

# Mercury Series

Black Frame Mono-Crystalline

**440~460W**

0~+5W POWER TOLERANCE

- High efficiency N - type Double glass solar module
- Stronger properties, PID resistance, reduced hot spot loss
- Better temperature coefficient
- Harsh environmental adaptation
- Bifacial module, more power generation

25 years material warranty **25**

30 years power linear warranty **30**

**108**

HALF-CUT  
CELLS

**182**  
x188  
mm

RECTANGULAR  
CELLS



\*Subject to the terms and conditions contained in the applicable Q-SUN solar Limited Warranty Statement.  
25-year limited product warranty is available only for products installed and operating on rooftops in certain regions.

**23%**  
MAXIMUM CONVERSION

**0~+5W**  
POWER TOLERANCE

**0.4%**  
0.4% PER YEAR OVER 30 YEARS

**Half-Cut Module**  
LOWER TEMPERATURE COEFFICIENT

## Specification

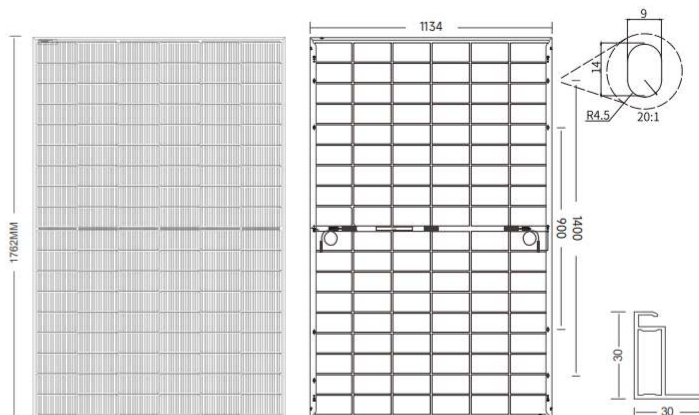
|              |                                 |
|--------------|---------------------------------|
| Cell Type    | Mono Crystalline 16BB           |
| No. of Cells | 108 [2x(6×9)] pcs               |
| Dimension    | 1762×1134×30mm                  |
| Weight       | 25.0kg±3%                       |
| Front Glass  | 2.0mm                           |
| Back Glass   | 2.0mm                           |
| Frame        | Anodized Aluminum Alloy         |
| Junction Box | IP68                            |
| Cable Length | 300mm,1200mm(can be customized) |

## Packing Standard

37pcs/pallet

40HQ: 26 pallets/container, 962pcs/container

## Mechanical Diagrams



Length: ±2mm Width: ±2mm Thickness: ±1mm Hole pitch: ±2mm

## Electrical Parameters

| Module Type                   | QN-440HT-05 |       | QN-445HT-05 |       | QN-450HT-05 |       | QN-455HT-05 |       | QN-460HT-05 |       |
|-------------------------------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|-------------|-------|
|                               | STC         | NOCT  | STC         | NOCT  | STC         | NOCT  | STC         | NOCT  | STC         | NOCT  |
| Peak Power-Pmax (W)           | 440         | 333   | 445         | 336   | 450         | 340   | 455         | 344   | 460         | 348   |
| Open Circuit Voltage-Voc (V)  | 39.42       | 37.45 | 39.70       | 37.72 | 39.98       | 37.98 | 40.08       | 38.08 | 40.37       | 38.35 |
| Short Circuit Current-Isc (A) | 14.13       | 11.30 | 14.19       | 11.35 | 14.25       | 11.4  | 14.30       | 11.44 | 14.36       | 11.49 |
| Maximum Power Voltage-Vmp(V)  | 32.74       | 30.94 | 32.99       | 31.18 | 33.23       | 31.4  | 33.48       | 31.64 | 33.72       | 31.87 |
| Maximum Power Current-mp(A)   | 13.44       | 10.75 | 13.49       | 10.79 | 13.54       | 10.83 | 13.59       | 10.87 | 13.64       | 10.91 |
| Module Efficiency - nm(%)     | 22.0        |       | 22.3        |       | 22.5        |       | 22.8        |       | 23.0        |       |

## Electrical Parameters At BNPI

|                                  |       |       |       |       |       |
|----------------------------------|-------|-------|-------|-------|-------|
| Maximum Power-Pmax(W)            | 485   | 491   | 496   | 502   | 507   |
| Open Circuit Voltage-Voc (V)     | 39.42 | 39.70 | 39.98 | 40.08 | 40.37 |
| Short Circuit Current-Isc135 (A) | 15.58 | 15.64 | 15.71 | 15.77 | 15.84 |
| Short Circuit Current-Isc300 (A) | 17.35 | 17.42 | 17.49 | 17.57 | 17.64 |
| Maximum Power Voltage-Vmp (V)    | 32.74 | 32.99 | 33.23 | 33.48 | 33.72 |
| Maximum Power Current-Imp (A)    | 14.82 | 14.87 | 14.93 | 14.98 | 15.04 |

## Operating Parameters

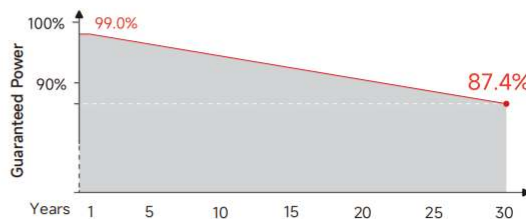
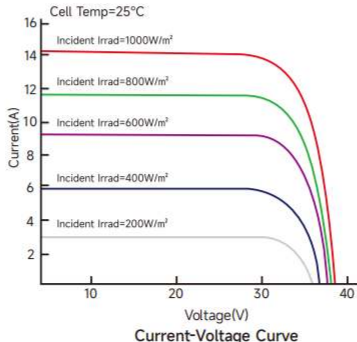
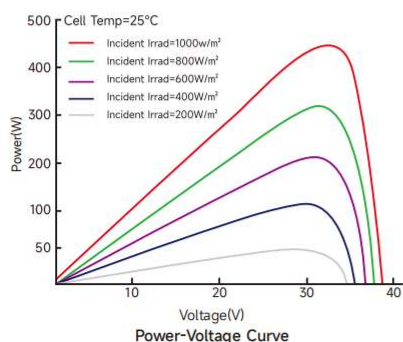
|                                    |             |
|------------------------------------|-------------|
| Maximum System Voltage             | 1500V DC    |
| Maximum Series Fuse Rating         | 25A         |
| Nominal Operating Cell Temperature | 42±2°C      |
| Operational Temperature            | -45°C~+85°C |
| Safety Class                       | Class II    |
| Refer.Bifacial Factor              | 80%+10%     |

## Temperature Coefficient (STC Test)

|                                 |           |
|---------------------------------|-----------|
| Temperature Coefficient of Isc  | +0.04%/°C |
| Temperature Coefficient of Voc  | -0.24%/°C |
| Temperature Coefficient of Pmax | -0.29%/°C |

## Load Capacity

|                      |                                   |
|----------------------|-----------------------------------|
| Max Load Front       | 5400Pa                            |
| Max Load Back        | 2400Pa                            |
| Through Hail Testing | 25mm Diameter, Impact Speed 23m/s |



**STC:** Irradiance:1000W/m<sup>2</sup> | Battery temperature: 25°C | Atmospheric=1.5  
**NOCT:** Irradiance:800W/m<sup>2</sup> | Ambien temperature: 20°C | Atmospheric=1.5 | Wind speed 1m/s  
**BNPI:** Rear Irradiance 135W/m<sup>2</sup> | Bifaciality coefficient 80%±5%

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