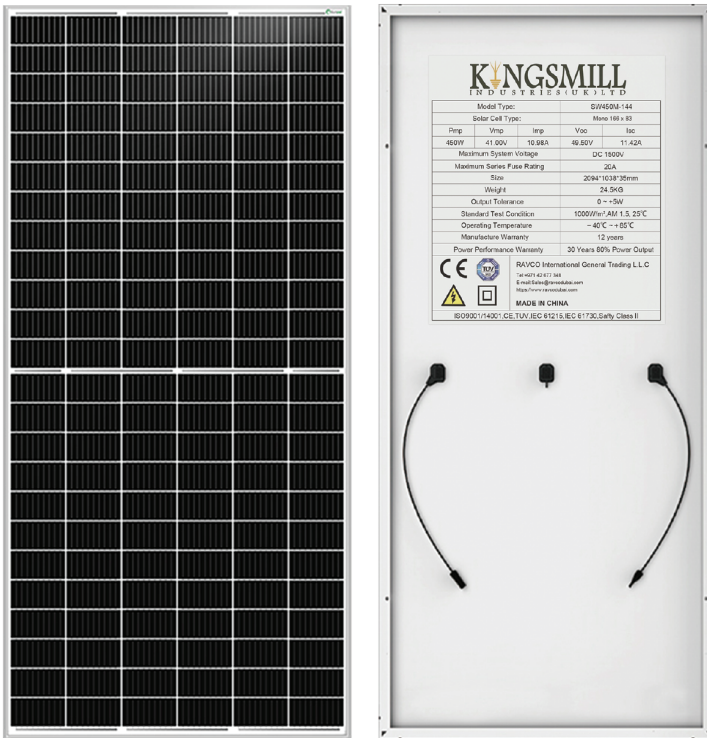








## Introduction

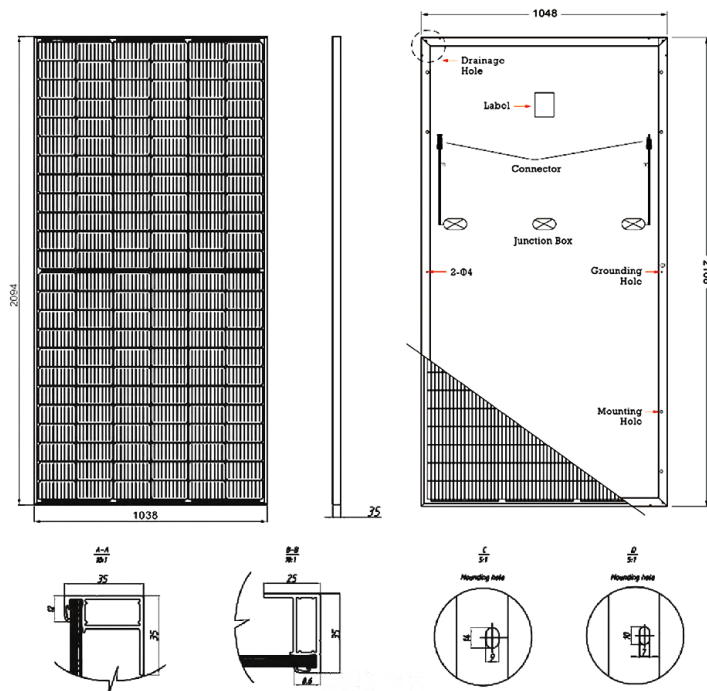
450W Photovoltaic Solar Panels are certified for the most challenging environmental conditions. This 450W Photovoltaic high-power monocrystalline solar panel operates at 20.7% efficiency to maximize the light absorption area.

