HYUNDAI SOLAR MODULE

**RG SERIES**

**Multi-Crystalline Type**
- HIS-M250RG
- HIS-M255RG
- HIS-M260RG
- HIS-M265RG

**Mono-Crystalline Type**
- HIS-S275RG
- HIS-S280RG
- HIS-S285RG
- HIS-S290RG
- HIS-S295RG
- HIS-S300RG

**60 Cells**
- For Both Residential & Commercial Applications
- More Power Generation In Low Light
- Made in Korea

---

**PERL Technology**

PERL technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.

**Anti-LID / PID**

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

**Mechanical Strength**

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

**Corrosion Resistant**

Various tests under harsh environmental conditions such as ammonia and salt-mist passed.

**Hyundai’s Warranty Provisions**

- 10-Year Product Warranty
  - On materials and workmanship

- 25-Year Performance Warranty
  - Initial year: 97%
  - Linear warranty after second year: with 0.7% annual degradation, 80.2% is guaranteed up to 25 years

**Global Warranty**

- IEC 61215 (Ed.2) and IEC 61730 by VDE
- UL Listed (UL 1703), Type 1 for Class A Fire Rating
- Advanced Mechanical Test (5,400 Pa Pass) / Mechanical Load Test (40 lbs/ft²) Passed (UL)

**About Hyundai Solar**

Established in 1972, Hyundai Heavy Industries (HHI) is one of the most trusted names in the heavy industries sector with 48,000 employees and more than 40 Billion USD in annual sales (2015). 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.

Started as a core business division of HHI, Hyundai Solar (Hyundai Heavy Industries Green Energy) now stands as an independent company and an affiliate of HHI as from December 2016. It is the largest and the longest standing PV cell and module manufacturer in South Korea with 800 MW of module production capacity. We have strong pride in providing high-quality solar PV products to more than 3,000 customers worldwide.

**Certification**
- IEC 61215 (Ed.2) and IEC 61730 by VDE
- UL Listed (UL 1703), Type 1 for Class A Fire Rating
- Advanced Mechanical Test (5,400 Pa Pass) / Mechanical Load Test (40 lbs/ft²) Passed (UL)

www.hhigreen.com
### Electrical Characteristics

<table>
<thead>
<tr>
<th>Multi-Crystalline Module (HiS-M___RG)</th>
<th>Mono-Crystalline Module (HiS-S____RG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Output (Pmpp)</td>
<td>W</td>
</tr>
<tr>
<td></td>
<td>250 255 260 265 275 280 285 290 295 300</td>
</tr>
<tr>
<td>Open Circuit Voltage (Voc)</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>37.4 37.6 37.7 37.9 38.4 38.5 38.7 38.8 39.0 39.1</td>
</tr>
<tr>
<td>Short Circuit Current (Isc)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>8.7 8.8 8.9 9.1 9.3 9.4 9.5 9.7 9.8 9.9</td>
</tr>
<tr>
<td>Voltage at Pmax (Vppp)</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>30.9 31.0 31.1 31.3 31.6 31.7 31.8 32.0 32.1 32.3</td>
</tr>
<tr>
<td>Current at Pmax (Ippp)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>8.1 8.2 8.4 8.5 8.7 8.8 8.9 9.1 9.2 9.3</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>15.3 15.6 15.9 16.2 16.6 17.1 17.4 17.7 18.0 18.3</td>
</tr>
</tbody>
</table>

#### Nominal Operating Cell Temperature
- 46°C ± 2

#### Operating Temperature
- -40 – 85°C

#### Maximum System Voltage
- DC 1,000 V (IEC)
- DC 1,000 V (UL)

#### 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.

### Dimensions
998 mm (39.29") (W) × 1,640 mm (64.57") (L) × 35 mm (1.38") (H)

### Weight
Approx. 18.7kg (41.2 lbs)

### Solar Cells
60 cells in series (6 ×10 matrix) (Hyundai cell, Made in Korea)

### Output Cables
4 mm² (12AWG) cables with polarized weatherproof connectors, IEC certified (UL listed), Length 1.0 m (39.4")

### Junction Box
IP68, weatherproof, IEC certified (UL listed)

### Bypass Diodes
3 bypass diodes to prevent power decrease by partial shade

### Construction
- Front : Anti-reflection coated glass, 3.2 mm (0.126")
- Encapsulant : EVA
- Back Sheet : Weatherproof film

### Frame
Clear anodized aluminum alloy type 6063

### Mechanical Characteristics

### Module Diagram (unit : mm)

#### I-V Curves

- **Mono-Crystalline Si Type-Front Side View**
- **Multi-Crystalline Si Type-Front Side View**

### 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.

### Electrical Characteristics

<table>
<thead>
<tr>
<th>Multi-Crystalline Module (HiS-M___RG)</th>
<th>Mono-Crystalline Module (HiS-S____RG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal Output (Pmpp)</td>
<td>W</td>
</tr>
<tr>
<td></td>
<td>250 255 260 265 275 280 285 290 295 300</td>
</tr>
<tr>
<td>Open Circuit Voltage (Voc)</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>37.4 37.6 37.7 37.9 38.4 38.5 38.7 38.8 39.0 39.1</td>
</tr>
<tr>
<td>Short Circuit Current (Isc)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>8.7 8.8 8.9 9.1 9.3 9.4 9.5 9.7 9.8 9.9</td>
</tr>
<tr>
<td>Voltage at Pmax (Vppp)</td>
<td>V</td>
</tr>
<tr>
<td></td>
<td>30.9 31.0 31.1 31.3 31.6 31.7 31.8 32.0 32.1 32.3</td>
</tr>
<tr>
<td>Current at Pmax (Ippp)</td>
<td>A</td>
</tr>
<tr>
<td></td>
<td>8.1 8.2 8.4 8.5 8.7 8.8 8.9 9.1 9.2 9.3</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td>%</td>
</tr>
<tr>
<td></td>
<td>15.3 15.6 15.9 16.2 16.6 17.1 17.4 17.7 18.0 18.3</td>
</tr>
</tbody>
</table>

#### Nominal Operating Cell Temperature
- 46°C ± 2

#### Operating Temperature
- -40 – 85°C

#### Maximum System Voltage
- DC 1,000 V (IEC)
- DC 1,000 V (UL)

#### Maximum Reverse Current
- 15A (Up to 285W)
- 20A (above 290W)