



SOLAR PV MODULE (DCR/NON-DCR)

# 120 HALF CUT PERC CELL

BIFACIAL TRANSPARENT BACKSHEET 435-460 W

## Transition to a Brighter Tomorrow



### SMBB TECHNOLOGY

Better light trapping and current collection to improve module power output and reliability



### PID Resistance

Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



### Higher Power Output

Module power increases 5-25% generally, bringing significantly lower LCOE and higher IRR



### Auto Bussing & Soldering Technology

Induction based Improved soldering quality without pollution to module



### Enhanced Mechanical Load

Certified to withstand wind load (2400 Pascal) and snow load (5400 Pascal)

## High Performance Guarantee!



**LINEAR POWER  
OUTPUT WARRANTY**



**PRODUCT  
WARRANTY**

## Suitable for



**RESIDENTIAL**



**UTILITY**



**COMMERCIAL**



**OFF-GRID**

## Certification



IEC 61215 | IEC 61730 | IEC 61701 (Salt Mist) | IEC 62716 (Ammonia)

IEC 62782 (DMLT) | IEC 61853-2 (IAM) | LID, LETID

IEC 60068 (Sand & Dust) | IEC 62804 (PID) | CE | IEC 61730

**M10-182MM WAFER, IDEAL FOR RESIDENTIAL, C & I APPLICATION**

**AVAILABLE IN ALL BLACK RANGE**

## Electrical Characteristics (STC)

| MODULE TYPE                                                               | PE-435HB        | PE-440HB | PE-445HB | PE-450HB | PE-455HB                 | PE-460HB |
|---------------------------------------------------------------------------|-----------------|----------|----------|----------|--------------------------|----------|
| Maximum Power (Pmp)                                                       | 435             | 440      | 445      | 450      | 455                      | 460      |
| Open Circuit Voltage (Voc)                                                | 36.84           | 40.92    | 41.03    | 41.14    | 41.23                    | 41.33    |
| Short Circuit Current (Isc)                                               | 13.51           | 13.65    | 13.73    | 13.84    | 13.95                    | 14.06    |
| Maximum Power Voltage (Vmp)                                               | 34.28           | 34.39    | 34.48    | 34.59    | 34.68                    | 34.78    |
| Maximum Power Current (Imp)                                               | 12.69           | 12.80    | 12.91    | 13.02    | 13.12                    | 13.23    |
| Module Efficiency (nm)                                                    | 20.10           | 20.34    | 20.57    | 20.80    | 21.03                    | 21.26    |
| Power Tolerance                                                           | 0 to +5W        |          |          |          |                          |          |
| Maximum System Voltage                                                    | 1500V(UL & IEC) |          |          |          |                          |          |
| Maximum Series Fuse Rating                                                | 25 Amp          |          |          |          |                          |          |
| *STC Irradiance 1000W/m <sup>2</sup> , Module Temperature 25°C and AM 1.5 |                 |          |          |          | Measuring Tolerance: ±3% |          |

