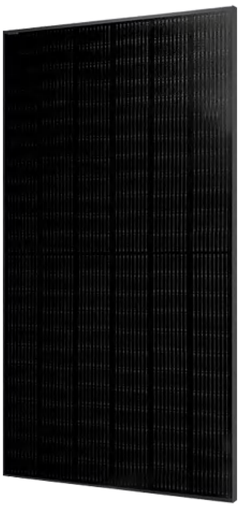
# SW450M-144

## Full Black Monocrystalline 144 Cells 440W-460W



## Mono Solar Panel Features

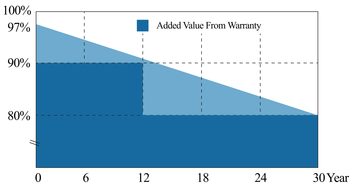
- Widely using of the most popular and mature type of modules for solar system
- High power output and highest conversion efficiency of 21.16%
- Anti-reflective and anti-soiling surface reduces power loss from dirt and dust
- Outstanding Performance in low-light irradiance environments
- Excellent mechanical load resistance: Certified to withstand high wind loads (2400Pa) and Snow loads (5400Pa)
- Positive power tolerance: 0~+5W

## Warranty

| |
|---|
| 12 years for product defects in materials & workmanship |
| 12 years for 90% of warranted minimum power output |
| 30 years for 80% of warranted minimum power output |
| 30 years liner warranty |

## Reliable Quality

| |
|---|
| Positive power tolerance: 0~+5W |
| 100% EL Double-inspection ensures modules are defects free |
| Modules Binned by Current to improve system performance |
| Potential induced Degradation (PID) Resistant |



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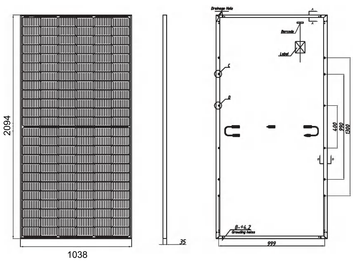
## Mechanical parameters

| | |
|---|---|
| Cell(mm) | Mono 166*83 |
| Weight(kg) | 24.5 |
| Glass Thickness | 3.2mm,Low Iron Tempered Glass |
| Dimensions (L*W*H)(mm) | 2094*1038*35mm |
| Cable Cross Section Size (mm²) | 4 |
| Cable Cross Section Length (mm) | 900/1200 |
| No.of Cells and Connections | 144(6*24) |
| Junction Box | IP68,3 Diodes |
| Connector | MC4 Compatiple |

## Engineering Drawings




## Working Conditions

| | |
|---|---|
| Maximum System Voltage | DC 1500V |
| Operating Temperature | -40℃~+85℃ |
| Maximum Series Fuse | 15A |
| Maximum Static Load,Front (e.g.,snow and wind) | 5400Pa (112 lb/ft²) |
| Maximum Static Load,Back (e.g.,wind) | 2400Pa (50 lb/ft²) |
| NOCT | 45±2℃ |
| Positive power tolerance | 0~+5W |
| Application Class | Class A |

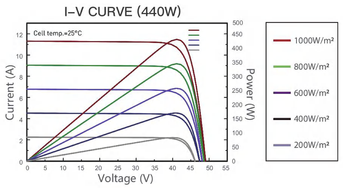
## Packaging Configuration

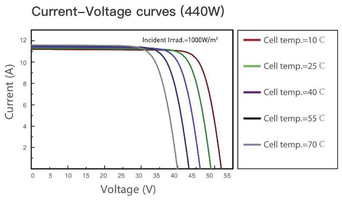
| | |
|---|---|
| Moduels Per Pallet | 31Pcs |
| Moduels Per 40HQ | 726Pcs |

## Electrical Parameters

| Module | SW440M-144 ~ SW460M-144 | | | | |
|---|---|---|---|---|---|
| Encapsulation | Class/Eva/Cell/Eva/Backsheet | | | | |
| Maximum Power Pmax (W) | 440 | 445 | 450 | 455 | 460 |
| Maximum Power Voltage (Vmp/V) | 40.50 | 40.80 | 41.00 | 41.30 | 41.60 |
| Maximum Power Current (Imp/A) | 10.86 | 10.92 | 10.98 | 11.04 | 11.10 |
| Open Circuit Voltage (Voc/V) | 49.00 | 49.20 | 49.50 | 49.80 | 50.10 |
| Short Circuit Current (Isc/A) | 11.30 | 11.36 | 11.42 | 11.48 | 11.54 |
| Cell Efficiency(%) | 22.18 | 22.43 | 22.68 | 22.93 | 23.19 |
| Module Efficiency (%) | 20.24 | 20.47 | 20.70 | 20.93 | 21.16 |
| Power Tolerance (W) | 0~+5W | | | | |
| Temperature Coefficient of Isc (αIsc) | +0.06%/℃ | | | | |
| Temperature Coefficient of Voc (βVoc) | -0.30%/℃ | | | | |
| Temperature Coefficient of Pmax (γPmp) | -0.38%/℃ | | | | |
| STC | Irradiance 1000W/㎡, Cell Temperature 25℃, Air Mass 1.5 | | | | |

## I-V Curve

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