# SUNART-PV
### PHOTOVOLTAIC TECHNOLOGY

## 530-555 WP

### HIGH PERFORMANCE 182 SERIES

MBB HALF-CUT BIFACIAL CELL PERC
MONOCRYSTALLINE MODULE

10 BB Half Cell Technology

- **UP TO 21.4% MODULE EFFICIENCY**
- **HIGH OUTPUT POWER**
- **BIFACIAL GAIN**
- **LOW LID**

## SUNART PV

Lampart Lighting is which maintains its position as a leader in the lighting sector with the projects it has completed all over the world, was put into operation in 2023 with the aim of being the leading company in the Solar Panel Production Sector with our 30 years of experience and our state-of-the-art production line. Sunart Energy is a high-efficiency panel manufacturer whose mission is to develop photovoltaic R&D studies and renewable and sustainable energy. With our state-of-the-art production line, our modules have the highest quality standards.

### HALF - CUT TECHNOLOGY
Half - cell PERC technology modules reduce power loss, while 3 - piece junction box provides better performance in shadowing conditions.

### REDUCED HOT SPOT LOSS
Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.

### ENHANCED MECHINAL LOAD
Excelent wind load 2400Pa & snow load 5400Pa under certain installation method

### MULTI BUSBAR TECHNOLOGY
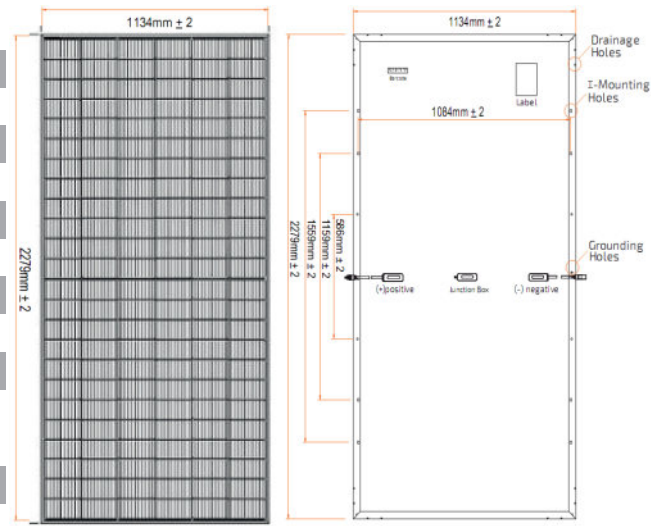Less power loss by minimizing the shading impact

## QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730-1/-2, IEC 61701, IEC 62716, IEC 62804 PID
ISO 45001:2018, ISO 9001:2015, ISO 14001:2015, OHSAS 18001, CE

TÜV SÜD · TÜV SÜD · ISO CERTIFIED COMPANY · TSE · CE

## MECHANICAL DATA

| | |
|---|---|
| Cell Type | Monocrystalline Bifacial Cells |
| Cell Size | 182mm x 91mm |
| Number of Cells | 144 (6x24), Half Cut |
| Outer Dimensions (LxWxH) | 2279 x 1134 x 35mm (89.72 x 44.65 x 138 inches) |
| Weight | 28kg ± 1kg |
| Front Glass | 3.2mm, AR coating, High transmission, Low iron, Tempered |
| Frame | Anodized Aluminium |
| Junction Box | Potted, IP68, 1500VDC, 3 Schottky bypass diodes |
| Cable Diameter (IEC/UL) | 4mm2/12AWG |
| Cable Lenght | Customized; (-)350/(+)350mm (Connector included) |
| Connector Type | MC4/MC4 Compatible |

