

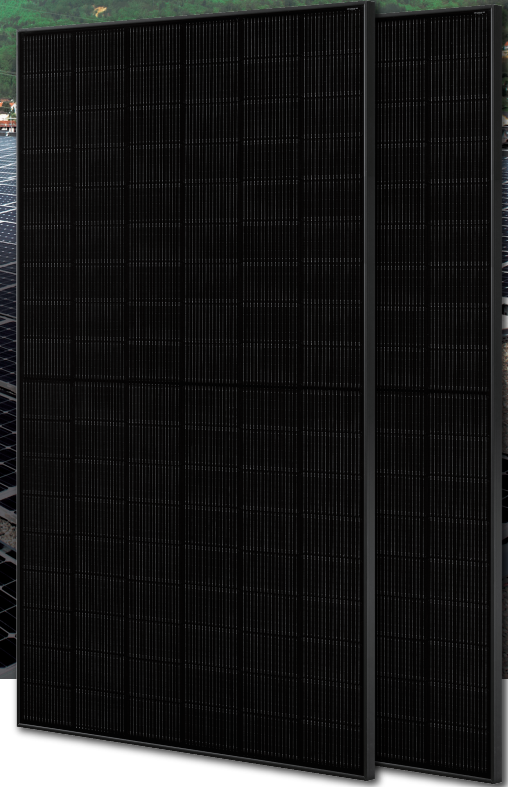
## DEEP BLUE 4.0 Pro

**Mono**

455W n-type Bifacial Double Glass  
High Efficiency Mono Module  
JAM54D41 430-455/LB Series

### Introduction

Powered by the latest SMBB n-type solar cell and half-cell configuration, these modules have higher output power, lower LID, better weak illumination response, and better temperature coefficient.



Higher power generation  
better LCOE



n-type with very Lower LID



Better weak illumination response



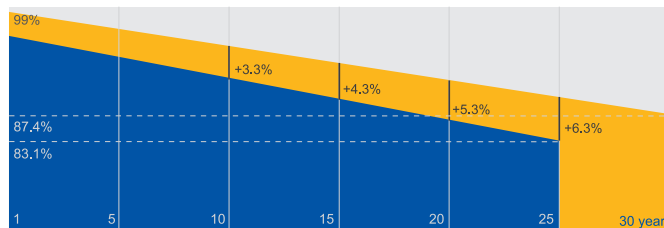
Better Temperature Coefficient

### Superior Warranty

- 25-year product warranty\*
- 30-year linear power output warranty

1% 1st-year Degradation

0.4% Annual Degradation  
Over 30 years



■ n-type Bifacial Double Glass Module  
Linear Performance Warranty

■ Standard Module Linear  
Performance Warranty

\*Subject to the terms and conditions contained in the Limited Warranty Statement.  
Also this 25-year limited product warranty is available only for products installed and operating on residential rooftops in certain regions.

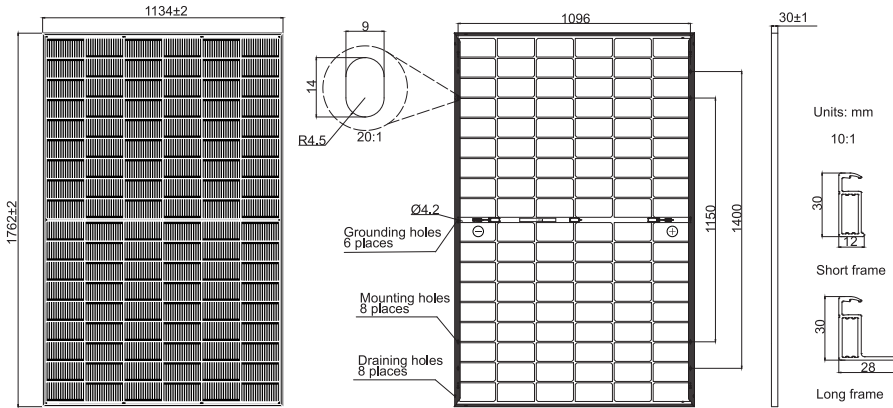
### Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems
- IEC 62941: 2019 Terrestrial photovoltaic (PV) modules - Quality system for PV module manufacturing