## Product Options



### Mono Solar Panel Features

-  Widely using of the most popular and mature type of modules for solar system
-  High power output and highest conversion efficiency of 20.7%
-  Anti-reflective and anti-soiling surface reduces power loss from dirt and dust
-  Outstanding Performance in low-light irradiance environments
-  Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and Snow loads (5400Pa)
-  Positive power tolerance: 0~+5W

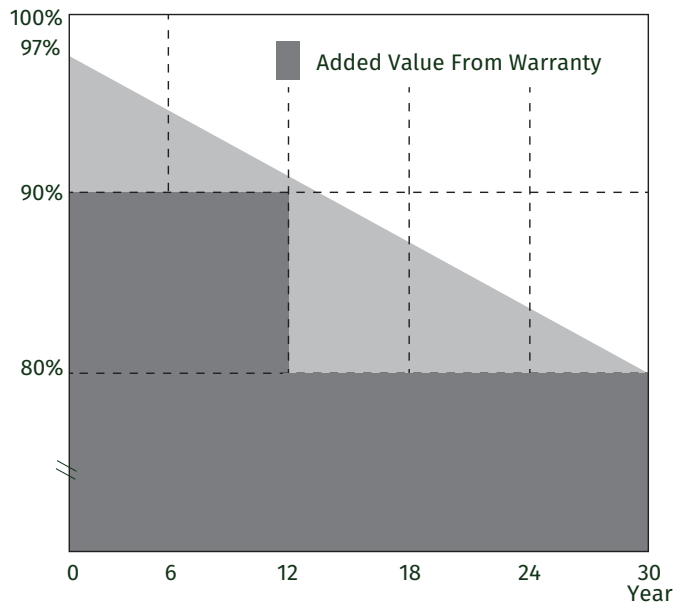


Electrical Characteristics(STC)	
Module Type	KMSW450M-144
Maximum Power (Pmax)	450W
Maximum Power Voltage (Vmp)	41.00V
Maximum Power Current (Imp)	10.98A
Open-circuit Voltage (Voc)	49.50V
Short-circuit Current (Isc)	11.42A
Module Efficiency (%)	20.7%
Power Tolerance	0~+5W
Temperature Coefficient of Isc	+0.05%/°C
Temperature Coefficient of Voc	-0.29%/°C
Temperature Coefficient of Pmax	-0.37%/°C

Product Features

Warranty	
12 years for product defects in materials & workmanship	
12 years for 90% of warranted minimum power output	
30 years for 80% of warranted minimum power output	
30 years liner warranty	

Reliable Quality	
Positive power tolerance: 0~+5W	
100% EL Double-inspection ensures modules are defects free	
Modules Binned by Current to improve system performance	
Potential induced Degradation (PID) Resistant	

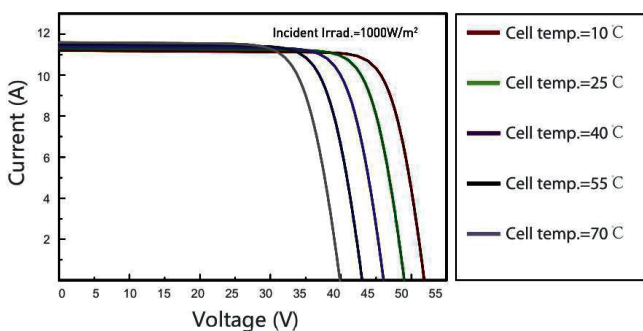


Mechanical Parameters	
Cell(mm)	9BB Mono 166*83
Weight(kg)	24.5kg
Glass Thickness	3.2mm,Low Iron Tempered Glass
Dimensions (L*W*H)(mm)	2094*1038*35mm
Cable Cross Section Size (mm <sup>2</sup> )	4
Cable Cross Section Length (mm)	300
No.of Cells and Connections	144(6*24)
Junction Box	IP67/68,3 Diodes
Connector	MC4 Compatiple

