

Mono IBC 182mm 108 Cells

# MS(425-450)BC-54H Black Frame

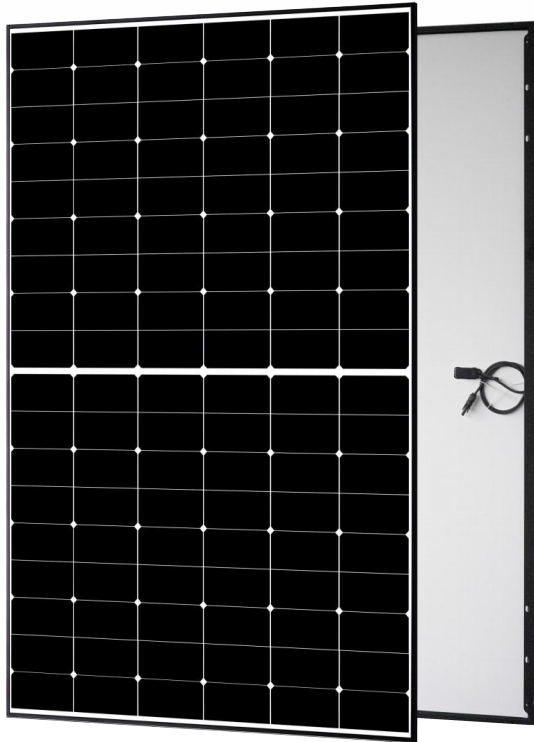
425/430/435/440/445/450WP



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## Advanced Solar Technology

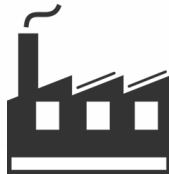
# IBC



### APPLICATIONS >>



On-grid residential  
roof-tops



On-grid commercial/  
industrial roof-tops



### Better appearance

Without the visual impact of the welding strips on the front-side, the pure beauty of the solar cells is perfectly presented.



### High power generation efficiency

There is no metal welding strips on the front-side of the module. The power generation area of the front-side increases by 2.5%.



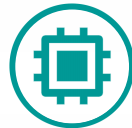
### No light pollution

The light reflectivity of the module is only 1.7% due to no welding strip technology on the front-side. It reduces light pollution to the environment and neighbors.



### No hot spot effect when be blocked

Using unique all back contact technology, the the positive and negative metal electrodes flow normally on the back-side when be blocked, reducing the risk of hot spots.



### Long warranty of 25 years

The encapsulating materials use TPE backsheet, which is covered with PVF (Tedlar) film and use improved EPE film, ensuring service life of 25 years.



### Better performance in low light scenes

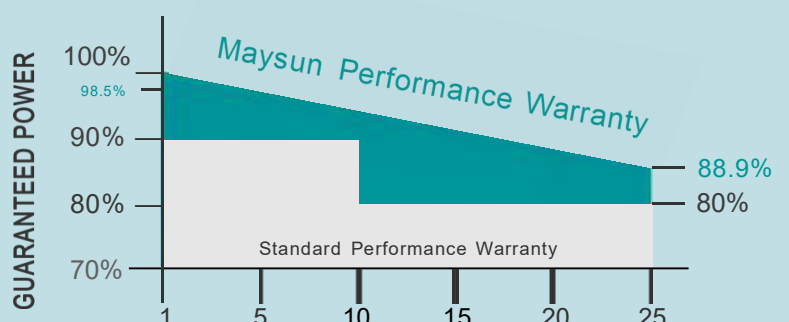
No shield of metal electrodes on the front-side enables a spectral absorption range of 300nm-1200nm, which extends the working time. The maximum power generation gain is 2.01%.

