3,000 customers worldwide.

Certification
Electrical Characteristics

<table>
<thead>
<tr>
<th>Electrical Characteristics</th>
<th>Mono-Crystalline Module (HE-S__SG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Output (Pmpp)</td>
<td>W 340 345 350</td>
</tr>
<tr>
<td>Open Circuit Voltage (Voc)</td>
<td>V 45.2 45.3 45.4</td>
</tr>
<tr>
<td>Short Circuit Current (Isc)</td>
<td>A 9.51 9.55 9.60</td>
</tr>
<tr>
<td>Voltage at Pmax (Vmpp)</td>
<td>V 37.4 37.5 37.6</td>
</tr>
<tr>
<td>Current at Pmax (Impp)</td>
<td>A 9.09 9.20 9.31</td>
</tr>
<tr>
<td>Module Efficiency %</td>
<td>19.6 19.9 20.2</td>
</tr>
<tr>
<td>Cell Type</td>
<td>Mono-Crystalline Silicon</td>
</tr>
<tr>
<td>Maximum System Voltage V</td>
<td>1,500</td>
</tr>
<tr>
<td>Temperature Coefficient of Pmax %/°C</td>
<td>-0.34%</td>
</tr>
<tr>
<td>Temperature Coefficient of Voc %/°C</td>
<td>-0.27%</td>
</tr>
<tr>
<td>Temperature Coefficient of Isc %/°C</td>
<td>0.04%</td>
</tr>
</tbody>
</table>

*All data at STC (Standard Test Conditions). Above data may be changed without prior notice.

Mechanical Characteristics

- Dimensions: 1,622 x 1,068 x 35mm (L x W x H)
- Weight: 19.8kg
- Solar Cells: 340 cells, 6” PERC Mono-crystalline silicon solar cells (in increment of 5)
- Output Cables: Length 1000mm, 1×4mm²
- Connector: Stäubli: MC4-Evo2
- Junction Box: Rated current: 15A, IP67, TUV&UL
- Construction: Front Glass: White toughened safety glass, 3.2mm
  Encapsulation: EVA (Ethylene-Vinyl-Acetate)
- Frame: Anodized aluminum profile

Installation Safety Guide

- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

- Nominal Operating Cell Temperature: 42.3 ± 2°C
- Operating Temperature: -40 ~ 85°C
- Maximum System Voltage: DC 1,500 / 1,000 (IEC)
- Maximum Reverse Current: 20A
- Maximum Surface Load Capacity: Front 5,400 Pa
  Rear 2,400 Pa

I-V Curves

Module Diagram (unit: mm)