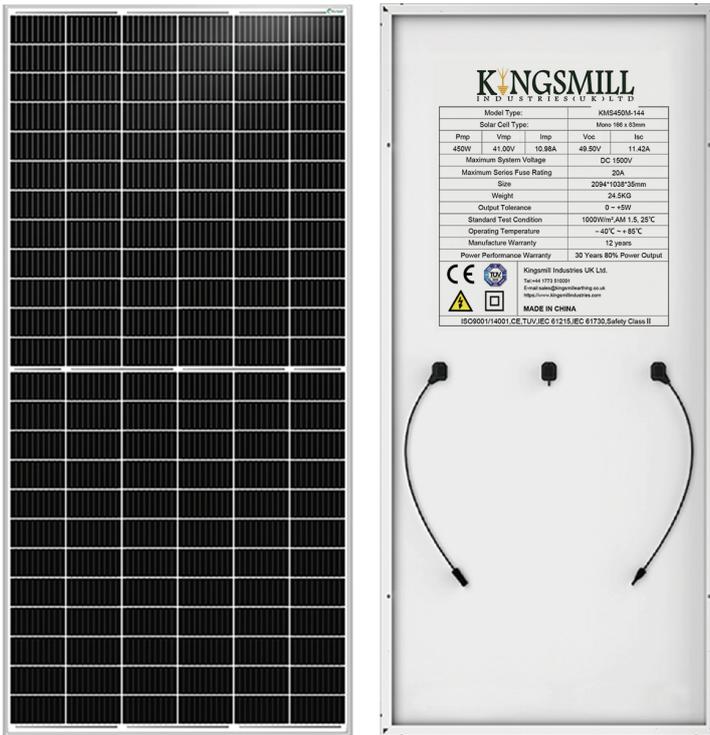


Introduction

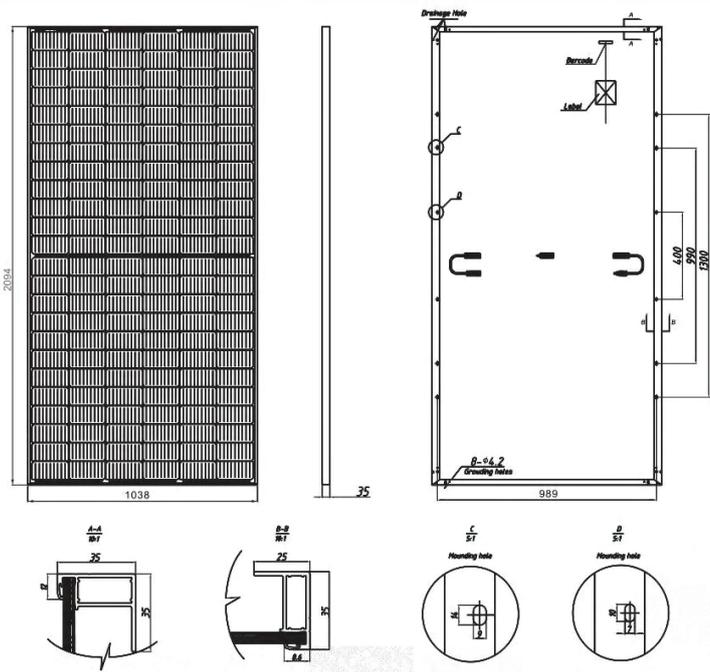
KMS450M-144 Photovoltaic Solar Panels are certified for the most challenging environmental conditions. This KMS450M-144. Photovoltaic high-power monocrystalline solar panel operates at 20.70% efficiency to maximize the light absorption area.