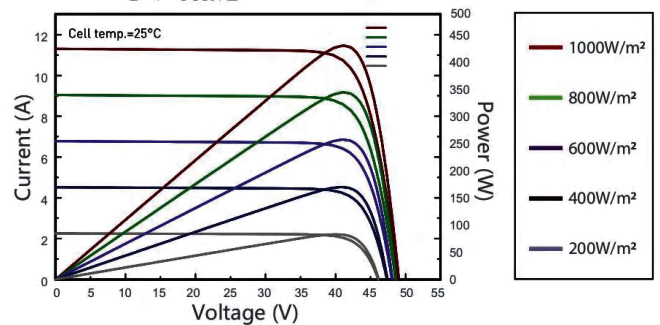
Working Conditions	
Maximum System Voltage	DC 1500V
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	20A
Maximum Static Load,Front (e.g.,snow and wind)	5400Pa (112 lb/ft <sup>2</sup> )
Maximum Static Load,Back (e.g.,wind)	2400Pa (50 lb/ft <sup>2</sup> )
NOCT	44±2°C
Positive power tolerance	0~ +5W
Application Class	Class A

I-V Curve

Current-Voltage curves



I-V CURVE



### Product Features

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#### GLASS

- Antireflective glass
- Translucency of normal luminance is increased by 2%
- Module efficiency is increased by 2%
- Self-cleaning option
- Service life as long as 25 years (30 years optional)



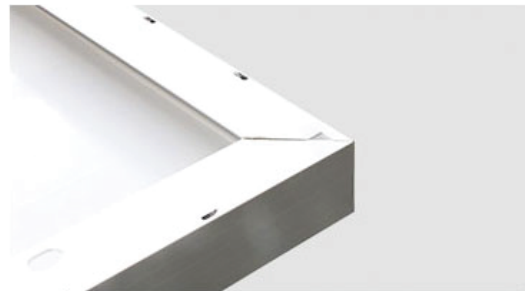
#### SOLAR CELL

- High efficiency PV cells
- Appearance consistency
- Color sorting ensure consistent appearance on each module
- Anti-PID



#### FRAME

- Conventional frame
- Boost bearing capability and prolong service life
- Serrated-clip design tensile strength
- Seal-lip design glue injection



#### JUNCTION BOX

- Conventional standalone edition and engineering custom edition
- Quality diode ensures module running safety
- IP67 protection level
- Heat dissipation
- Long service life



### More Information

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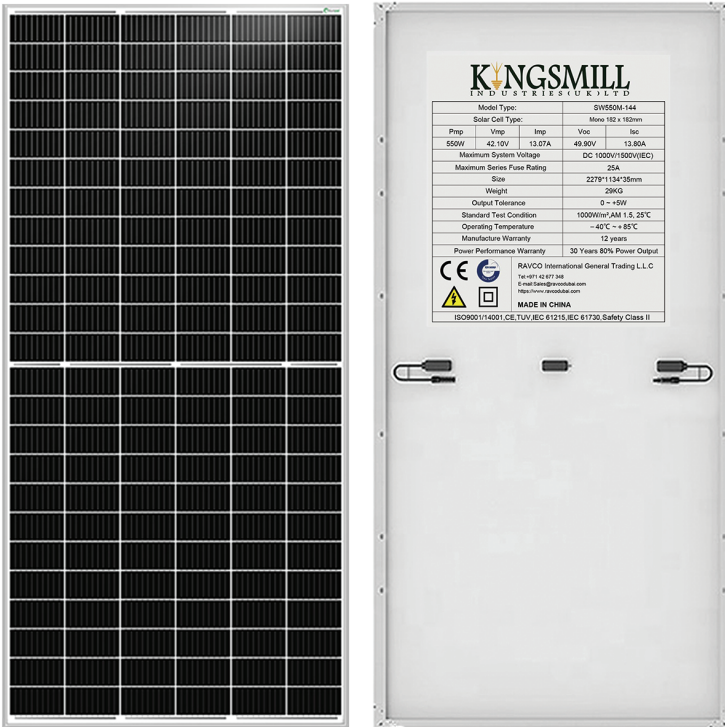
All with A Grade for on-grid & off-grid use for residential and public rooftop and ground mounting  
Solar panels are a clean source of energy that use the sun's rays to convert them into electricity or heat.