**MECHANICAL DIAGRAMS**

**SPECIFICATIONS**



Cell	Mono-16BB
Weight	22kg
Dimensions	1762±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm <sup>2</sup> (IEC), 12 AWG(UL)
No. of cells	108(6×18)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-351/ MC4-EVO2A
Cable Length (Including Connector)	Portrait: 200mm(+)/300mm(-); 800mm(+)/800mm(-)(Leapfrog) Landscape: 1200mm(+)/1200mm(-)
Front Glass/Back Glass	1.6mm/1.6mm
Packaging Configuration	36pcs/Pallet, 936pcs/40HQ Container

Remark: customized frame color and cable length available upon request

**ELECTRICAL PARAMETERS AT STC**

TYPE	JAM54D41 -430/LB	JAM54D41 -435/LB	JAM54D41 -440/LB	JAM54D41 -445/LB	JAM54D41 -450/LB	JAM54D41 -455/LB
Rated Maximum Power(Pmax) [W]	430	435	440	445	450	455
Open Circuit Voltage(Voc) [V]	38.50	38.70	38.90	39.10	39.30	39.50
Maximum Power Voltage(Vmp) [V]	32.12	32.29	32.47	32.65	32.82	33.00
Short Circuit Current(Isc) [A]	14.14	14.23	14.31	14.40	14.48	14.56
Maximum Power Current(Imp) [A]	13.39	13.47	13.55	13.63	13.71	13.79
Module Efficiency [%]	21.5	21.8	22.0	22.3	22.5	22.8
Power Tolerance	0~+5W					
Temperature Coefficient of Isc( $\alpha_{Isc}$ )	+0.046%/°C					
Temperature Coefficient of Voc( $\beta_{Voc}$ )	-0.260%/°C					
Temperature Coefficient of Pmax( $\gamma_{Pmp}$ )	-0.300%/°C					
STC	Irradiance 1000W/m <sup>2</sup> , cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.

**ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO**

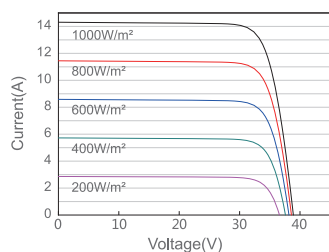
**OPERATING CONDITIONS**

TYPE	JAM54D41 -430/LB	JAM54D41 -435/LB	JAM54D41 -440/LB	JAM54D41 -445/LB	JAM54D41 -450/LB	JAM54D41 -455/LB	Maximum System Voltage	1500V DC
Rated Max Power(Pmax) [W]	464	470	475	481	486	491	Operating Temperature	-40°C~+85°C
Open Circuit Voltage(Voc) [V]	38.50	38.70	38.90	39.10	39.30	39.50	Maximum Series Fuse Rating	30A
Max Power Voltage(Vmp) [V]	32.11	32.29	32.47	32.65	32.82	32.99	Maximum Static Load,Front Maximum Static Load,Back	3600Pa(75 lb/ft <sup>2</sup> ) 2400Pa(50 lb/ft <sup>2</sup> )
Short Circuit Current(Isc) [A]	15.27	15.36	15.46	15.55	15.64	15.73	NOCT	45±2°C
Max Power Current(Imp) [A]	14.46	14.55	14.63	14.72	14.81	14.89	Bifaciality*	80%±10%
Irradiation Ratio (rear/front)	10%						Fire Performance	UL Type 38

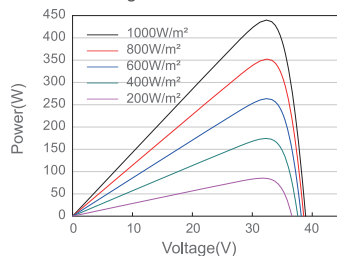
\*Bifaciality=Pmax,rear/Rated Pmax,front

**CHARACTERISTICS**

Current-Voltage Curve JAM54D41-440/LB



Power-Voltage Curve JAM54D41-440/LB



Current-Voltage Curve JAM54D41-440/LB

