

**DBB**

**DHN-48Z20/DG(BW)**


**465~485W**


High Efficiency Double Glass PV Module

### Comprehensive Products & System Certificates


IEC 61215 / IEC 61730 / CE / INMETRO  
ISO 45001  
2018/International standards for occupational health & safety  
ISO 14001  
2015/Standards for environmental management system  
ISO 9001  
2015/Quality management system

 25 Material & technology warranty

 30 Linear power output warranty

 No-Busbar Technology, shorten 40% of the transmission distance. Reduces losses & improving conversion efficiency

 Bifacial Rate Up to 85% and More Back Power Generation by 5-25%

 Double-glass Technology, higher encapsulation blocking and mechanical strength

 TOPCon cells, lower attenuation, better temperature coefficient & dim ligh performance



Butyl rubber has extremely low water vapor permeability and excellent water vapor barrier properties



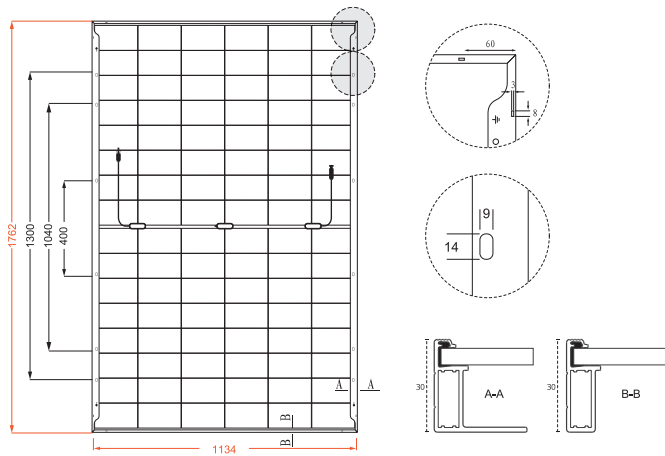
Butyl rubber has better reliability, excellent high-temperature stability, and weather resistance



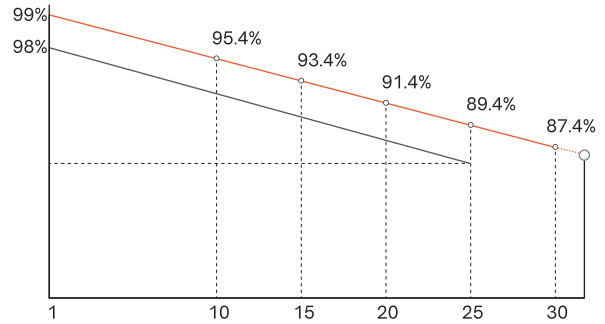
Butyl adhesive has good insulation and bonding properties

# DHN-48Z20/DG(BW) 465~485W

## Design



## 30-Year Linear Power Output Warranty



- DAH Solar linear power output guarantee
- Standard linear power output guarantee

## Mechanical Specification

No. of Cells	96 (6×16)
Weight	24.0kg
Cells Type	N-type 184×107mm
Dimension (L×W×T)	1762×1134×30mm
Packing	36pcs/Pallet, 936pcs/40HQ

Cable(Including connector)	4.0mm <sup>2</sup> , 300/200mm in length, length can be customized
Glass	2.0mm High Transmission, Antireflection Coating
Junction Box	IP68, 3 Bypass Diodes
Connector	MC4 Compatible

## Electrical Characteristics

Module Type	DHN-48Z20/DG(BW)											
	STC		NOCT		STC		NOCT		STC		NOCT	
Test conditions	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	465	350	470	353	475	357	480	361	485	365	485	365
Open-circuit Voltage (Voc/V)	36.6	34.8	36.8	35.0	37.0	35.2	37.2	35.3	37.4	35.5	37.4	35.5
Maximum Power Voltage (Vmp/V)	31.2	29.6	31.4	29.8	31.6	30.0	31.8	30.2	32.0	30.4	32.0	30.4
Short-circuit Current (Isc/A)	15.82	12.77	15.88	12.82	15.94	12.87	16.00	12.92	16.06	12.97	16.06	12.97
Maximum Power Current (Imp/A)	14.90	11.80	14.97	11.85	15.03	11.90	15.09	11.95	15.16	12.00	15.16	12.00
Module Efficiency (STC)	23.27		23.52		23.77		24.02		24.27		24.27	
Refer Bifacial Factor	80±5%											

STC-Standard Test Environment: Irradiance 1000W/m<sup>2</sup>, Cell temperature 25°C, Spectrum AM1.5  
 NOCT-Standard Test Environment: Irradiance 800W/m<sup>2</sup>, Ambient temperature 20°C, Spectrum AM1.5, Wind speed 1m/s

## Double-Sided Power Generation Parameters (Rear gain)

Gain	Parameter	488	494	499	504	509
5%	Maximum Power (Pmax)	488	494	499	504	509
	Module Efficiency (%)	24.4	24.7	25.0	25.2	25.5
15%	Maximum Power (Pmax)	534.8	540.5	546.3	552.0	557.8
	Module Efficiency (%)	26.8	27.1	27.3	27.6	27.9
25%	Maximum Power (Pmax)	581.3	587.5	593.8	600.0	606.3
	Module Efficiency (%)	29.1	29.4	29.7	30.0	30.3

## Operating Parameters

Maximum System Voltage	1500V DC
Operating Temperature	-40 ~ +85°C
Maximum Series Fuse Rating	30A
Nominal Operating Cell Temperature	45°C±2°C
Application Level	Class A

## Temperature Coefficient

Temperature Coefficient of Isc (ΔIsc)	0.046%/°C
Temperature Coefficient of Voc (βVoc)	-0.25%/°C
Temperature Coefficient of Pmax (γPmp)	-0.29%/°C
Snow load, frontside / Wind load, backside	5400Pa/2400Pa