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 20.70%
-  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

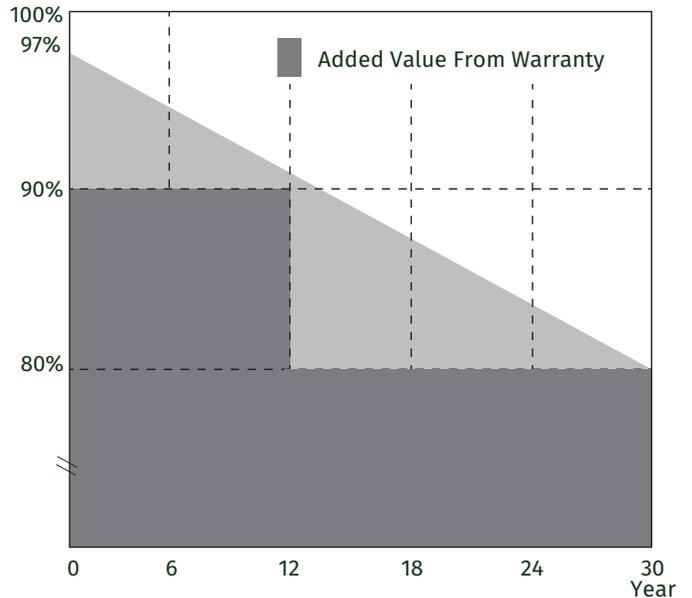


Electrical Characteristics(STC)	
Module Type	KMS450M-144
Maximum Power (Pmax)	450W
Maximum Power Voltage (Vmp)	41V
Maximum Power Current (Imp)	10.98
Open-circuit Voltage (Voc)	49.50
Short-circuit Current (Isc)	11.42
Module Efficiency (%)	20.70
Power Tolerance	0~+5W
Temperature Coefficient of Isc	+0.05%/°C
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	

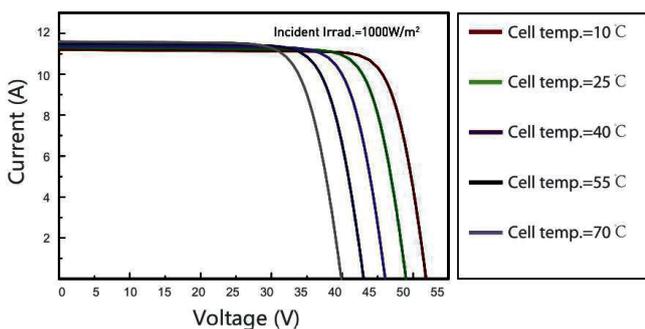


Mechanical Parameters	
Cell(mm)	9BB Mono 166*83
Weight(kg)	24.5kg
Glass Thickness	3.2mm,Low Iron Tempered Glass
Dimensions (L*W*H)(mm)	2094*1038*35mm
Cable Cross Section Size (mm ²)	4
Cable Cross Section Length (mm)	300
No.of Cells and Connections	144(6*24)
Junction Box	IP67/68,3 Diodes
Connector	MC4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

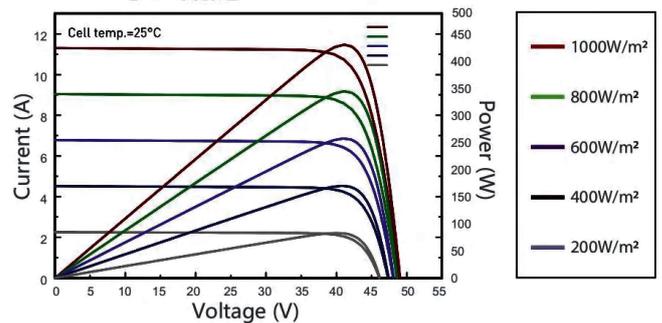
Working Conditions	
Maximum System Voltage	DC 1500V
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	20A
Maximum Static Load,Front (e.g.,snow and wind)	5400Pa (112 lb/ft ²)
Maximum Static Load,Back (e.g.,wind)	2400Pa (50 lb/ft ²)
NOCT	44±2°C
Positive power tolerance	0~ +5W
Application Class	Class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

