# **HYUNDAI SOLAR MODULE**



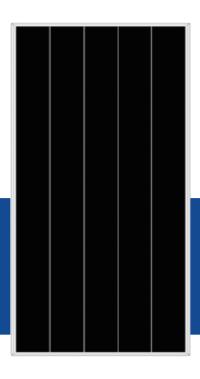
# **G12 PERC Shingled**

HiE-S535KN HiE-S540KN HiE-S545KN HiE-S550KN











## **G12 PERC Shingled**

G12 PERC Shingled Technology provides ultra-high efficiency with better performance in low irradiation. Maximizes installation capacity in limited space.



# **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.



**UL / VDE Test Labs** 

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

# **Hyundai's Warranty Provisions**



### • 25-Year Product Warranty

· On material and workmanship



#### 25-Year Performance Warranty

- · Initial year: 98.0%
- Linear warranty after second year: with 0.55%p annual degradation, 84.8% is guaranteed up to 25 years

### About Hyundai Energy Solutions Co.,Ltd

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













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<b>Electrical Characteristics</b>			Mono-Crystal	line Module (HiE-SKN)	
		535	540	545	550
Nominal Output (Pmpp)	W	535	540	545	550
Open Circuit Voltage(Voc)	V	46.8	46.9	47.0	47.1
Short Circuit Voltage (Isc)	А	14.65	14.76	14.86	14.97
Voltage at Pmax (Vmpp)	V	38.8	38.9	39.0	39.1
Cuurent at Pmax (Impp)	А	13.77	13.87	13.97	14.07
Module Efficiency	%	20.5	20.7	20.9	21.0
Cell Type	-	PERC Mono-Crystalline Silicon Shingled			
Maximum System Voltage	V	1,500			
Temperature Coefficiency of Pmax	%/°C	-0.34			
Temperature Coefficiency of Voc	%/°C	-0.27			
Temperature Coefficiency of Isc	%/°C	0.04			

<sup>\*</sup>All data at STC(Standard Test Conditions). Above data may be changed without prior notice.

\*Tolerance of Pmax:0~+5W.

\*Measuring uncertainty of power:±3%

#### **Mechanical Characteristics**

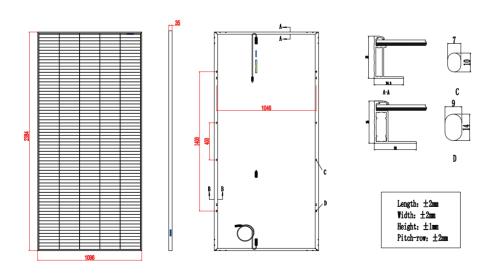
Dimensions	2,384 $\times$ 1,096 $\times$ 35mm (L $\times$ W $\times$ H)				
Weight	28.3kg				
Solar Cells	345 cells, PERC Mono-crystaline Shingled				
Output Cables	Length 1,200mm, 1×4mm²  Connector PV-KST4-EVO2/xy_UR PV-KBT4-EVO				
Junction Box	IP68, TUV&UL, Three Diodes				
Construction	Front Glass: Tempered glass, 3.2mm Encapsulation: EVA (Ethylene-Vingl-Acetate)				
Frame	Anodized Aluminum				

### **Installation Safety Guide**

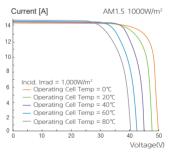
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

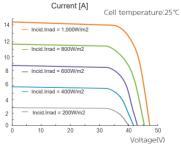
Nominal Operating Cell Temperature	42.3°C ( ±2°C )
Operating Temperature	-40 ~ 85° C
Maximum System Voltage	DC 1,500
Series Fuse Rating	25A
Maximum Surface Load Capacity	Front 5,400 Pa Rear 2,400 Pa

# Module Diagram (Unit: mm)



### **I-V Curves**











<sup>\*</sup> Performance deviation of Voc [V], Isc [A], Vm[V] and Im[A]:±3%.