# HYUNDAI SOLAR MODULE

## RG BLACK

**Mono-Crystalline Type**

HiD-S290RG(BK) HiD-S295RG(BK) HiD-S300RG(BK)
HiD-S305RG(BK)


**60**
Cells

All Black Module For Sleek Design

More Power Generation In Low Light

Assembled in USA with Hyundai Cell

### 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%p annual degradation, 80% 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**

HYUNDAI ENERGY SOLUTIONS

## Electrical Characteristics

| | | Mono-Crystalline Module (HiD-S____RG (BK)) | | | |
|---|---|---|---|---|---|
| | | 290 | 295 | 300 | 305 |
| **Nominal Output** (Pmpp) | W | 290 | 295 | 300 | 305 |
| **Open Circuit Voltage** (Voc) | V | 39.6 | 39.8 | 40.0 | 40.4 |
| **Short Circuit Current** (Isc) | A | 9.7 | 9.8 | 9.8 | 9.8 |
| **Voltage at Pmax** (Vmpp) | V | 31.9 | 32.3 | 32.5 | 32.9 |
| **Current at Pmax** (Impp) | A | 9.2 | 9.2 | 9.3 | 9.3 |
| **Module Efficiency** | % | 17.3 | 17.6 | 17.9 | 18.2 |
| **Cell Type** | - | mono-crystalline silicon | | | |
| **Maximum System Voltage** | V | 1,000 | | | |
| **Temperature Coefficient of Pmax** | %/K | -0.391 | | | |
| **Temperature Coefficient of Voc** | %/K | -0.31 | | | |
| **Temperature Coefficient of Isc** | %/K | 0.031 | | | |

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

## Mechanical Characteristics

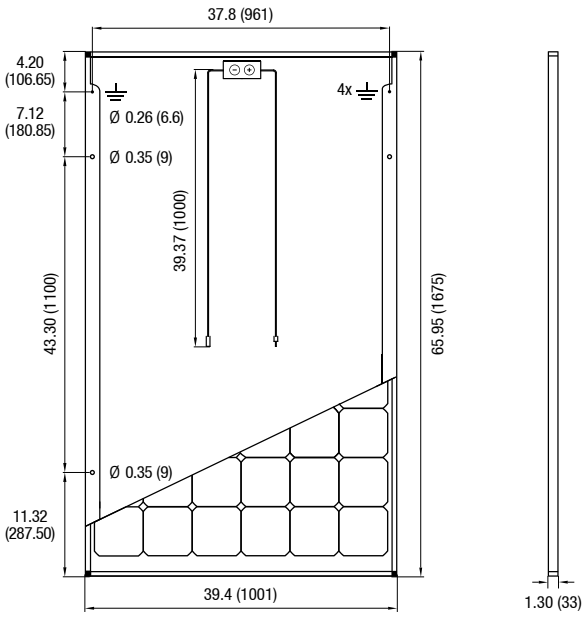
| | |
|---|---|
| **Dimensions** | 1,001mm (39.40") x 1,675mm (65.95") x 33mm (1.3") |
| **Weight** | 18.0kg (39.7lbs) |
| **Solar Cells** | 60 cells in series (6 x 10 matrix) (Hyundai cell) |
| **Output Cables** | 4 mm² (12AWG) cables with polarized weatherproof connectors, IEC certified (UL listed), Length 1.0 m (39.4˝) |
| **Junction Box** | IP65, weatherproof, IEC certified (UL listed) |
| **Bypass Diodes** | 3 bypass diodes to prevent power decrease by partial shade |
| **Construction** | Front Glass : Anti-reflection coated glass, 3.2 mm (0.126") Encapsulant : EVA I Back Sheet : Weatherproof film |
| **Frame** | Clear anodized aluminum alloy type 6063 (Black Color) |

## Installation Safety Guide

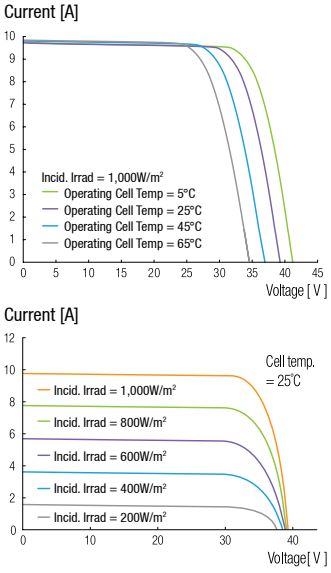
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

| | |
|---|---|
| **Nominal Operating Cell Temperature** | 46°C ± 2 |
| **Operating Temperature** | -40 – 85°C |
| **Maximum System Voltage** | DC 1,000 V (UL) |
| **Maximum Reverse Current** | 25A |
| **Maximum Design Load** | Front 113 psf Rear 64 psf |

## Module Diagram (unit : mm)




## I-V Curves

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