



MARS

GSP7G60M-460W

Bifacial
10BB Half-cut Mono Perc



SYSTEM & PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 61730
- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational Health and Safety Management Systems



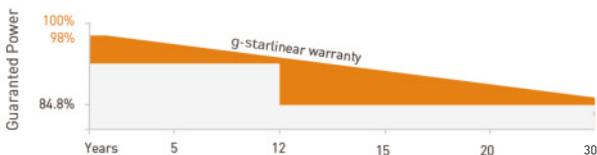
PERFORMANCE WARRANTY

12 Years
Quality Assurance

30 Years
Power Output Guarantee

Linear Performance Warranty

Standard Performance Warranty



KEY FEATURES



10BB Half-cut Cell Technology

New circuit design, lower internal current, lower R_s loss
Ga doped wafer, attenuation $<2\%$ (1st year) / $\leq 0.45\%$ (Linear)



Industry Leading High Yield

Bifacial PERC cell technology,
5%-25% more yield depends on different conditions



Excellent Anti-PID Performance

2 times of industry standard Anti-PID test



Wider Application

No water-permeability and high wear-resistance,
can be widely used in high-humid, windy and dusty area



IP68 Junction Box

High waterproof level

Electrical Characteristics

| Testing Condition | STC | NMOT |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Maximum Power(Pmax/W) | 440 | 328 | 445 | 332 | 450 | 336 | 455 | 339 | 460 | 343 |
| Operating Voltage (Vmpp/V) | 34.35 | 32.1 | 34.53 | 32.2 | 34.70 | 32.4 | 34.87 | 32.6 | 35.04 | 32.7 |
| Operating Current (Impp/A) | 12.81 | 10.23 | 12.89 | 10.30 | 12.97 | 10.36 | 13.05 | 10.42 | 13.13 | 10.49 |
| Open-Circuit Voltage (Voc/V) | 40.99 | 38.6 | 41.16 | 38.7 | 41.33 | 38.9 | 41.50 | 39.1 | 41.67 | 39.2 |
| Short-Circuit Current (Isc/A) | 13.69 | 11.04 | 13.78 | 11.11 | 13.86 | 11.17 | 13.94 | 11.24 | 14.02 | 11.30 |
| Module Efficiency(%) | 20.30 | | 20.50 | | 20.70 | | 21.00 | | 21.20 | |

Rear Side Power Gain

| Pmax gain | 5% | 10% | 15% | 20% | 25% |
|-----------|-------|-------|-------|-------|-------|
| Pmax/W | 467 | 490 | 512 | 534 | 556 |
| Vmpp/V | 34.53 | 34.53 | 34.53 | 34.53 | 34.53 |
| Impp/A | 13.53 | 14.18 | 14.82 | 15.47 | 16.11 |
| VocV | 41.16 | 41.16 | 41.16 | 41.16 | 41.16 |
| Isc/A | 14.47 | 15.16 | 15.85 | 16.54 | 17.23 |

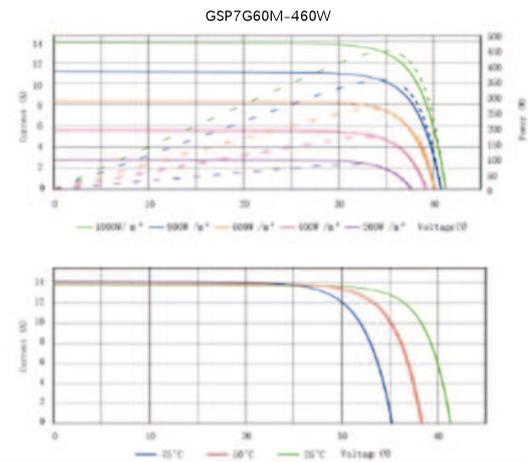
Temperature Characteristics

| | |
|--|-------------|
| Temperature Coefficient of Pmax | -0.35%/° C |
| Temperature Coefficient of Voc | -0.26%/° C |
| Temperature Coefficient of Isc | +0.048%/° C |
| Nominal Module Operating Temperature(NMOT) | 43±2° C |

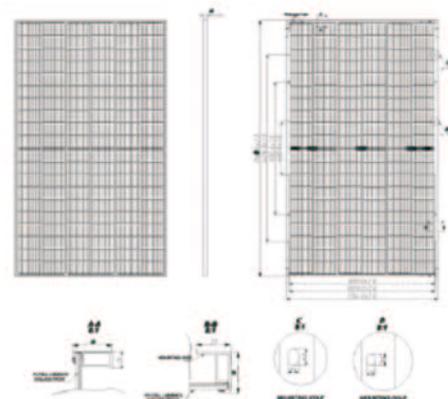
Mechanical Parameters

| | |
|-------------------|---|
| Cell Type | Monocrystalline |
| No. of Cells | 120pcs in series (6*20) |
| Module Dimensions | 1909*1134*35mm (75.12*44.65*1.38inches) |
| Weight | 24.3kg(53.6lbs.) |
| Glass | 3.2mm AR Coating Tempered Glass |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP68, 3 Bypass Diodes |
| Output Cables | 4mm ² (IEC), 12AWG(UL)300mm in Length or Customized Length |
| Connectors | MC4/MC4-EV02 |

I-V Curve



Technical Drawings



Application Conditions

| | |
|---------------------------|------------------------------------|
| Maximum System Voltage | 1500V/DC |
| Operating Temperature | -40° C+85° |
| Maximum Series Fuse | 30A |
| Safety Protection Class | ClassII |
| Mechanical Load | Front side 5400Pa Back side 2400Pa |
| Refer. Bifaciality Factor | 70%±5% |