I-V Curve

Current-Voltage curves



I-V CURVE



Product Features

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

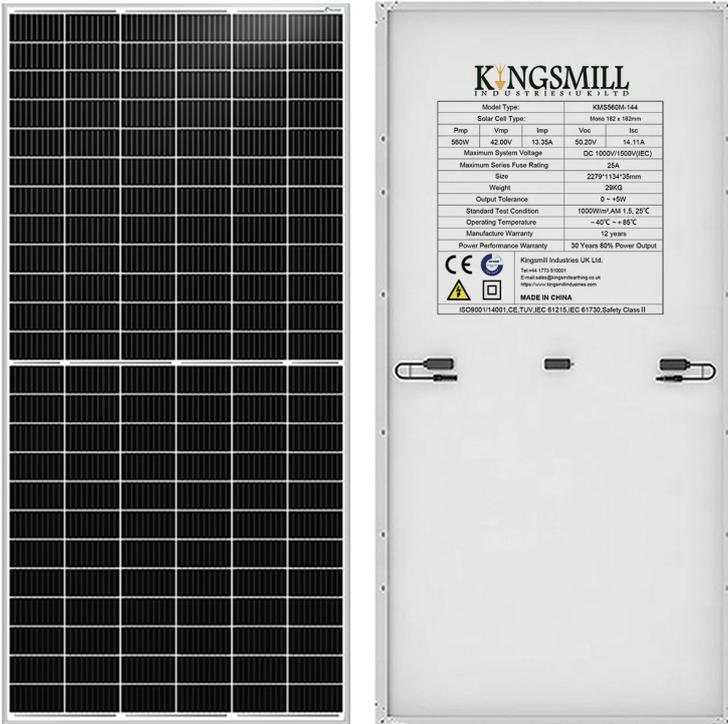
All with A Grade for on-grid & off-grid use for residential and public rooftop and ground mounting
Solar panels are a clean source of energy that use the sun's rays to convert them into electricity or heat.

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

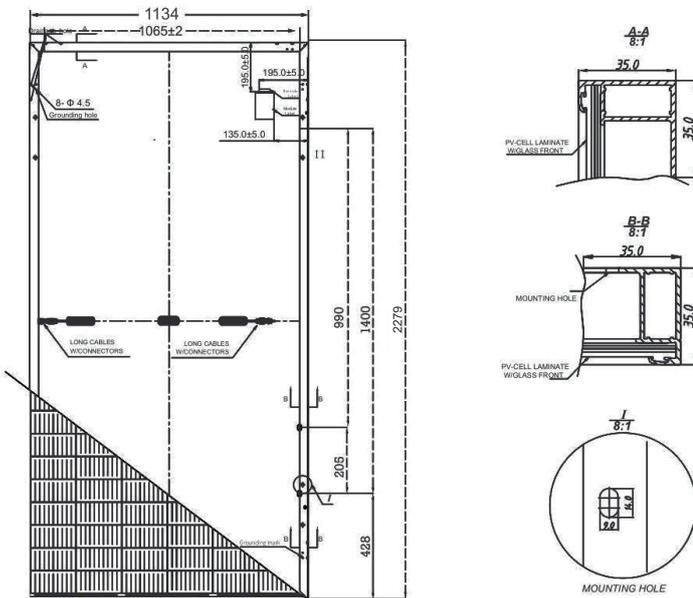
KMS560M-144 Photovoltaic Solar Panels are certified for the most challenging environmental conditions. This KMS560M-144. Photovoltaic high-power monocrystalline solar panel operates at 21.90% efficiency to maximize the light absorption area.

