## TPS 108CELL



## HalfCell ----- Black Module

Topsola TPS*** $\mathrm{M}(\mathrm{BL})-108 \mathrm{H} 1$ series modules, using the best quality P-type Mono cell with professional manufacturing technology to provide reliable quality assurance for the system power generation

## ( + Higher Durability

More reliable materials ensure the durability of the products.

## Half cell design

The half-cut technology reduced the outdoor operating and hot spot temperature, which decrease the loss under the shade


The new generation of TPS Mono series products can achieve high power output by reducing resistance loss.


The component as a whole uses black aluminous frame,black busbar ,black backbord. Presents the pure black integration aesthetic effect.

Topsolar enters the photovoltaic industry very first in China. It is a modern high-tech photovoltaic enterprise integrating research and development, sales, production and service, Companys brand " Topsola" founded in 2002 by the leading team, senior managers and technicians of the photovoltaic industry and registed in 16 different countires. Topsolar will adhere to the Chinese and worldwide market combining with the characteristics of open innovation, excellent operation management, first-class service, technology and products to fully build the company's core competitiveness, in order to achieve excellent industry reputation by provide valuable services to all clients

## TPS 108

## Halifell-Black Module (182CELL)

Electrical parameters at Standard Test Conditions (STC)

| Outputs | Pmax[W] | 395 | 400 | 405 | 410 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Maximum power voltage | Vmp[V] | 30.84 | 31.03 | 31.23 | 31.42 |
| Maximum power current | Imp[A] | 12.81 | 12.89 | 12.97 | 13.05 |
| Open circuit voltage | Voc[V] | 36.98 | 37.10 | 37.23 | 37.36 |
| Short circuit current | Isc[A] | 13.70 | 13.79 | 13.87 | 13.95 |
| Module efficiency | \% | 20.2 | 20.5 | 20.7 | 21.0 |
| Power of tolerance | [W] | 0~+5 |  |  |  |

*Standard test conditions :(air mass AM1.5, irradiance $1000 \mathrm{~W} / \mathrm{m}^{2}$, cell temperature $25^{\circ} \mathrm{C}$ )
Thermal Characteristics

| Nominal operating cell temperature | NOCT | ${ }^{\circ} \mathrm{C}$ | $45 \pm 2$ |
| :---: | :---: | :---: | :---: |
| Temperature coefficient of Pmax | Y | \%/ ${ }^{\circ} \mathrm{C}$ | -0.356 |
| Temperature coefficient of Voc | $\beta$ | $\% /^{\circ} \mathrm{C}$ | -0.271 |
| Temperature coefficient of Isc | $\alpha$ | \% $/{ }^{\circ} \mathrm{C}$ | 0.050 |

## Operating conditions

| Maximum system voltage | 1500 VDC |
| :---: | :---: |
| Maximum fuse rating | 25 A |
| Operating temperature | $-40^{\circ} \mathrm{C}$ to $85^{\circ} \mathrm{C}$ |
| Maximum front static load (snow load) | 5400 Pa |
| Maximum back static load (wind load) | 2400Pa |
| Max.hailstone impact (diameter/velocity) | $25 \mathrm{~mm} / 23 \mathrm{~m} / \mathrm{s}$ |

*Do not parallel two modules in the same box fuse

## Construction materials

| Glass (material/thickness) | Anti-Reflection Coating, High Transmission, Tempered Glass $/ 3.2 \mathrm{~mm}$ |
| :---: | :---: |
| Cell (quantit y /type) | 108/Mono |
| Aluminum frame | Anodic alumina |
| Junction box (protection class) | $\geq$ IP68 |
| Cable (length / conductor crosssectional area) | $300 \mathrm{~mm} / 4 \mathrm{~mm}^{2}$ |

## General features

| Size (length/ width/height) | $1722 \mathrm{~mm} / 1134 \mathrm{~mm} / \mathbf{3 0} \mathrm{mm}$ |
| :---: | :---: |
| Weight | $22 \mathrm{~kg} \pm 3 \%$ |

Qualification and certification
IEC 61215, IEC 61730, CE, MCS, GB/T19001:2016, GB/T24001:2016, IS045001:2018

Packing specification

| The mode of <br> transportation | Total per <br> container | Numbers per <br> palle |
| :---: | :---: | :---: |
| Container 40 HQ | 936 | 36 |

-Due to continuous innovation, research and product upgrades. The contents of specification can be changed slightly without prior notice.
-These data are not specific to a single module, but used to compare different models.

## Engineering Drawings



Warning: read the component installation instructions carefully before operating, installing, and running the Topsola modules.

