

Mono PERC 166mm 408 Cells

TH(470-490)PM5-72SB Silver Frame

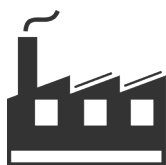
470/475/480/485/490 WP



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
- Better anti-shading performance and lower operating temperature
- Low shading loss and full parallel circuit layout bring more effective power generation



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 490W

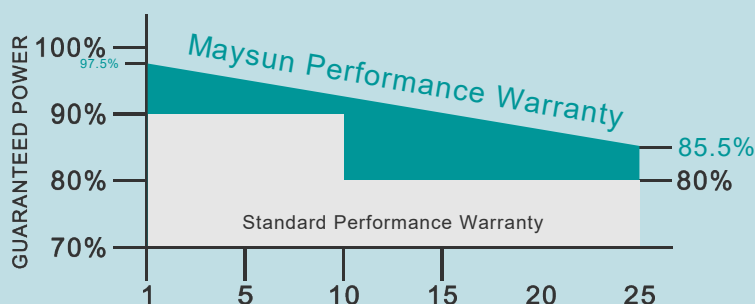
- Large area cells based on 166mm silicon wafers and shingled cell technology
- Up to 20.9% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect lower series resistance and improved current collection
- Innovative structure, low temperature bonding, high density layout, better aesthetics

MAXIMUM EFFICIENCY

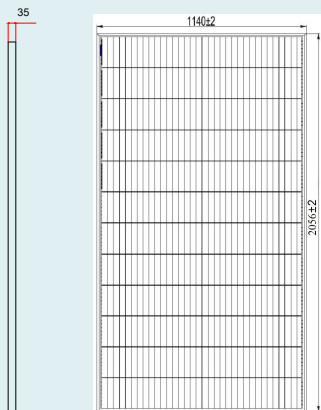
20.9%

POSITIVE POWER
TOLERANCE

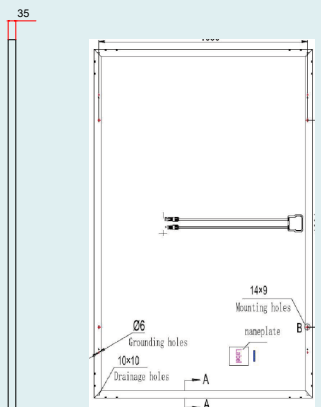
0 ~ +5W



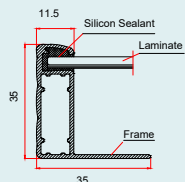
DIMENSIONS OF PV MODULE(mm)



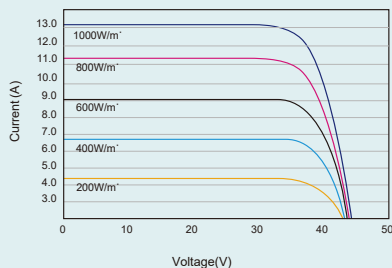
Front View



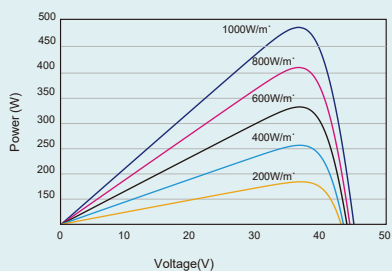
Back View



I-V CURVES OF PV MODULE(470W)



P-V CURVES OF PV MODULE(470W)



ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	470	475	480	485	490	
Power Tolerance- P_{MAX} (W)	0 ~ +5					
Maximum Power Voltage- V_{MPP} (V)	38.6	38.7	38.8	38.8	38.9	
Maximum Power Current- I_{MPP} (A)	12.10	12.27	12.37	12.50	12.60	
Open Circuit Voltage- V_{OC} (V)	46.4	46.5	46.6	46.6	46.7	
Short Circuit Current- I_{SC} (A)	13.04	13.10	13.16	13.22	13.25	
Module Efficiency η_m (%)	20.1	20.3	20.5	20.7	20.9	

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

ELECTRICAL DATA (NOCT)

Maximum Power- P_{MAX} (Wp)	354	358	361	365	369	
Maximum Power Voltage- V_{MPP} (V)	36.8	36.9	37.0	37.0	37.1	
Maximum Power Current- I_{MPP} (A)	9.62	9.69	9.77	9.87	9.95	
Open Circuit Voltage- V_{OC} (V)	44.2	44.3	44.4	44.4	44.5	
Short Circuit Current- I_{SC} (A)	10.52	10.57	10.62	10.67	10.72	

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

MECHANICAL DATA

Solar Cells	Monocrystalline
Cell Orientation	408 cells (34× 12)
Module Dimensions	2056×1140×35 mm (80.94×44.88×1.38 inches)
Weight	25 kg
Glass	3.2 mm (0.13 inches), High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA/POE
Backsheet	White
Frame	35 mm(1.38 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 1200mm/P 1200mm(47.24/47.24 inches) Length can be customized
Connector	MC4

*Please refer to regional datasheet for specified connector.

TEMPERATURE RATINGS

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

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.

MAXIMUM RATINGS

Operational Temperature	- 40 ~ +85°C
Maximum System Voltage	1500V DC (IEC)
	1000V DC (IEC)
Max Series Fuse Rating	20A

PACKAGING CONFIGURATION

Modules per pallet: 31 pieces
Modules per 40' container: 682 pieces



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

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