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 21.90%
-  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	KMS560M-144
Maximum Power (Pmax)	560W
Maximum Power Voltage (Vmp)	42.00
Maximum Power Current (Imp)	13.35
Open-circuit Voltage (Voc)	50.20
Short-circuit Current (Isc)	14.11
Module Efficiency (%)	21.90%
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

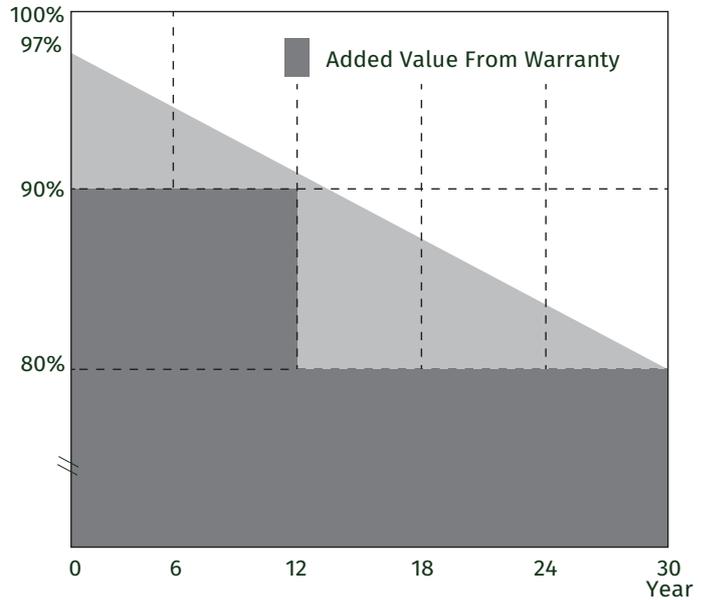
Product Features

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



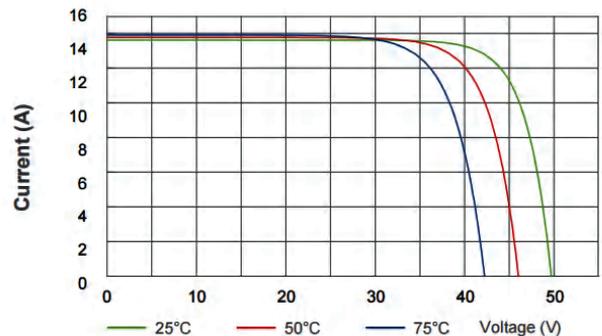
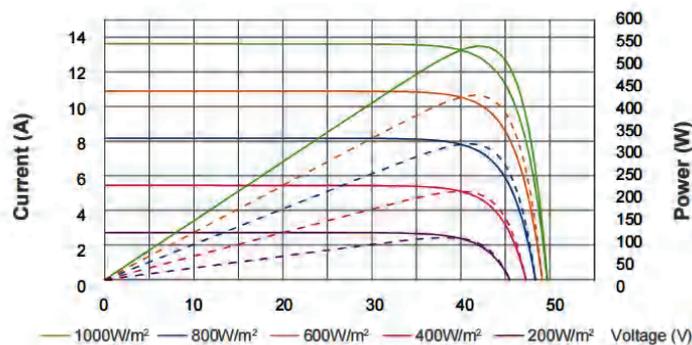
Mechanical Parameters

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 ²)	4
Cable Cross Section Length (mm)	300
No.of Cells and Connections	144(6*24)
Junction Box	IP67,with Bypass Diodes
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 ²)
Maximum Static Load,Back (e.g.,wind)	2400Pa (50 lb/ft ²)
NOCT	45±2°C
Positive power tolerance	0~ +5W
Application Class	Class A