## ELECTRICAL DATA

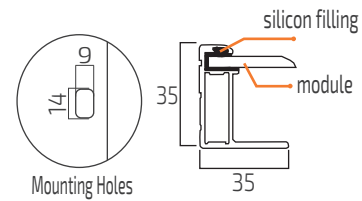| Module type | ART144-MB-GB-530M | | ART144-MB-GB-535M | | ART144-MB-GB-540M | | ART144-MB-GB-545M | | ART144-MB-GB-550M | | ART144-MB-GB-555M | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum power (Pmpp/wp) | 530 | 396 | 535 | 400 | 540 | 405 | 545 | 408 | 550 | 412 | 555 | 414 |
| Open circuit voltage (Voc) | 49.40 | 46.79 | 49.70 | 46.97 | 49.90 | 47.16 | 50.10 | 47.34 | 50.30 | 47.53 | 50.45 | 47.72 |
| Short circuit current (Isc) | 13.48 | 10.94 | 13.57 | 11.01 | 13.66 | 11.08 | 13.75 | 11.16 | 13.84 | 11.23 | 13.93 | 11.32 |
| Maximum power voltage (Vmpp) | 41.55 | 38.76 | 41.76 | 38.92 | 41.93 | 39.18 | 42.10 | 39.24 | 42.27 | 39.39 | 42.45 | 39.54 |
| Maximum power current (Impp) | 12.75 | 10.22 | 12.81 | 10.27 | 12.88 | 10.34 | 12.95 | 10.40 | 13.01 | 10.46 | 13.08 | 10.48 |
| Module efficiency (%) | 20.5% | | 20.7% | | 20.9% | | 21.1% | | 21.3% | | 21.48% | |

STC: Irraniance 1000W/m2, Cell temperature 25C, Air Mass AM1.5 according to EN 60904-3
NMOT: Irraniance 800W/m2, Ambient Temperature 20C, Wind Speed 1m/s
Module Efficieny (%): Round off to the nearest number.

## OPERATING PARAMETERS

| | |
|---|---|
| Operating Temperature Range | -10C° to +85C° |
| Maximum System Voltage | 1500VDC (IEC) |
| Maximum Series Fuse Rating * | 30A |
| Power Output Tolerances (Pmax) | 0/+5W |
| Maximum Power Bifaciality | 70±5% |

## THERMAL CHARACTERISTICS

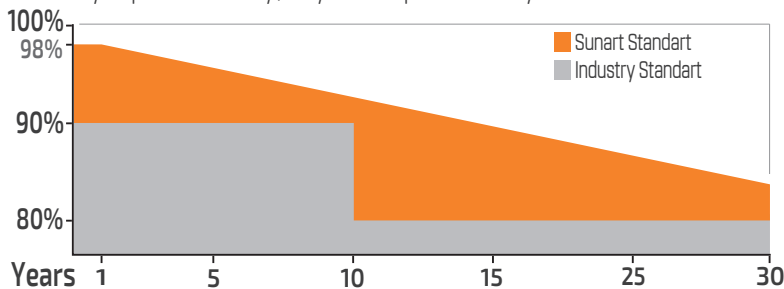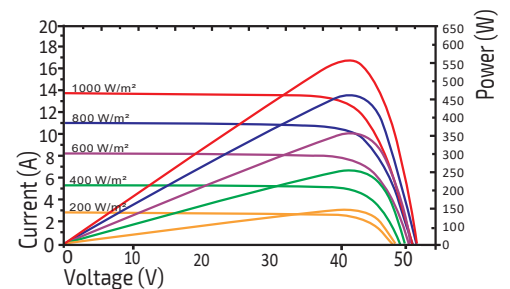| | |
|---|---|
| Temperature Coefficient (Pmpp) | -0.35%/C° |
| Temperature Coefficient (Voc) | -0.28%/C° |
| Temperature Coefficient (Isc) | +0.048%/C° |
| Nominal Module Operating Temperature (NMOT) | 45±2C° |

## PACKAGING CONFIGURATION

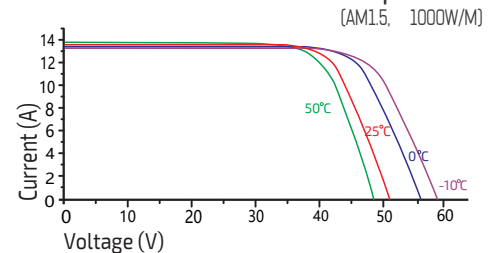| | 40 ft (HQ) | 20 ft |
|---|---|---|
| Number of modules per container | 682 | 155 |
| Number of modules per pallet | 31 | 31 |
| Number of pallets per container | 22 | 5 |
| Packaging box dimensions (LxWxH) | 2320 x 1150 x 1290 | 2320 x 1150 x 1290 |
| Box gross weight (kg) | 920 | 920 |

## LINEAR PERFORMANCE WARRANTY

15 year product warranty / 30 year linear power warranty

Sunart Standart
Industry Standart

## I-V Characteristics at different irradiations

1000 W/m²
800 W/m²
600 W/m²
400 W/m²
200 W/m²

## I-V Characteristics at different temperatures

(AM1.5, 1000W/M)

50℃
25℃
0℃
-10℃

**SUNART-PV**
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