



Mono Bifacial Dual Glass Module

**645-675W MSBK-33**

## Key Product Features



### High conversion efficiency

Using 210mm size Mono wafer  
Module power output up to 21.73%



### Higher mechanical load capacity

Adopt high-strength aluminum alloy frame  
Mechanical performance up to 5400 Pa positive load and 2400 Panegative load



### Bifacial design

Double-sided power generation  
Power gain up to 5%~25%



### High compatibility

Excellent system compatibility  
Adapt to mainstream inverter and tracker



### Low temperature coefficient

Peak power temperature coefficient  
Excellent power generation performance in high temperature environment



### Wide applicability

Harsh environments  
Wider range of application



### Excellent low-light performance

Better low-light power generation performance in low radiation environment such as haze and cloudy days



### Low LCOE (Levelized Cost of Energy)

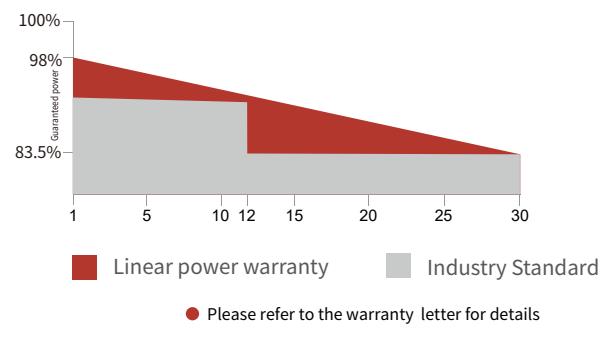
The cost of BOS reduced by 1.48%  
LCOE reduced by 1.27%

## Comprehensive product certification

- IEC61215-1(ed.1)
- IEC61215-1-1(ed.1)
- IEC61215-2(ed.1)
- IEC61730-1(ed.2)
- IEC61730-2(ed.1)
- UL 61730-1 1<sup>st</sup> Edition
- UL 61730-2 1<sup>st</sup> Edition



## Industry-leading Quality Assurance



Solar Power



Add: No.3009 BYD Road, Pingshan District, Shenzhen  
+86-755-89888888  
bydpv@byd.com

## Electrical Data(STC\*)

Module Type: MSBK-33	645	650	655	660	665	670	675
Rate Maximum Power(Pmax)(W)	645	650	655	660	665	670	675
Open Circuit Voltage(Voc) (V)	45.32	45.45	45.58	45.72	45.85	45.98	46.11
Short Circuit Current(Isc) (A)	18.13	18.17	18.21	18.24	18.27	18.33	18.38
Maximum Power Voltage(Vmp)(V)	37.77	37.86	37.95	38.04	38.12	38.21	38.31
Maximum Power Current (Imp) (A)	17.10	17.18	17.27	17.36	17.45	17.54	17.63
Module Efficiency (%)	20.76	20.92	21.10	21.26	21.41	21.57	21.73

\*Standard Test Conditions (STC) : irradiance of 1000 W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C

## Electrical Data(NMOT\*)

Module Type: MSBK-33	645	650	655	660	665	670	675
Rate Maximum Power(Pmax)(W)	482.9	486.7	490.2	493.8	497.6	501.5	505.6
Open Circuit Voltage(Voc) (V)	42.5	42.6	42.7	42.9	43.0	43.10	43.20
Short Circuit Current(Isc) (A)	14.62	14.66	14.69	14.71	14.73	14.78	14.82
Maximum Power Voltage(Vmp)(V)	34.90	35.10	35.20	35.40	35.60	35.70	35.90
Maximum Power Current (Imp) (A)	13.82	13.87	13.91	13.95	13.99	14.04	14.09

\*Nominal Module Operating Temperature (NMOT):irradiance of 800 W/m<sup>2</sup>, spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