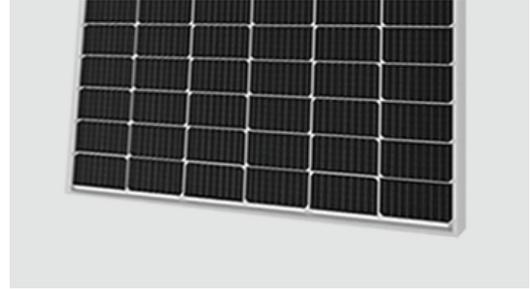
I-V Curve



Product Features

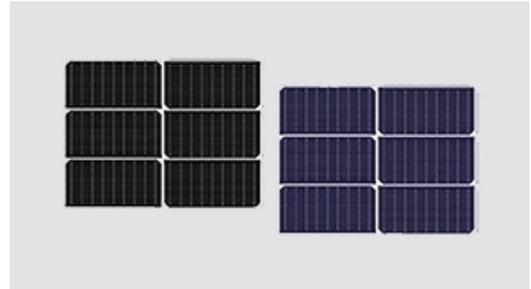
GLASS

- 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%



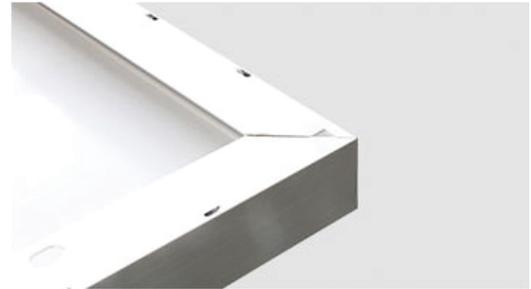
SOLAR CELL

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



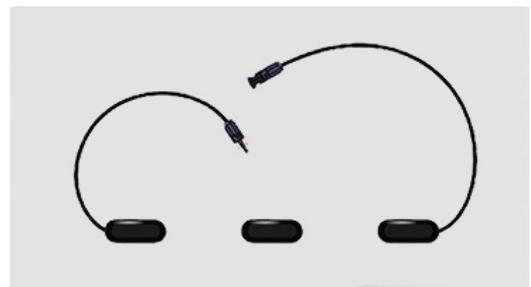
FRAME

- 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

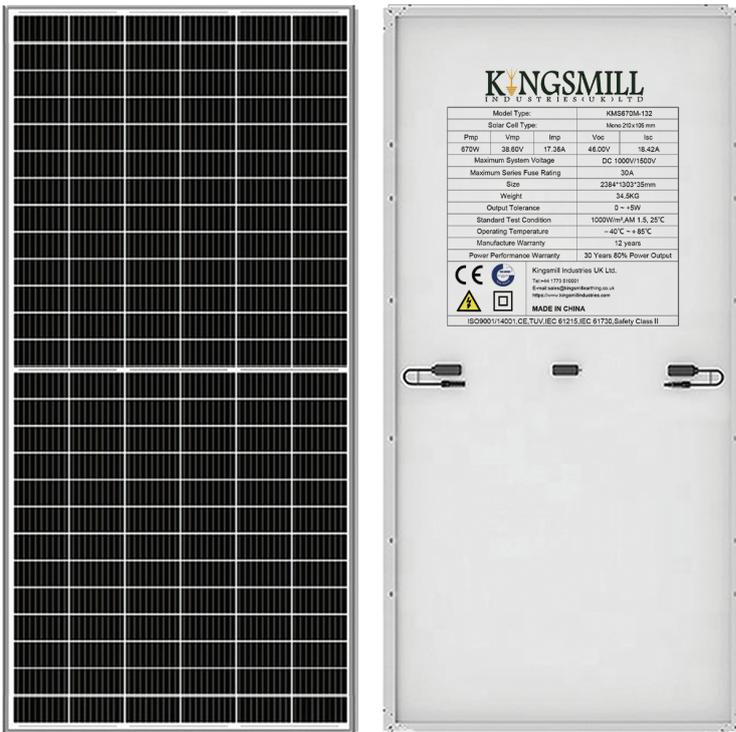
All with A Grade for on-grid & off-grid use for residential and public rooftop and ground mounting
Solar panels are a clean source of energy that use the sun's rays to convert them into electricity or heat.

