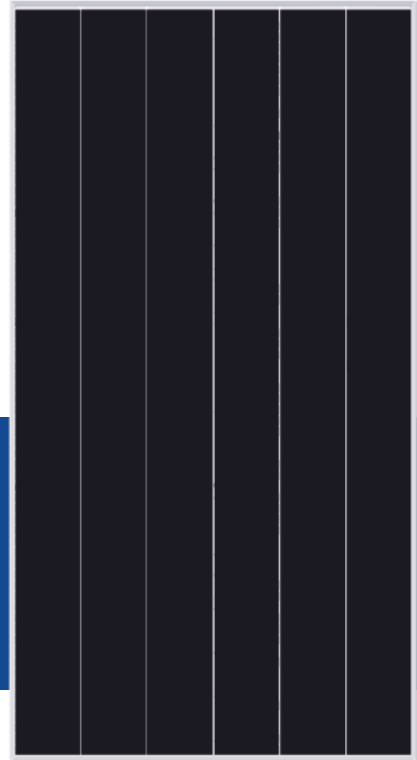


HYUNDAI SOLAR MODULE

DJ
SERIES

G12 PERC Shingled

HiE-S635DJ HiE-S640DJ
HiE-S645DJ HiE-S650DJ



Shingled
Technology



For Utility-Scale
Applications



More Power
Generation
In Low Light



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.



HYUNDAI

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



- **30-Year Performance Warranty**
- Initial year: 98.0%
- Linear warranty after second year: with 0.45%p annual degradation, 84.95% is guaranteed up to 30 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



Electrical Characteristics

		Mono-Crystalline Module (HiE-S___DJ)			
		635	640	645	650
Nominal Output (Pmpp)	W	635	640	645	650
Open Circuit Voltage(Voc)	V	46.4	46.5	46.6	46.7
Short Circuit Voltage (Isc)	A	17.54	17.64	17.74	17.84
Voltage at Pmax (Vmpp)	V	38.5	38.6	38.7	38.8
Current at Pmax (Impp)	A	16.49	16.58	16.68	16.77
Module Efficiency	%	20.4	20.6	20.8	20.9
Cell Type	-	PERC Mono-Crystalline Silicon Shingled			
Maximum System Voltage	V	1,500			
Temperature Coefficient of Pmax	%/°C	-0.34			
Temperature Coefficient of Voc	%/°C	-0.27			
Temperature Coefficient of Isc	%/°C	0.04			

*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%.

* Performance deviation of Voc [V], Isc [A], Vm[V] and Im[A]:±3%.

Mechanical Characteristics

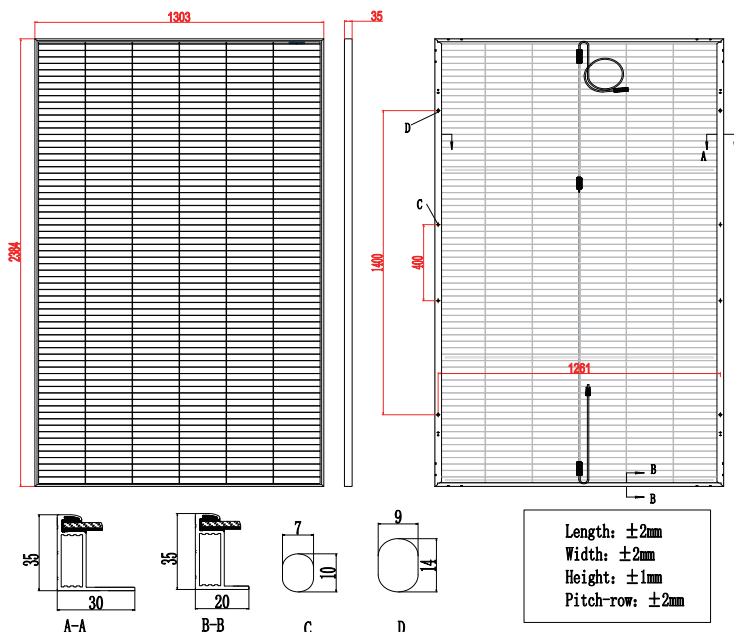
Dimensions	2,384 × 1,303 × 35mm (L × W × H)		
Weight	39kg		
Solar Cells	414 cells, PERC Mono-crystalline Shingled		
Output Cables	Length 1,200mm, 1 × 4mm ²	Connector	PV-KST4-EVO2/xy_UR PV-KBT4-EVO
Junction Box	IP68, TUV&UL, Three Diodes		
Construction	Front Glass: Tempered glass, 2.0mm Encapsulation: EVA (Ethylene-Vinyl-Acetate)		
Frame	Anodized Aluminum		

Installation Safety Guide

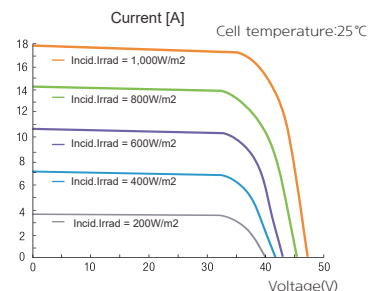
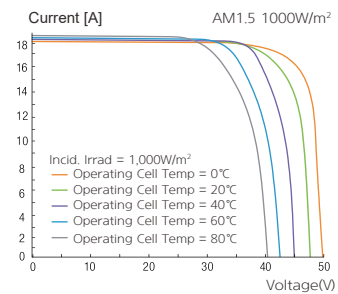
- Only qualified personnel should install or perform maintenance.
- Be aware of dangerous high DC voltage.
- Do not damage or scratch the rear surface of the module.
- Do not handle or install modules when they are wet.

Nominal Operating Cell Temperature	42.3°C (± 2°C)
Operating Temperature	-40 ~ 85° C
Maximum System Voltage	DC 1,500
Series Fuse Rating	30A
Maximum Surface Load Capacity	Front 5,400 Pa Rear 2,400 Pa

Module Diagram (Unit: mm)



I-V Curves



Manufactured in China

HYUNDAI
ENERGY SOLUTIONS



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