Our clean energy solutions provide electrical power as a way to decarbonize  
and transition to clean energy in our mission to combat climate change.







## Introduction

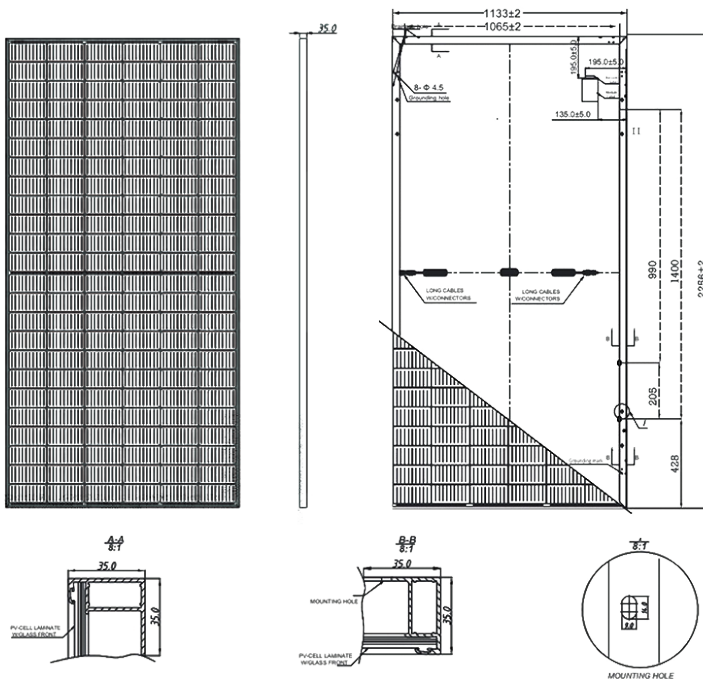
550W Photovoltaic Solar Panels are certified for the most challenging environmental conditions. This 550W Photovoltaic high-power monocrystalline solar panel operates at 21.30% efficiency to maximize the light absorption area.

## Product Options



### Mono Solar Panel Features

-  Widely using of the most popular and mature type of modules for solar system
-  High power output and highest conversion efficiency of 21.30%
-  Anti-reflective and anti-soiling surface reduces power loss from dirt and dust
-  Outstanding Performance in low-light irradiance environments
-  Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and Snow loads (5400Pa)
-  Positive power tolerance: 0~+5W

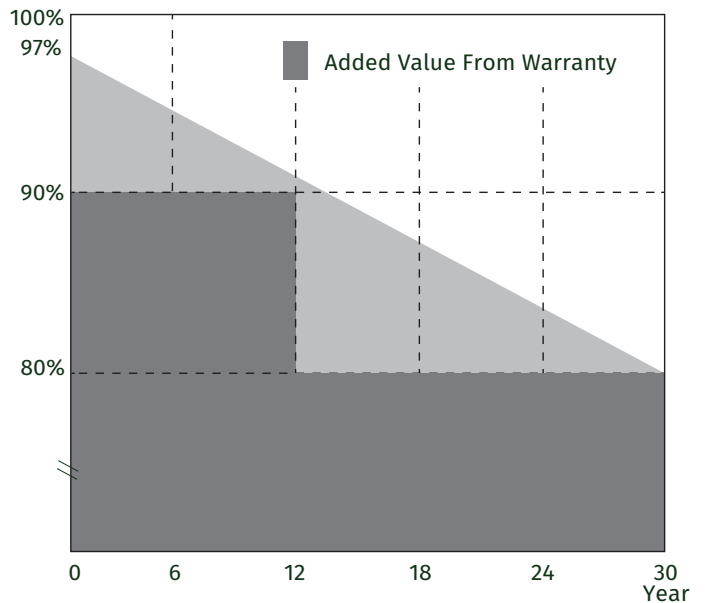


Electrical Characteristics(STC)	
Module Type	KMSW550M-144
Maximum Power (Pmax)	550W
Maximum Power Voltage (Vmp)	42.10V
Maximum Power Current (Imp)	13.07A
Open-circuit Voltage (Voc)	49.90V
Short-circuit Current (Isc)	13.80A
Module Efficiency (%)	21.30%
Power Tolerance	0~+5W
Temperature Coefficient of Isc	+0.043%/°C
Temperature Coefficient of Voc	-0.26%/°C
Temperature Coefficient of Pmax	-0.36%/°C

