

# eArc

## SMF520J-12X12UW

# 520 Watt

## 144 Half Cell Monocrystalline Module



**Ultra-light:** Glass free module weighs 7.2 kg, 70% lighter than conventional glass modules.



**Fast-Installation:** Through “Quick-Bonding” installation, eArc requires no penetration, reduces time on roof and saves installation costs.



**Safety:** Integration with underlying installation surface, ensuring the waterproof performance and safety performance of the roof.



**Durable:** eArc is the first glassless module to pass the same durability tests as conventional glass modules, including IEC 61215:2021, IEC61730:2023 and UL61730 (USA). eArc has also passed PID, salt mist level 8 tests.

POWER OUTPUT RANGE 520 W

POWER TOLERANCE 0-5 W

**12 Year Product Warranty**

**25 Year Linear Power Warranty**



[www.sunman-energy.com](http://www.sunman-energy.com)

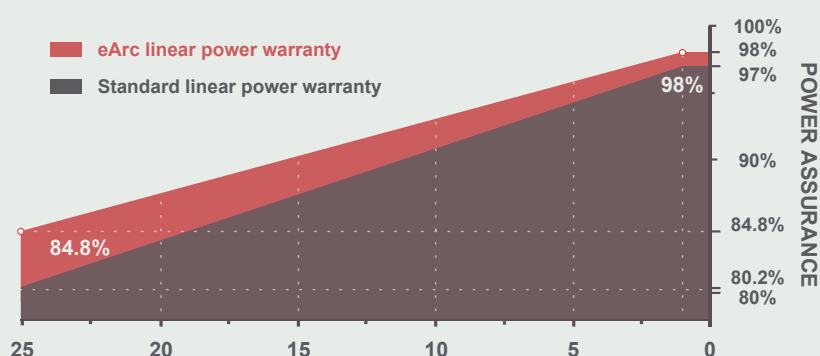


ULTRA-LIGHT&FLEXIBLE SOLAR PANEL

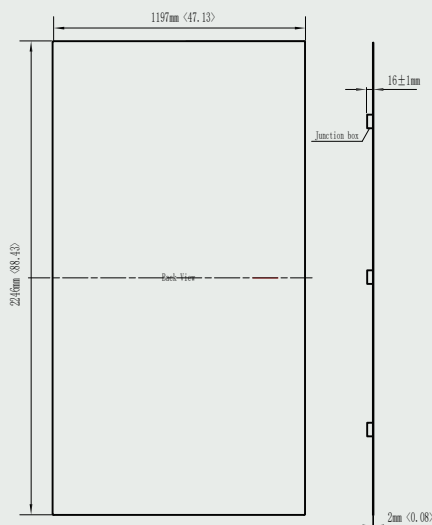
### LINEAR PERFORMANCE WARRANTY

CAUTION:Read installation manual before using the product.

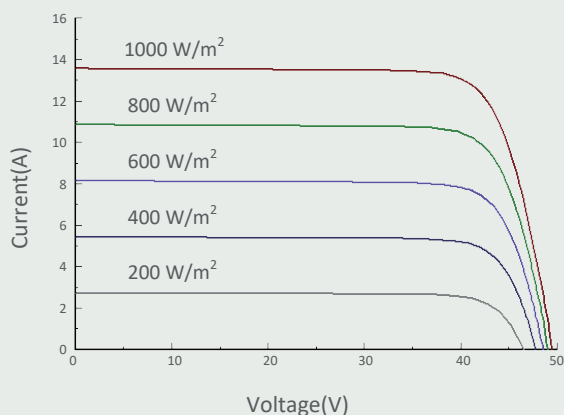
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## DIMENSIONS



## I-V CURVE (520)



## TEMPERATURE CHARACTERISTICS

Nominal Module Operating Temperature(NMOT) **41±2 °C**

Temperature Coefficient of  $P_{max}$  **-0.3 %/°C**

Temperature Coefficient of  $V_{oc}$  **-0.23 %/°C**

Temperature Coefficient of  $I_{sc}$  **0.02 %/°C**



SMF520J IEC EN 2025A 3

## ELECTRICAL CHARACTERISTICS

| STC                                                                                                                      | SMF520J-12X12UW |
|--------------------------------------------------------------------------------------------------------------------------|-----------------|
| Maximum Power ( $P_{max}$ )                                                                                              | 520             |
| Maximum Power Voltage ( $V_{mp}$ )                                                                                       | 42.26           |
| Maximum Power Current ( $I_{mp}$ )                                                                                       | 12.31           |
| Open-circuit Voltage ( $V_{oc}$ )                                                                                        | 49.54           |
| Short-circuit Current ( $I_{sc}$ )                                                                                       | 13.56           |
| Module Efficiency (%)                                                                                                    | 19.34           |
| Operating Temperature                                                                                                    | -40 °C to 85 °C |
| Maximum System Voltage                                                                                                   | 1500 V DC (IEC) |
| Maximum Series Fuse Rating                                                                                               | 25 A            |
| Application Class                                                                                                        | Class A         |
| Power Tolerance                                                                                                          | 0/+5 W          |
| STC: Irradiance 1000W/m², Cell temperature 25 °C, AM=1.5. Tolerances of $P_{max}$ , $V_{oc}$ and $I_{sc}$ are within ±5% |                 |

| NMOT                                                                           | SMF520J-12X12UW |
|--------------------------------------------------------------------------------|-----------------|
| Maximum Power ( $P_{max}$ )                                                    | 429.2           |
| Maximum Power Voltage ( $V_{mp}$ )                                             | 41.8            |
| Maximum Power Current ( $I_{mp}$ )                                             | 10.26           |
| Open-circuit Voltage ( $V_{oc}$ )                                              | 49.8            |
| Short-circuit Current ( $I_{sc}$ )                                             | 10.82           |
| NMOT: Irradiance 800W/m², Ambient temperature 20 °C, AM=1.5, Wind speed 1 m/s. |                 |

## MECHANICAL CHARACTERISTICS

|                   |                                                            |
|-------------------|------------------------------------------------------------|
| Solar Cell        | Monocrystalline silicon(182mm half cell)                   |
| No. of Cells      | 144 (12×12)                                                |
| Module Dimensions | 2246×1197×2 mm                                             |
| Weight            | 7.2kg ±3%                                                  |
| Backsheet         | White                                                      |
| Frame             | Frameless                                                  |
| J-box             | IP 68 rated                                                |
| Output Cables     | Photovoltaic technology cable 4.0 mm 2, (+)450 / (-)450 mm |
| Connector         | MC4-EVO2                                                   |

## PACKAGING CONFIGURATION

|                      | 20' GP | 40' HC |
|----------------------|--------|--------|
| Module per pallet    | 66     | 66&50  |
| Pieces per container | 264    | 828    |