

Mono PERC 182mm 120 Cells

MS(440-460)MB-60H Silver Frame

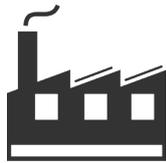
440/445/450/455/460 WP



APPLICATIONS >>



On-grid residential
roof-tops



On-grid commercial/
industrial roof-tops



High customer value

- Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance Of System) cost, shorter payback time
- Lower guaranteed first year and annual degradation
- Designed for compatibility with existing mainstream system components
- Higher return on Investment



High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions



High reliability

- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load
- Class-C fire safety test passed



High power up to 460W

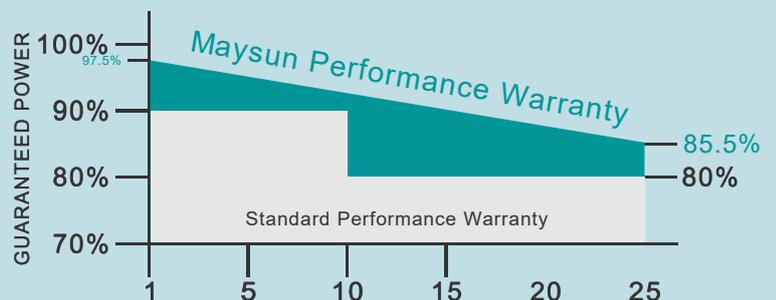
- Large area cells based on 182mm silicon wafers and 1/2-cut cell technology
- Up to 21.26% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect lower series resistance and improved current collection

MAXIMUM EFFICIENCY

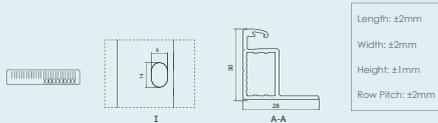
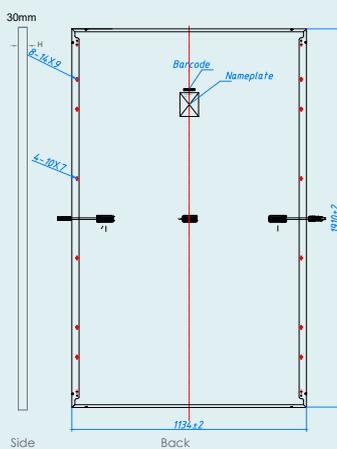
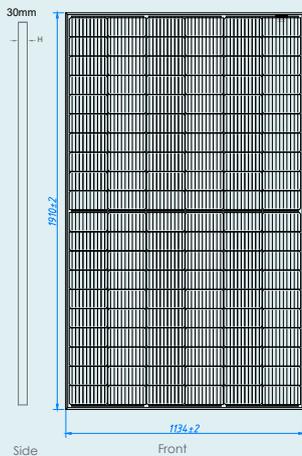
21.26%

POSITIVE POWER
TOLERANCE

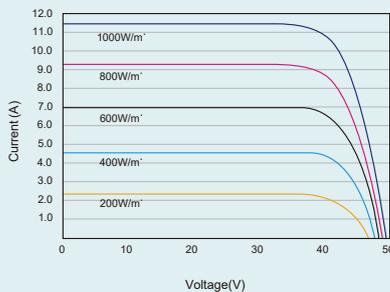
0 ~ +5W



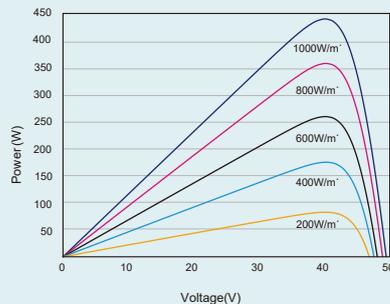
DIMENSIONS OF PV MODULE(mm)



I-V CURVES OF PV MODULE(450W)



P-V CURVES OF PV MODULE(450W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	440	445	450	455	460
Power Tolerance- P_{MAX} (W)	0 ~ +5				
Maximum Power Voltage- V_{MPP} (V)	33.72	33.82	33.91	34.06	34.20
Maximum Power Current- I_{MPP} (A)	13.05	13.16	13.27	13.36	13.45
Open Circuit Voltage- V_{OC} (V)	41.02	41.10	41.18	41.33	41.48
Short Circuit Current- I_{SC} (A)	13.73	13.79	13.85	13.93	14.01
Module Efficiency η_m (%)	20.34	20.57	20.80	21.03	21.26

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

ELECTRICAL DATA (NOCT)

Maximum Power- P_{MAX} (Wp)	327	331	335	339	342
Maximum Power Voltage- V_{MPP} (V)	31.39	31.56	31.73	31.90	32.07
Maximum Power Current- I_{MPP} (A)	10.43	10.49	10.55	10.61	10.67
Open Circuit Voltage- V_{OC} (V)	38.72	38.79	38.87	39.01	39.15
Short Circuit Current- I_{SC} (A)	11.09	11.14	11.19	11.25	11.32

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

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	120 cells
Module Dimensions	1910×1134×30mm (75.19×44.65×1.18 inches)
Weight	24.2 kg
Glass	3.2mm, Anti-Reflection Coating, High Transmission, Low Iron, Tempered Glass
Encapsulant Material	EVA/POE
Backsheet	White
Frame	30 mm(1.18 inches) Silver, anodized aluminium alloy
J-Box	IP 68 rated (3 bypass diodes)
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²) Portrait: N 300mm/P 300mm(11.8/11.8 inches) Length can be customized
Connector	MC4 Compatible

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

NOCT(Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P_{MAX}	- 0.34%/°C
Temperature Coefficient of V_{OC}	- 0.25%/°C
Temperature Coefficient of I_{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	- 40 ~ +85°C
Maximum System Voltage	1500V DC (IEC)
	1000V DC (IEC)
Max Series Fuse Rating	25A

WARRANTY

- 15 year Product Workmanship Warranty
- 25 year Power Warranty
- 2.5% first year degradation
- 0.5% Annual Power Attenuation

*Please refer to product warranty for details.

PACKAGING CONFIGURATION

- Modules per pallet: 37 pieces
- Modules per 40' container: 888 pieces



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

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