Product Features

Warranty
12 years for product defects in materials & workmanship
12 years for 90% of warranted minimum power output
30 years for 80% of warranted minimum power output
30 years liner warranty

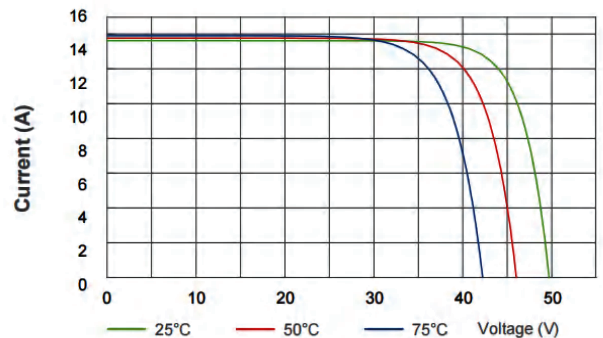
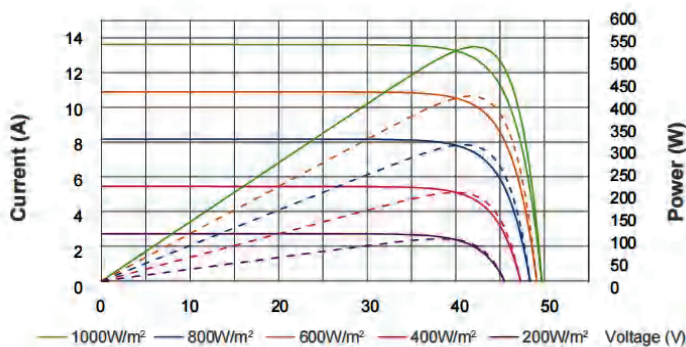
Reliable Quality
Positive power tolerance: 0~+5W
100% EL Double-inspection ensures modules are defects free
Modules Binned by Current to improve system performance
Potential induced Degradation (PID) Resistant



Mechanical Parameters	
Cell(mm)	Mono 182*182mm
Weight(kg)	29kg
Glass Thickness	3.2mm,AR Coating Tempered Glass
Dimensions (L*W*H)(mm)	2279*1134*35mm
Cable Cross Section Size (mm <sup>2</sup> )	4
Cable Cross Section Length (mm)	300
No.of Cells and Connections	144(6*24)
Junction Box	IP67
Connector	MC4 Compatiple

Working Conditions	
Maximum System Voltage	DC 1000V/1500V(IEC)
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	25A
Maximum Static Load,Front (e.g.,snow and wind)	5400Pa (112 lb/ft <sup>2</sup> )
Maximum Static Load,Back (e.g.,wind)	2400Pa (50 lb/ft <sup>2</sup> )
NOCT	45±2°C
Positive power tolerance	0~ +5W
Application Class	Class A

I-V Curve

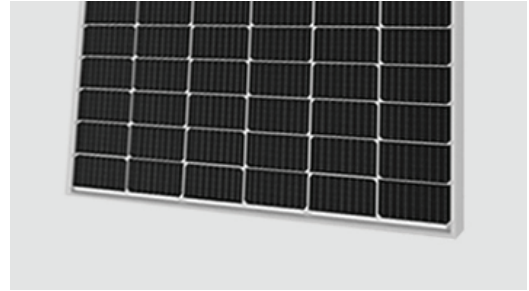


### Product Features

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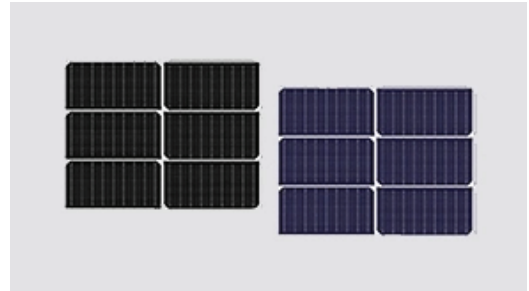
#### GLASS

