# 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
Hyundai Cell, 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.

## Reliable Warranty

Global brand with powerful financial strength provide reliable 25-year warranty.

## Corrosion Resistant

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

## UL / VDE Test Labs

Hyundai's R&D center is an accredited test laboratory of both UL and VDE.

### Hyundai's Warranty Provisions

10 YEARS
- 10-Year Product Warranty
  - On materials and workmanship

25 YEARS
- 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

### 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

HYUNDAI GREEN ENERGY

## Electrical Characteristics

| | | Multi-Crystalline Module (HiS-M___RG) | | | | Mono-Crystalline Module (HiS-S____RG) | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 250 | 255 | 260 | 265 | 275 | 280 | 285 | 290 | 295 | 300 |
| **Nominal Output** (Pmpp) | W | 250 | 255 | 260 | 265 | 275 | 280 | 285 | 290 | 295 | 300 |
| **Open Circuit Voltage** (Voc) | V | 37.4 | 37.6 | 37.7 | 37.9 | 38.4 | 38.5 | 38.7 | 38.8 | 39.0 | 39.1 |
| **Short Circuit Current** (Isc) | A | 8.7 | 8.8 | 8.9 | 9.1 | 9.3 | 9.4 | 9.5 | 9.7 | 9.8 | 9.9 |
| **Voltage at Pmax** (Vmpp) | V | 30.9 | 31.0 | 31.1 | 31.3 | 31.6 | 31.7 | 31.8 | 32.0 | 32.1 | 32.3 |
| **Current at Pmax** (Impp) | A | 8.1 | 8.2 | 8.4 | 8.5 | 8.7 | 8.8 | 8.9 | 9.1 | 9.2 | 9.3 |
| **Module Efficiency** | % | 15.3 | 15.6 | 15.9 | 16.2 | 16.8 | 17.1 | 17.4 | 17.7 | 18.0 | 18.3 |
| **Cell Type** | - | 6”, multi-crystalline silicon | | | | 6”, mono-crystalline silicon | | | | | |
| **Maximum System Voltage** | V | 1,000 | | | | 1,000 | | | | | |
| **Temperature Coefficient of Pmax** | %/K | -0.41 | | | | -0.40 | | | | | |
| **Temperature Coefficient of Voc** | %/K | -0.31 | | | | -0.29 | | | | | |
| **Temperature Coefficient of Isc** | %/K | 0.039 | | | | 0.039 | | | | | |

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

## Mechanical Characteristics

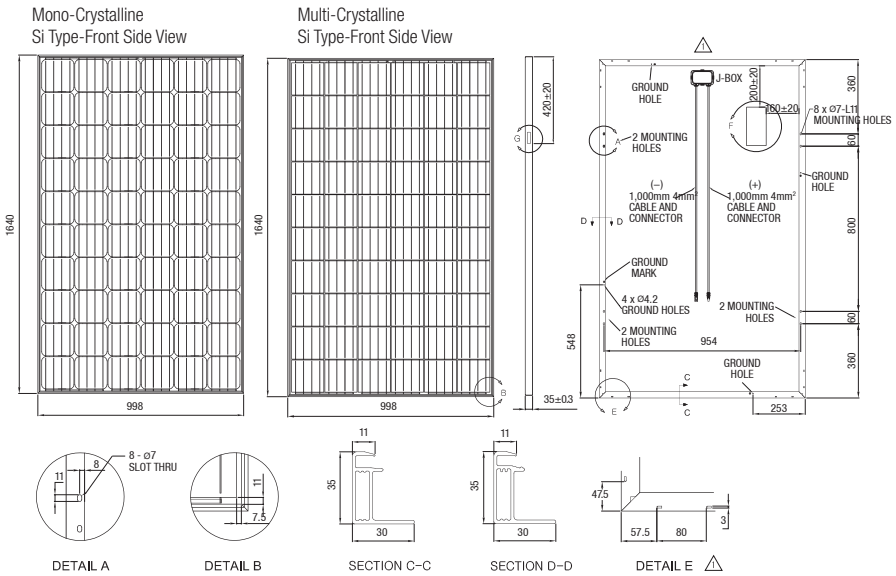
| | |
|---|---|
| **Dimensions** | 998 mm (39.29˝)(W) × 1,640 mm (64.57˝)(L) × 35 mm (1.38˝)(H) |
| **Weight** | Approx. 18.7kg (41.2 lbs) |
| **Solar Cells** | 60 cells in series (6 ×10 matrix) (Hyundai cell, Made in Korea) |
| **Output Cables** | 4 mm² (12AWG) cables with polarized weatherproof connectors, 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”)<br>Encapsulant : EVA I Back Sheet : Weatherproof film |
| **Frame** | Clear anodized aluminum alloy type 6063 |

## Installation Safety Guide

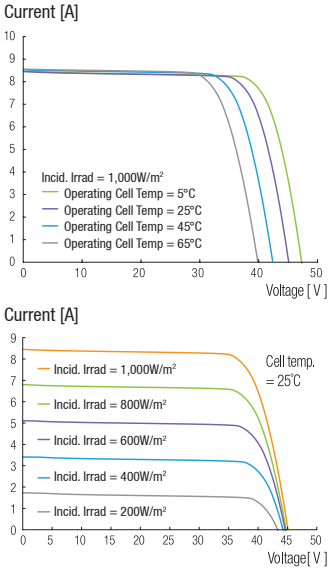
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

| | |
|---|---|
| **Nominal Operating Cell Temperature** | 46°C ± 2 |
| **Operating Temperature** | -40 – 85°C |
| **Maximum System Voltage** | DC 1,000 V (IEC)<br>DC 1,000 V (UL) |
| **Maximum Reverse Current** | **15A** (Up to 285W)<br>**20A** (Above 290W) |

## Module Diagram (unit : mm)




## I-V Curves




HYUNDAI GREEN ENERGY



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