Our clean energy solutions provide electrical power as a way to decarbonize
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Introduction

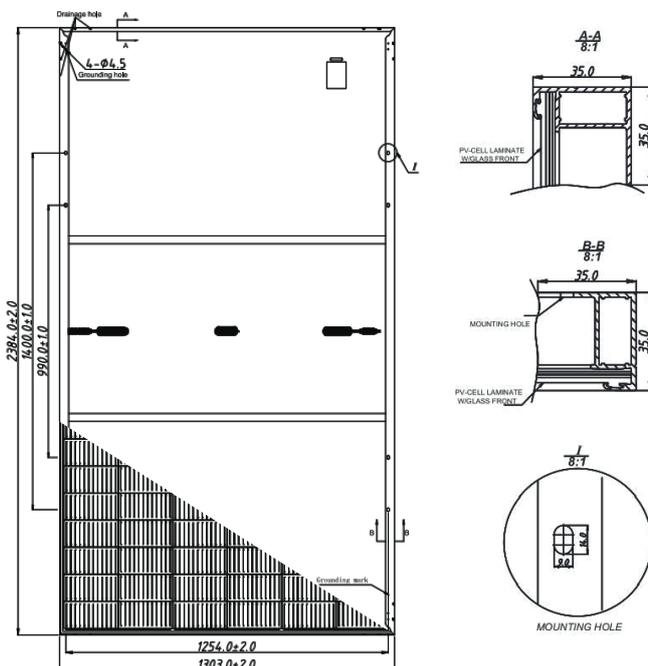
KMS670M-132 Photovoltaic Solar Panels are certified for the most challenging environmental conditions. This KMS670M-132. Photovoltaic high-power monocrystalline solar panel operates at 21.60% efficiency to maximize the light absorption area.

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 21.60%
-  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

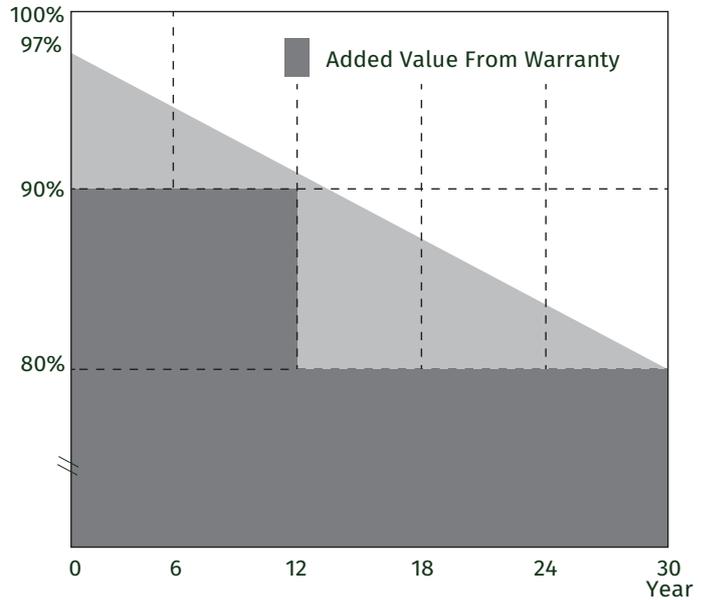


Electrical Characteristics(STC)	
Module Type	KMS670M-132
Maximum Power (Pmax)	670W
Maximum Power Voltage (Vmp)	38.60
Maximum Power Current (Imp)	17.36
Open-circuit Voltage (Voc)	46.00
Short-circuit Current (Isc)	18.42
Module Efficiency (%)	21.60%
Power Tolerance	0~+5W
Temperature Coefficient of Isc	+0.043%/°C
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