- Antireflective glass
- Self-cleaning function
- Module efficiency is increased by 2%
- Service life as long as 25 years (30 years optional)
- Translucency of normal luminance is increased by 2%



#### SOLAR CELL

- Uniform color
- High PID resistant
- Low breakage rate
- High stunt-resistance
- High model efficiency up to 20%



#### FRAME

- Conventinal frame
- Seal-lip design glue injection
- Serrated-clip design tensile strength
- Boost bearing capability and prolong service life



#### JUNCTION BOX

- Heat dissipation
- Long service life
- >IP67 protection level
- Innovative Full-Glue-Filled
- Waterproofness Junction Box



### More Information

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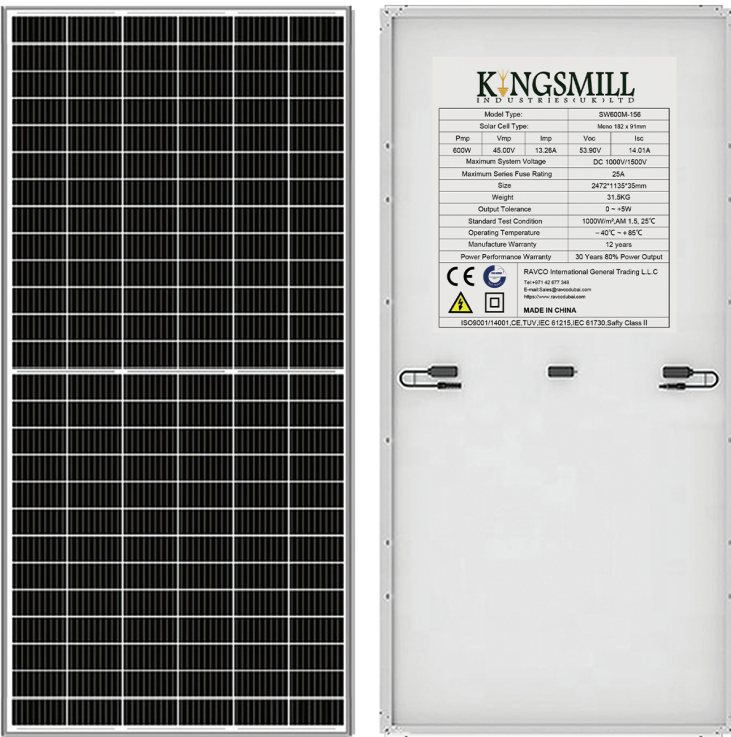
All with A Grade for on-grid & off-grid use for residential and public rooftop and ground mounting  
Solar panels are a clean source of energy that use the sun's rays to convert them into electricity or heat.

Our clean energy solutions provide electrical power as a way to decarbonize  
and transition to clean energy in our mission to combat climate change.