## MAXIMUM EFFICIENCY

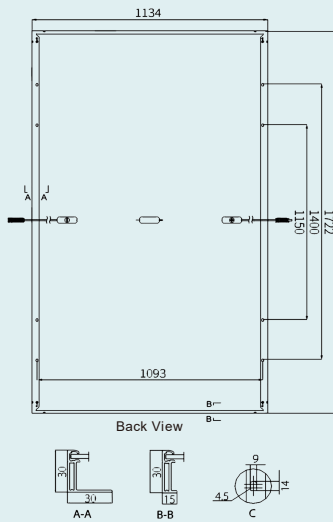
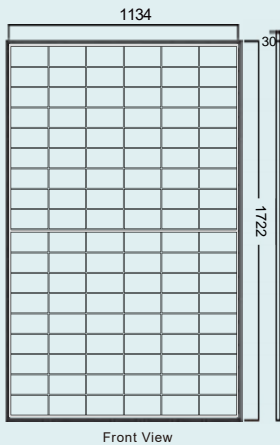
# 23.2%

## POSITIVE POWER TOLERANCE

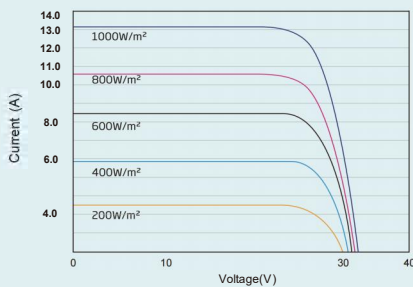
# 0 ~+5W



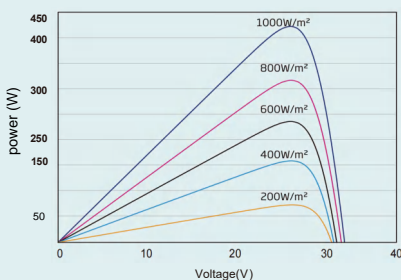
### DIMENSIONS OF PV MODULE(mm)



### I-V CURVES OF PV MODULE (430W)



### P-V CURVES OF PV MODULE (430W)



### ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}$ (Wp)*	425	430	435	440	445	450
Power Tolerance- $P_{MAX}$ (W)	0 ~ +5					
Maximum Power Voltage- $V_{MPP}$ (V)	32.64	32.84	33.04	33.24	33.44	33.64
Maximum Power Current- $I_{MPP}$ (A)	13.03	13.10	13.17	13.25	13.32	13.39
Open Circuit Voltage- $V_{OC}$ (V)	38.93	39.13	39.33	39.53	39.73	39.93
Short Circuit Current- $I_{SC}$ (A)	14.07	14.15	14.22	14.29	14.36	14.43
Module Efficiency $\eta_m$ (%)	21.8	22.0	22.3	22.6	22.9	23.2

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5.  
\*Measuring tolerance: ±3%.

### ELECTRICAL DATA (NOCT)

Maximum Power- $P_{MAX}$ (Wp)	318	321	325	329	333	337
Maximum Power Voltage- $V_{MPP}$ (V)	29.78	29.97	30.15	30.33	30.51	30.69
Maximum Power Current- $I_{MPP}$ (A)	10.67	10.72	10.78	10.85	10.90	10.96
Open Circuit Voltage- $V_{OC}$ (V)	36.55	36.74	36.93	37.12	37.31	37.50
Short Circuit Current- $I_{SC}$ (A)	11.36	11.43	11.49	11.54	11.61	11.67

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s.

### MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	108 cells
Module Dimensions	1722 x 1134 x 30mm
Weight	20.8 kg
Glass	3.2 mm High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	White
Frame	30 mm Black, anodized aluminium alloy
J-Box	IP 68 rated (3 bypass diodes)
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ) Portrait: N 1200mm/P 1200mm (47.24/47.24inches) Length can be customized
Connector	MC4 Compatible

\*Please refer to regional datasheet for specified connector.

### TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	45°C (±2°C)
Temperature Coefficient of $P_{MAX}$	- 0.29%/°C
Temperature Coefficient of $V_{OC}$	- 0.23%/°C
Temperature Coefficient of $I_{SC}$	0.05%/°C

### MAXIMUM RATINGS

Operational Temperature	- 40 ~ +85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	25A
Mechanical Performance	P 5400 Pa/N 2400 Pa
Hail Test Conditions	Diameter 25 mm Impact Speed 23 m/s

### WARRANTY

25 year Product Workmanship Warranty
25 year Power Warranty
1.5% first year degradation
0.4% Annual Power Attenuation

\*Please refer to product warranty for details.

### PACKAGING CONFIGURATION

Modules per pallet: 36 pieces
Modules per 40' container: 936 pieces



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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Specifications included in this datasheet are subject to change without notice.

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