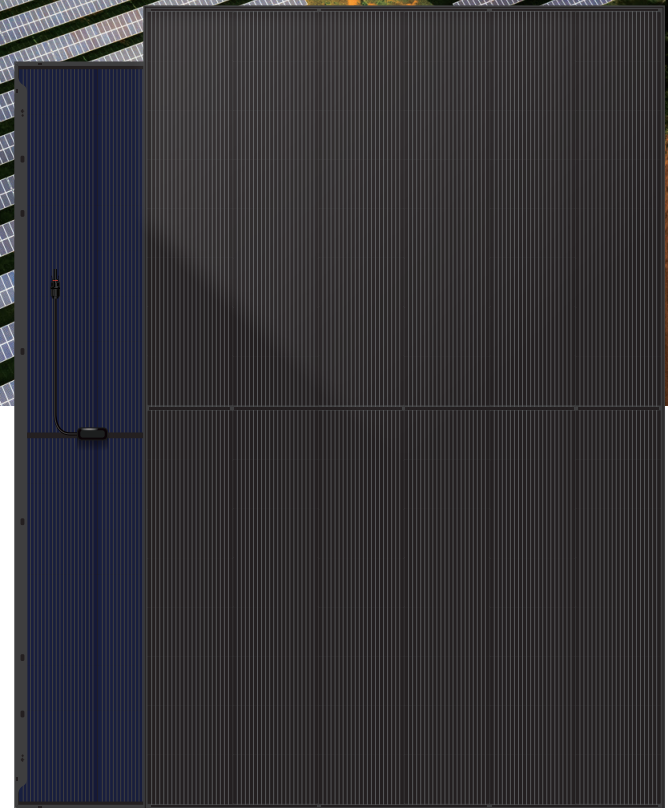


**DBB**

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

**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

 Material & technology warranty


 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

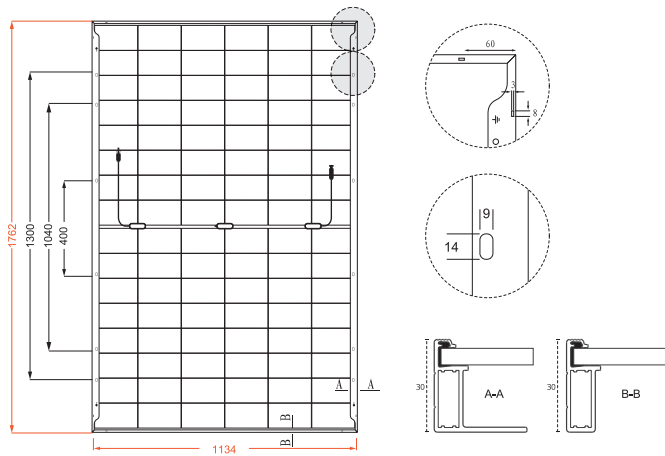
  
Butyl rubber has extremely low water vapor permeability and excellent water vapor barrier properties

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

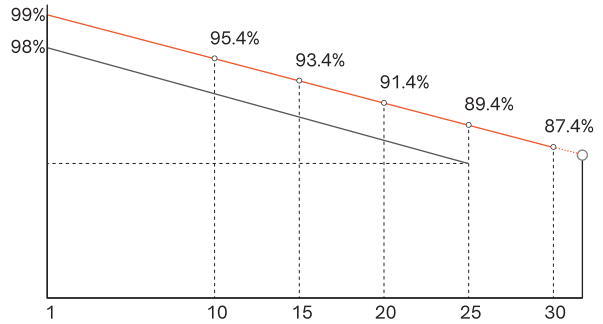
  
Butyl adhesive has good insulation and bonding properties

# DHN-48Z20/DG(BB) 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(BB)											
	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)

%	DHN-48Z20/DG(BB)				
	Maximum Power (Pmax)	Module Efficiency (%)	Maximum Power (Pmax)	Module Efficiency (%)	Maximum Power (Pmax)
5%	488	24.4	494	24.7	499
					504
					509
15%	534.8	26.8	540.5	27.1	546.3
					552.0
					557.8
25%	581.3	29.1	587.5	29.4	593.8
					600.0
					606.3

## 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 (αIsc)	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