## Operational Parameter

Operating Temperature	-40°C~+85°C				
NMOT (Nominal Module Operating Temperature)	45°C±2°C				
Maximum System Voltage(V)	1500V DC				
Maxunum Fuse Current Rating(A)	35A				
Fire Safety	Class C				
Power Tolerance	0~+5W				
Bifacial Factor	70±5%				
PG. 660W	5%	10%	15%	20%	25%
Rate Maximum Power(Pmax)(W)	693	726	759	792	825
Open Circuit Voltage(Voc) (V)	45.72	45.72	45.72	45.72	45.72
Short Circuit Current (Isc) (A)	19.15	20.07	20.98	21.89	22.80
Maximum Power Voltage(Vmp)(V)	38.04	38.04	38.04	38.04	38.04
Maximum Power Current(Imp) (A)	18.23	19.09	19.96	20.83	21.70

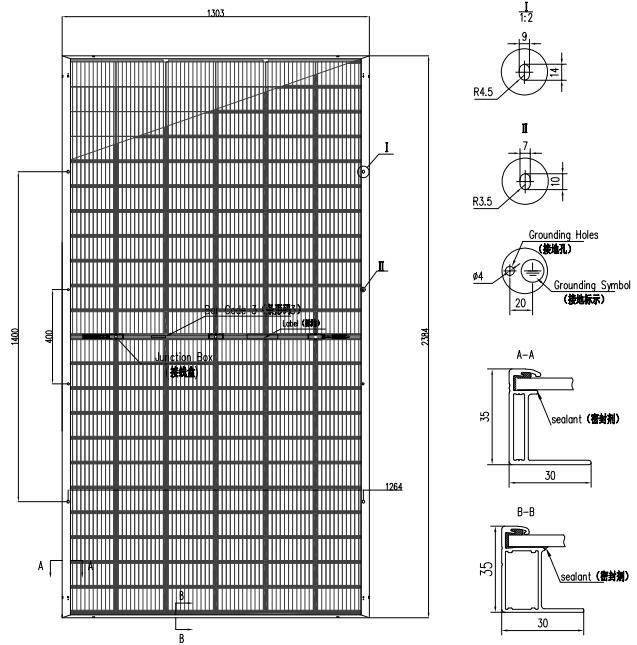
## Mechanical Properties

Cell Type	P - type Mono-crystalline				
Number of Cells	132				
Dimension of Module	2384*1303*35mm				
Weight	38.7kg± 5%				
Front Glass	2.0mm semi-tempered glass with AR Coating				
Back Glass	2.0mm semi-tempered grid printing glass				
Frame	Anodized aluminum alloy				
Junction Box	IP68(3 Diodes)				
Cable Length	+320mm, -260mm(4.0mm <sup>2</sup> ) ; or Customized Length				
Packing Information	558(31*18)pcs per 40'HQ				

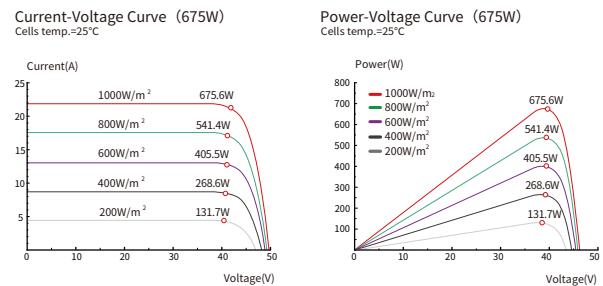
## Temperature Coefficient

Peak Power Temperature Coefficient	-0.328%/°C
Open-Circuit Voltage Temperature Coefficient	-0.254%/°C
Short-Circuit Current Temperature Coefficient	0.041%/°C

## Drawing



## I-V curve



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Declaration:With the technical progress and product updates,there exists a deviation between the technical parameter of the BYD Solar's future products and the technical parameter in this specification.The BYD Solar reserves the right to adjust the technical parameter at any time without notifying the customers,BYD Solar reserves the final right of interpretation.

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