

520 Watt Ultralight PV Module

144 Half Cell Monocrystalline PERC Module

DF-520J-12x12UW



Ultralight Technology

Aerospace polymer composite module with back rail weighs just 24.5 pounds—nearly 60% lighter than conventional glass-framed modules.



Proven Mono PERC Cells

Utilizing trusted Monocrystalline PERC cells, we deliver efficiencies and lifetime performance rivaling other solar modules.



Pre-integrated Back Rail

Composite back rail enables seamless integration into traditional solar mechanical mounting systems with no module-level grounding required.



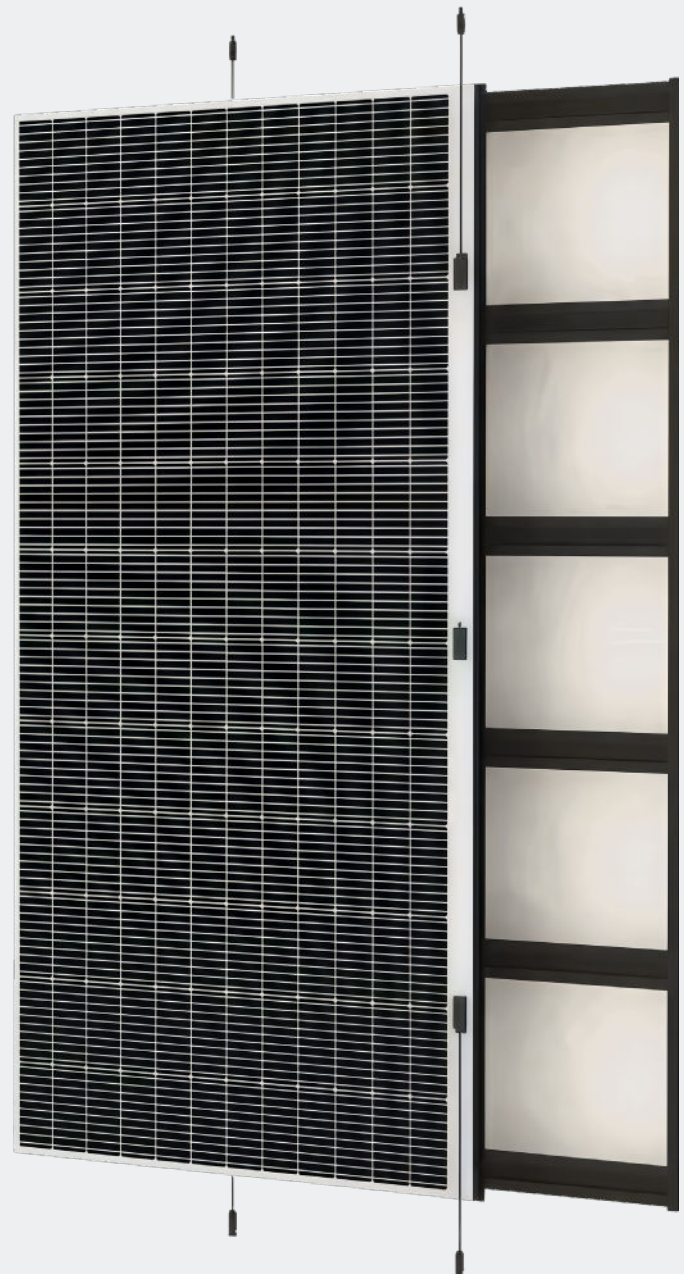
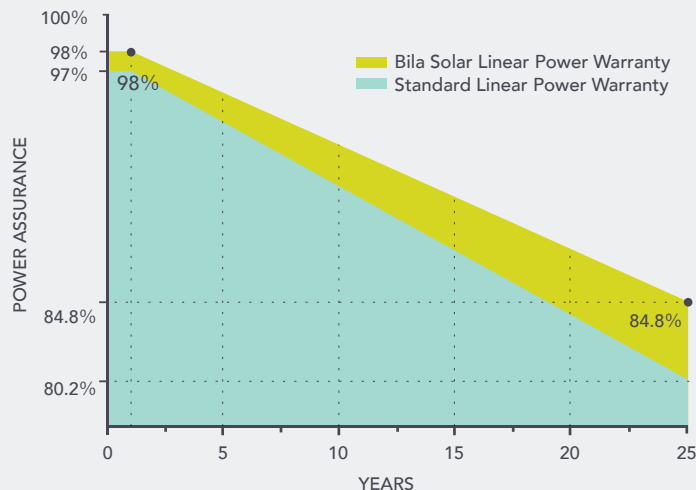
Durability Standards & Certifications

The first glass-free laminated solar panel to pass the same durability tests as conventional glass panels, including IEC 61215:2016, PID, and salt mist level 8 tests. Certified to UL 61730, UL 2703, and CAN/CSA-C22.2 No. 61730.



