

Mono IBC 182mm 108 Cells

MS(410-440)BC-54HB Full Black

410/415/420/425/430/435/440WP



MAYSUNSOLAR.COM

Advanced Solar Technology

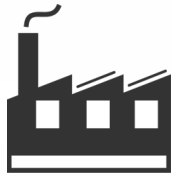
IBC - Full Black



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.



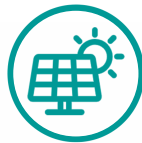
High power generation efficiency

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%.



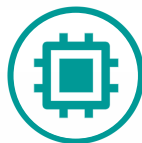
No light pollution

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 backsheets, which is covered with PVF (Tedlar) film and use improved EPE film, ensuring service life of 25 years.



Better performance in low light scenes

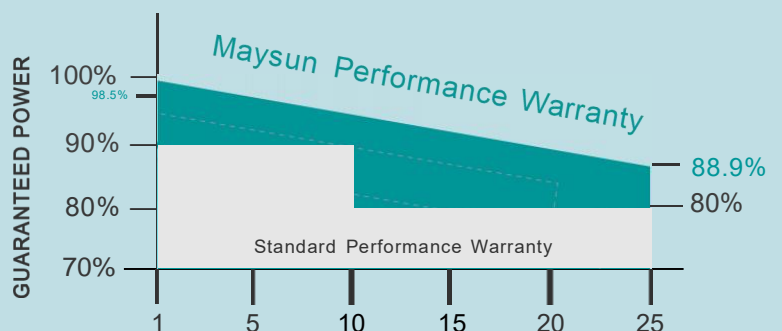
No shield of metal electrodes on the front-side enables a spectral absorption range of 300nm-1200nm, which extends the working time. The maximum power generation gain is 2.01%.

MAXIMUM EFFICIENCY

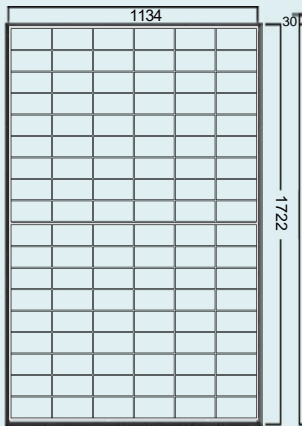
22.5%

POSITIVE POWER
TOLERANCE

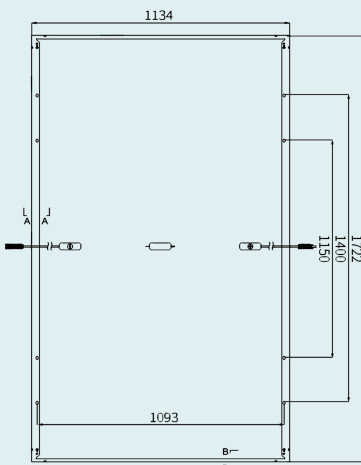
0 ~ +5W



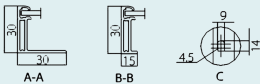
DIMENSIONS OF PV MODULE(mm)



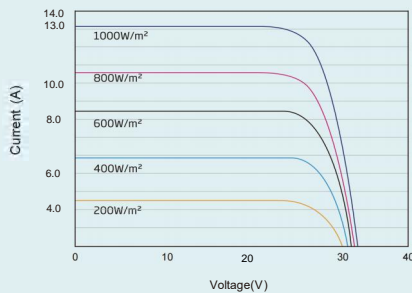
Front View



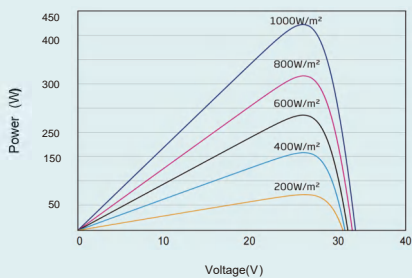
Back View



I-V CURVES OF PV MODULE (435W)



P-V CURVES OF PV MODULE (435W)



ELECTRICAL DATA (STC)

Parameter	410	415	420	425	430	435	440
Peak Power Watts- P_{MAX} (Wp)*	410	415	420	425	430	435	440
Power Tolerance- P_{MAX} (W)	0 ~ +5						
Maximum Power Voltage- V_{MPP} (V)	32.36	32.56	32.76	32.96	33.16	33.36	33.56
Maximum Power Current- I_{MPP} (A)	12.70	12.77	12.84	12.91	12.98	13.05	13.12
Open Circuit Voltage- V_{OC} (V)	38.63	38.83	39.03	39.23	39.43	39.63	39.83
Short Circuit Current- I_{SC} (A)	13.73	13.80	13.87	13.94	14.01	14.08	14.15
Module Efficiency η_m (%)	21.0	21.3	21.5	21.8	22.0	22.3	22.5

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. *Measuring tolerance: ±3%.

ELECTRICAL DATA (NOCT)

Parameter	305	309	313	317	321	325	329
Maximum Power- P_{MAX} (Wp)	305	309	313	317	321	325	329
Maximum Power Voltage- V_{MPP} (V)	29.54	29.72	29.90	30.08	30.26	30.44	30.62
Maximum Power Current- I_{MPP} (A)	10.33	10.40	10.47	10.54	10.61	10.68	10.75
Open Circuit Voltage- V_{OC} (V)	36.26	36.45	36.64	36.83	37.02	37.21	37.40
Short Circuit Current- I_{SC} (A)	11.07	11.13	11.19	11.25	11.31	11.37	11.43

NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s.

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	108 cells
Module Dimensions	1722 x 1134 x 30 mm
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 ² (0.006 inches ²) Portrait: N 1200mm/P1200mm (47.24/47.24 inches) 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



*Note: Occasionally, as the characteristic of full black solar modules, a slight visual colour difference under certain lighting conditions and certain angles is a normal phenomenon.

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

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

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