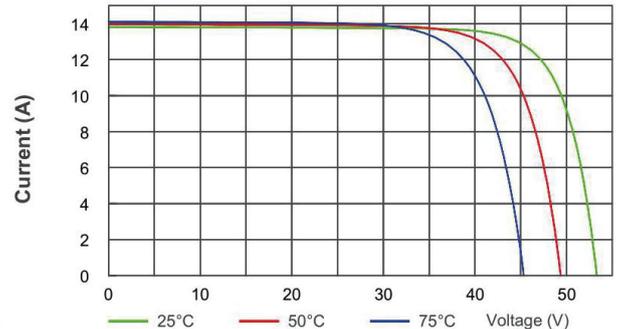
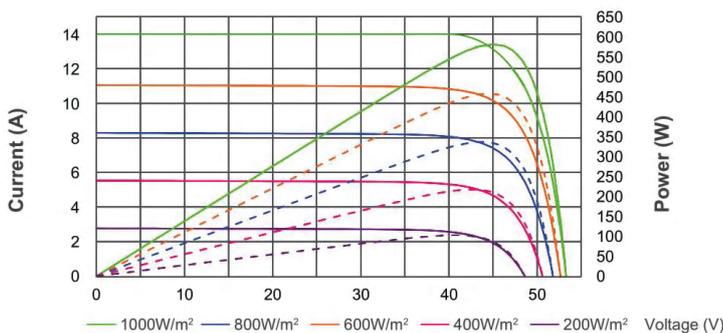
Reliable Quality
Positive power tolerance: 0~+5W
100% EL Double-inspection ensures modules are defects free
Modules Binned by Current to improve system performance
Potential induced Degradation (PID) Resistant



Mechanical Parameters	
Cell(mm)	Mono 210*105mm
Weight(kg)	34.5kg
Glass Thickness	3.2mm High transparency solar glass
Dimensions (L*W*H)(mm)	2384*1303*35mm
Cable Cross Section Size (mm ²)	4
Cable Cross Section Length (mm)	300
No.of Cells and Connections	132(6*22)
Junction Box	IP68 Rated
Connector	MC4 Compatiple

Working Conditions	
Maximum System Voltage	DC 1000V/1500V
Operating Temperature	-40°C~ +85°C
Maximum Series Fuse	30A
Maximum Static Load,Front (e.g.,snow and wind)	5400Pa (112 lb/ft ²)
Maximum Static Load,Back (e.g.,wind)	2400Pa (50 lb/ft ²)
NOCT	45±2°C
Positive power tolerance	0~ +5W
Application Class	Class A

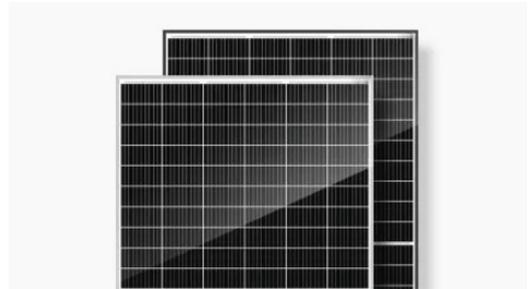
I-V Curve



Product Features

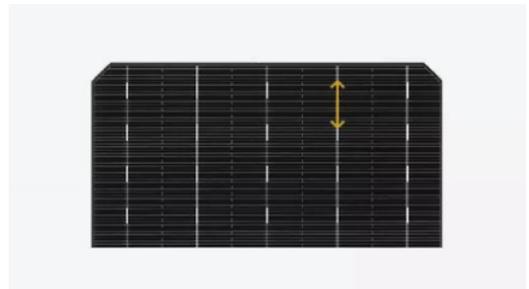
MULTI BUSBAR TECHNOLOGY

- Improves efficiency of modules
- Offers better appearance



HALF CUT TECHNOLOGY

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



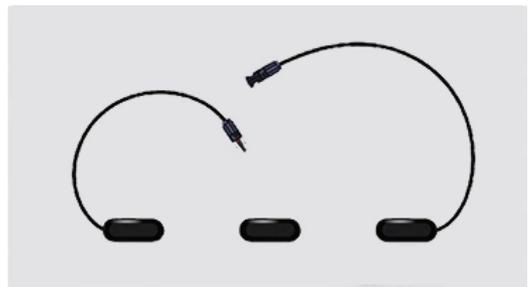
FRAME

- 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

All with A Grade for on-grid & off-grid use for residential and public rooftop and ground mounting
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