## BISTAR

## 

430-450W
9BB half-cut mono perc

## KEY FEATURES

## 9BB half-cut cell technology

New circuit design, lower internal current, lower Rs loss Ga dopped wafer, attenuation $<2 \%$ (1st year) / $\leq 0.55 \%$ (Linear)

Significantly lower the risk of hot spot
Special circuit design with much lower hot spot temperature

## Excellent Anti-PID performance

2 times of industry standard Anti-PID test by TUV SUD

## Wider application

No water-permeability and high wear-resistance, can be widely used in high-humid, windy and dusty area


IP68 junction box
High waterproof level


## SYSTEM \& PRODUCT CERTIFICATES

- IEC 61215 / IEC 61730 / UL 61730
- ISO 9001: 2015 Quality Management System
- ISO 14001: 2015 Environment Management System
- ISO 45001: 2018 Occupational Health and Safety Management Systems


PERFORMANCE WARRANTY



## ELECTRICAL PARAMETERS

Performance at STC (Power Tolerance 0~+3\%)

| Maximum Power (Pmax/W) | 430 | 435 | 440 | 445 | 450 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Operating Voltage (Vmpp/V) | 40.1 | 40.3 | 40.5 | 40.7 | 40.9 |
| Operating Current (Impp/A) | 10.73 | 10.80 | 10.87 | 10.94 | 11.01 |
| Open-Circuit Voltage (Voc/V) | 48.8 | 49.0 | 49.2 | 49.4 | 49.6 |
| Short-Circuit Current (Isc/A) | 11.26 | 11.33 | 11.40 | 11.47 | 11.54 |
| Module Efficiency $\mathrm{\eta m}$ (\%) | 19.7 | 20.0 | 20.2 | 20.4 | 20.7 |
| Performance at NMOT |  |  |  |  |  |
| Maximum Power (Pmax/W) | 321 | 324 | 328 | 332 | 335 |
| Operating Voltage (Vmpp/V) | 37.5 | 37.6 | 37.8 | 38.0 | 38.2 |
| Operating Current (Impp/A) | 8.56 | 8.62 | 8.67 | 8.73 | 8.78 |
| Open-Circuit Voltage (Voc/V) | 45.4 | 45.6 | 45.8 | 46.0 | 46.2 |
| Short-Circuit Current (Isc/A) | 9.09 | 9.15 | 9.20 | 9.26 | 9.32 |
| STC: Irradiance $1000 \mathrm{~W} / \mathrm{m}^{2}$, Cell Temperature $25^{\circ} \mathrm{C}$, Air Mass AM1.5 | NMOT: Irradiance at $800 \mathrm{~W} / \mathrm{m}^{2}$, Ambient Temperatue $20^{\circ} \mathrm{C}$, Air Mass AM1.5, Wind Speed $1 \mathrm{~m} / \mathrm{s}$ |  |  |  |  |

## MECHANICAL SPECIFICATION

| Cell Type | Monocrystalline |
| :---: | :---: |
| Cell Dimensions | 166*166mm |
| Cell Arrangement | 144 (6*24) |
| Weight | 25.5 kg ( 56.22 lbs ) |
| Module Dimensions | 2094*1038*35mm (82.44*40.87*1.38inches) |
| Cable Length | Portrait $300 \mathrm{~mm} /$ Landscape $1200 \mathrm{~mm} /$ Customized |
| Cable Cross Section Size | TUV: 4mm2 (0.006inches2)/UL: 12AWG |
| Front Glass | 3.2 mm (0.13inches) AR Coating Tempered Glass |
| No. of Bypass Diodes | 3/6 |
| Packing Configuration (1) | $31 \mathrm{pcs} /$ carton, $682 \mathrm{pcs} / 40 \mathrm{hq}$ |
| Packing Configuration (for USA) | $31 \mathrm{pcs} /$ carton, 682pcs/40hq |
| Frame | Anodized Aluminium Alloy |
| Junction Box | IP68 |


| OPERATING CONDITIONS |  |
| :--- | ---: |
| Maximun System Voltage | $-40^{\circ} \mathrm{C} \sim+85^{\circ} \mathrm{C}$ |
| Operating Temperature | 20 A |
| Maximun Series Fuse |  |
| Static Loading | Snow Loading: 5400Pa/ Wind Loading: 2400Pa |
| Conductivity at Ground | $\leq 0.1 \Omega$ |
| Safety Class | II |
| Resistance | T01/LJQ-3-CSY/MC4/MC4-EVO2 |

## TEMPERATURE COEFFICIENT

| Temperature Coefficient Pmax | $-0.36 \% /{ }^{\circ} \mathrm{C}$ |
| :--- | ---: |
| Temperature Coefficient Voc | $-0.26 \% /{ }^{\circ} \mathrm{C}$ |
| Temperature Coefficient Isc | $+0.043 \% /{ }^{\circ} \mathrm{C}$ |
| NMOT | $43 \pm 2^{\circ} \mathrm{C}$ |

## I-V CURVE



TECHNICAL DRAWINGS