LINEAR PERFORMANCE WARRANTY

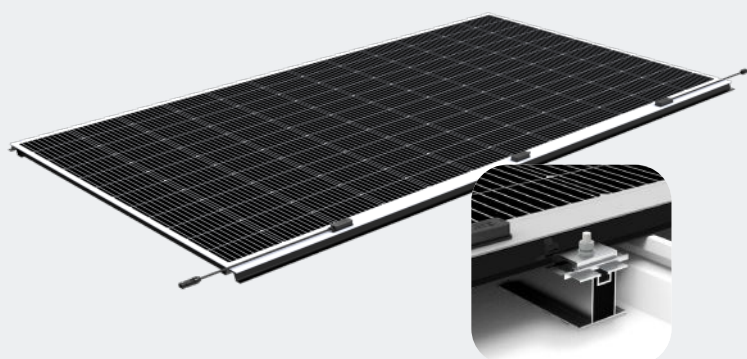
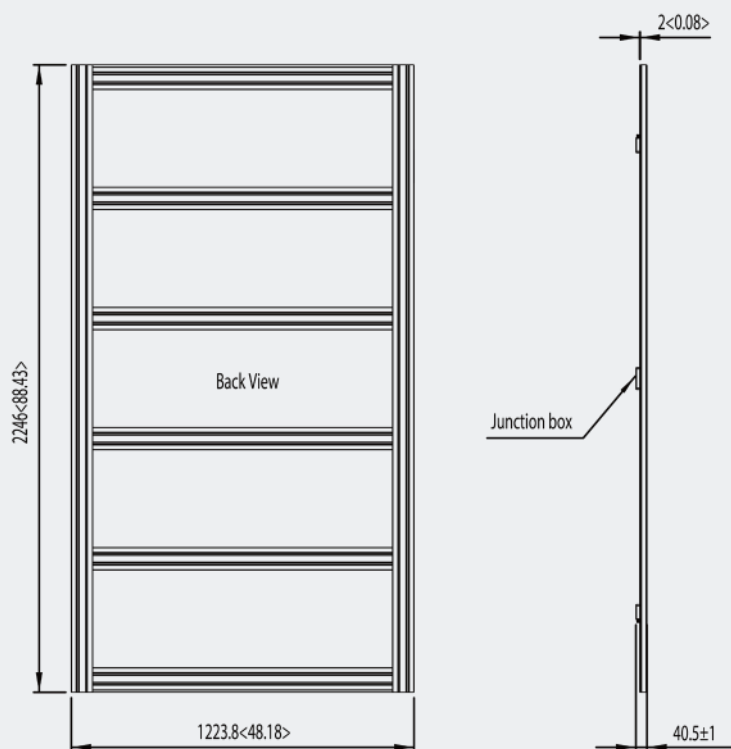
12 Year Product Warranty
25 Year Linear Power Warranty



Power Characteristics

Power Output Range	520 W
Power Tolerance	0/+5 W

Caution: Read installation manual before using the product. Specifications included in this datasheet are subject to change without notice. © 2025 Bila Solar, Inc. All rights reserved.



Mechanical Characteristics

Solar Cell	Monocrystalline silicon, 182 mm half cell
Number of Cells	144 (12×12)
Module Dimensions	2246×1223.8×25 mm (88.4×48.2×.98 inches)
Weight	11.1 kg (24.5 lbs)
Maximum Load Rating	2400Pa (+/-) or 50 lb/ft ²
Backsheet	White
Frame	Frameless with back rail
J-Box	IP 68 Rated
Output Cables	Photovoltaic cable 4.0 mm ² , (+)450/(-)450 mm (17.7 in)
Connector	Stäubli EVO-2A

Electrical Characteristics

	STC	NMOT
Maximum Power (P_{max})	520 W	418.8 W
Maximum Power Voltage (V_{mp})	42.3 V	41.4 V
Maximum Power Current (I_{mp})	12.31 A	10.11 A
Open-Circuit Voltage (V_{oc})	49.5 V	49.6 V
Short-Circuit Current (I_{sc})	13.56 A	10.82 A
Module Efficiency (%)	19.3	STC: Irradiance 1000W/m ² , Cell Temperature 25°C, AM=1.5. Tolerances of P_{max} , V_{oc} and I_{sc} are within ±5% NMOT: Irradiance 800W/m ² , Ambient Temperature 20°C, AM=1.5, Wind Speed 1m/s.
Operating Temperature	-40° to 85°C	
Maximum System Voltage	1500 V DC	
Maximum Series Fuse Rating	25 A	
Application Class	Class A	
Power Tolerance	0/+5 W	

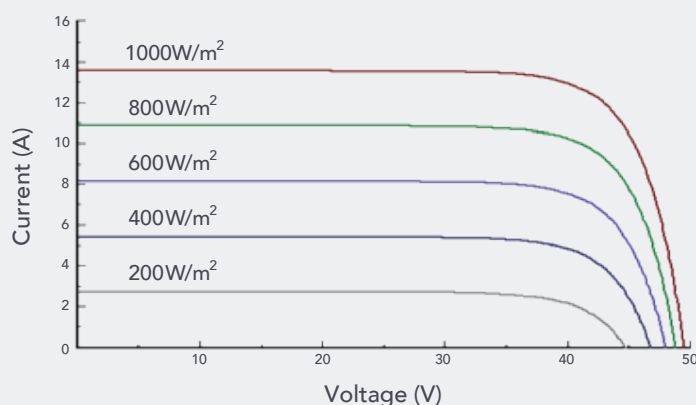
Temperature Characteristics

Nominal Module Operating Temperature (NMOT)	41±2°C
Temperature Coefficient of P_{max}	-0.34%/°C
Temperature Coefficient of V_{oc}	-0.26%/°C
Temperature Coefficient of I_{sc}	0.033%/°C

Packaging Configuration

	20' GP	40' HC
Modules Per Pallet	34	34
Pieces Per Container	136	272

I-V Curve (520 W)



DF-520J-12x12UW_v2.2 (February 2025)