## Introduction

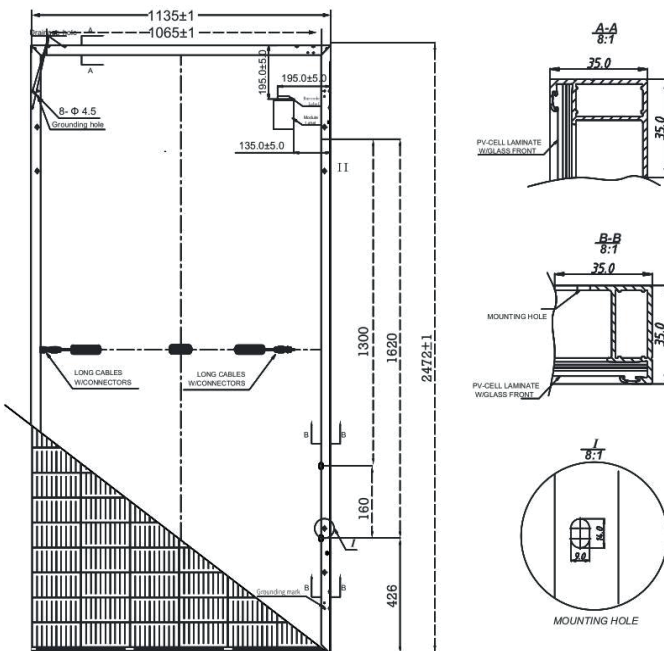
600W Photovoltaic Solar Panels are certified for the most challenging environmental conditions. This 600W Photovoltaic high-power monocrystalline solar panel operates at 21.20% efficiency to maximize the light absorption area.

## Product Options



### Mono Solar Panel Features

-  Widely using of the most popular and mature type of modules for solar system
-  High power output and highest conversion efficiency of 21.20%
-  Anti-reflective and anti-soiling surface reduces power loss from dirt and dust
-  Outstanding Performance in low-light irradiance environments
-  Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and Snow loads (5400Pa)
-  Positive power tolerance: 0~+5W



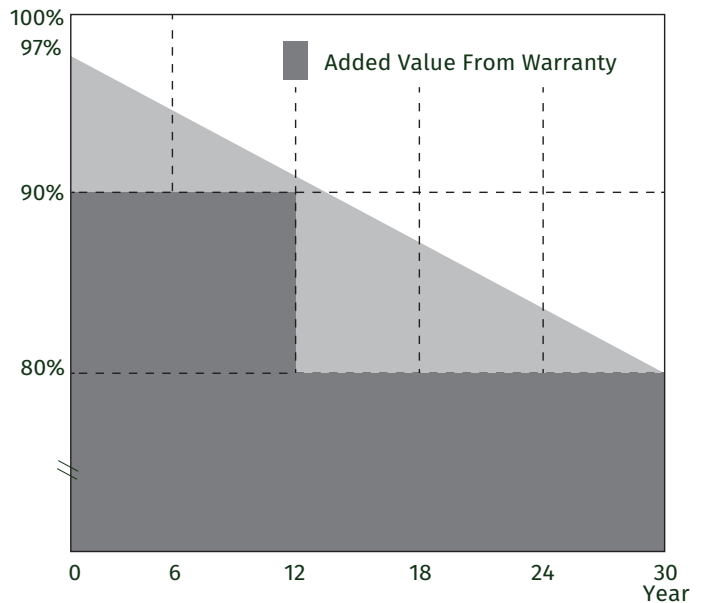
### Electrical Characteristics(STC)

Module Type	KMSW600M-156
Maximum Power (Pmax)	600W
Maximum Power Voltage (Vmp)	45.00V
Maximum Power Current (Imp)	13.26A
Open-circuit Voltage (Voc)	53.90V
Short-circuit Current (Isc)	14.01A
Module Efficiency (%)	21.20%
Power Tolerance	0~+5W
Temperature Coefficient of Isc	+0.05%/°C
Temperature Coefficient of Voc	-0.29%/°C
Temperature Coefficient of Pmax	-0.37%/°C

Product Features

Warranty
12 years for product defects in materials & workmanship
12 years for 90% of warranted minimum power output
25 years for 80% of warranted minimum power output
25 years liner warranty