## Electrical Characteristics (NOCT)

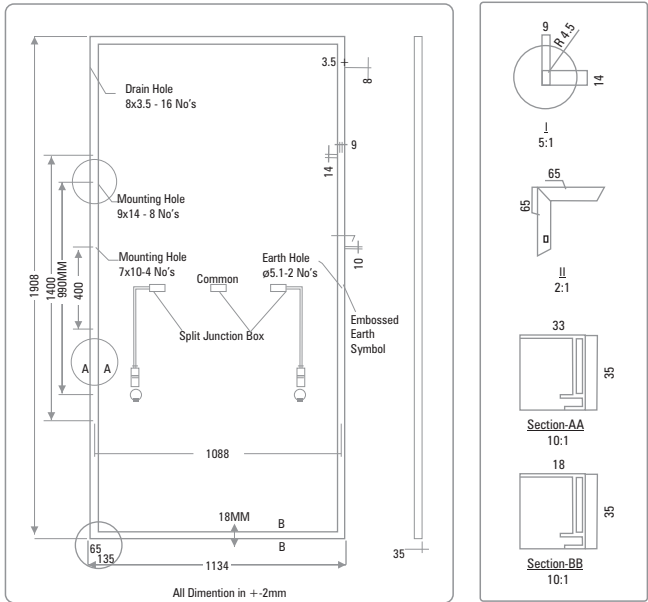
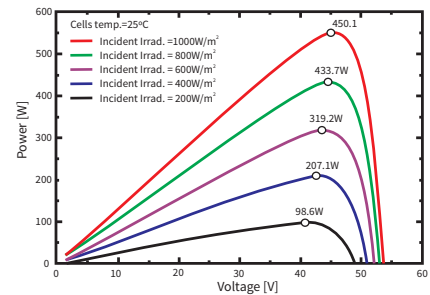
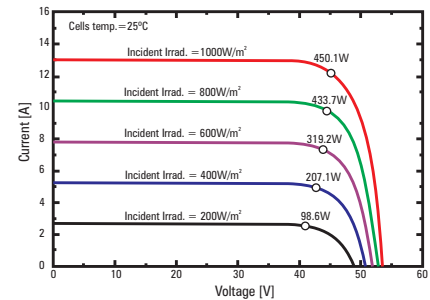
| MODULE TYPE                                                                                 | PE-435HB | PE-440HB | PE-445HB | PE-450HB | PE-455HB                 | PE-460HB |
|---------------------------------------------------------------------------------------------|----------|----------|----------|----------|--------------------------|----------|
| Maximum Power (Pmp)                                                                         | 320      | 324      | 327      | 331      | 335                      | 338      |
| Open Circuit Voltage (Voc)                                                                  | 34.42    | 38.23    | 38.34    | 38.44    | 38.52                    | 38.62    |
| Short Circuit Current (Isc)                                                                 | 10.77    | 10.88    | 10.95    | 11.03    | 11.12                    | 11.21    |
| Maximum Power Voltage (Vmp)                                                                 | 31.81    | 31.91    | 31.99    | 32.10    | 32.18                    | 32.27    |
| Maximum Power Current (Imp)                                                                 | 10.06    | 10.14    | 10.23    | 10.31    | 10.40                    | 10.48    |
| Module Efficiency (nm)                                                                      | 14.79    | 14.96    | 15.13    | 15.30    | 15.47                    | 15.64    |
| *NOCT- Irradiance 800 W/m <sup>2</sup> , AM 1.5, Ambient Temperature 20°C & Wind speed 1m/s |          |          |          |          | Measuring Tolerance: ±3% |          |

FOR PEIPL, MODEL CODE: PEI-120 - XXXHGB – M10  
(WHERE, XXX – 435 to 460 IN STEPS OF 5W)

| GAIN                                                                           |           | PE-435HB | PE-440HB | PE-445HB | PE-450HB | PE-455HB                 | PE-460HB |
|--------------------------------------------------------------------------------|-----------|----------|----------|----------|----------|--------------------------|----------|
| 10%                                                                            | Power Pmp | 478.5    | 484.0    | 489.5    | 495.0    | 500.5                    | 506.0    |
| 20%                                                                            | Power Pmp | 522.0    | 528.0    | 534.0    | 540.0    | 546.0                    | 552.0    |
| 30%                                                                            | Power Pmp | 565.5    | 572.0    | 578.5    | 585.0    | 591.5                    | 598.0    |
| Bifacial gains depends on the power plant design & albedo of installation site |           |          |          |          |          | Measuring Tolerance: ±3% |          |
| Power Bifaciality=Pmax(Rear)/Pmax(Front) are tested under STC                  |           |          |          |          |          |                          |          |

## Temperature Characteristics

|                                    |                 |
|------------------------------------|-----------------|
| Pmax Temperature Coefficient Up to | -0.35%/°C       |
| Voc Temperature Coefficient Up to  | -0.30%/°C       |
| Isc Temperature Coefficient        | 0.04%/°C        |
| Operating Tempertature             | -40°C To + 85°C |
| Nominal Operating Cell Temperature | 42 ± 3° C       |



## Mechanical Specifications

|                     |                                                      |
|---------------------|------------------------------------------------------|
| External Dimensions | 1908 (±2mm) x 1134 (±2mm) x 35(±1mm)                 |
| Weight              | 23 (± 3%) Kg                                         |
| Solar Cells         | 10 BB, Mono PERC - crystalline 91mm x 182mm ± 1mm    |
| Front Glass         | 3.2 mm, ARC Semi Tempered, HS Glass                  |
| Rear Cover          | High Transparent Backsheet and White and / Backsheet |
| Frame               | Anodized Aluminium Alloy (Silver/Black)              |
| Junction Box        | 3 Split, IP 68 Rated                                 |
| Connector           | MC4 Compatible                                       |
| Mechanical Load     | 5400 Pa For Snow Load, 2400 Pa Wind Load             |
| Fire Performance    | TYPE 4 (UL 61730) Or Class C (IEC 61730)             |
| Output Cable        | 4.0 mm2   400 mm Length                              |

Frame Profile 35x33(Long) & 35x18mm(Short)

## Packing Configuration

|                       |       |
|-----------------------|-------|
| Container             | 40'HQ |
| Pieces per Pallet     | 31    |
| Pallets per Container | 24    |
| Pieces per Container  | 744   |

FIRST YEAR  
DEGRADATION  
< 2.0%

YEAR 2-30 POWER  
DEGRADATION  
< 0.45%