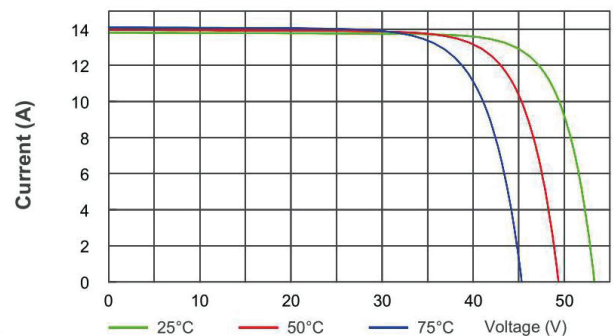
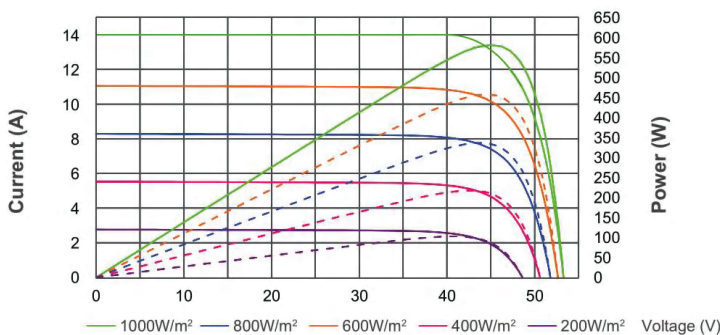
Reliable Quality
Positive power tolerance: 0~+5W
100% EL Double-inspection ensures modules are defects free
Modules Binned by Current to improve system performance
Potential induced Degradation (PID) Resistant



Mechanical Parameters	
Cell(mm)	10BB Mono 182*91
Weight(kg)	31.5kg
Glass Thickness	3.2mm (0.13inches), Tempered AR Glass
Dimensions (L*W*H)(mm)	2472*1135*35mm
Cable Cross Section Size (mm <sup>2</sup> )	4
Cable Cross Section Length (mm)	300
No.of Cells and Connections	156(6*26)
Junction Box	IP68,with Bypass Diodes
Connector	MC4 Compatiple

Working Conditions	
Maximum System Voltage	DC 1000V/1500V
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	25A
Maximum Static Load,Front (e.g.,snow and wind)	5400Pa (112 lb/ft <sup>2</sup> )
Maximum Static Load,Back (e.g.,wind)	2400Pa (50 lb/ft <sup>2</sup> )
NOCT	44±2°C
Positive power tolerance	0~ +5W
Application Class	Class A

I-V Curve



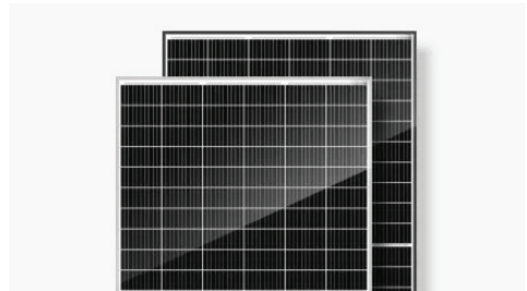


### Product Features

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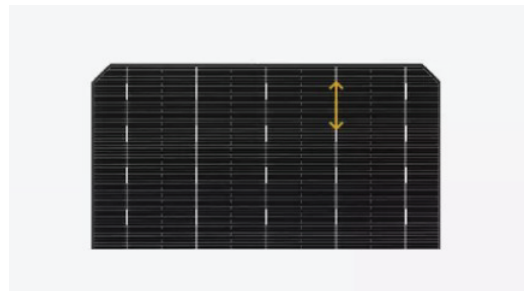
#### **MULTI BUSBAR TECHNOLOGY**

- Improves efficiency of modules
- Offers better appearance



#### **HALF CUT TECHNOLOGY**

- Under the same shadow condition
- Lower power loss than full cell



#### **FRAME**

- Conventional frame
- Boost bearing capability
- Prolong service life
- Serrated-clip design tensile strength



#### **SPLIT JUNCTION BOX**

- Reduced internal power loss
- Ensures model running safety



### More Information

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All with A Grade for on-grid & off-grid use for residential and public rooftop and ground mounting  
Solar panels are a clean source of energy that use the sun's rays to convert them into electricity or heat.

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