



520 Watt Ultralight PV Module

144 Half Cell Monocrystalline PERC Module

BF520J-12x12UW



Ultralight Technology

Aerospace polymer composite module weighs just 17 pounds—nearly 70% 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.



No Roof Penetration

Seamless *Quick Bond* integration with underlying roof surface ensures a waterproof installation and lifetime performance of the roof.



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.



PREMIUM PRODUCT WARRANTY

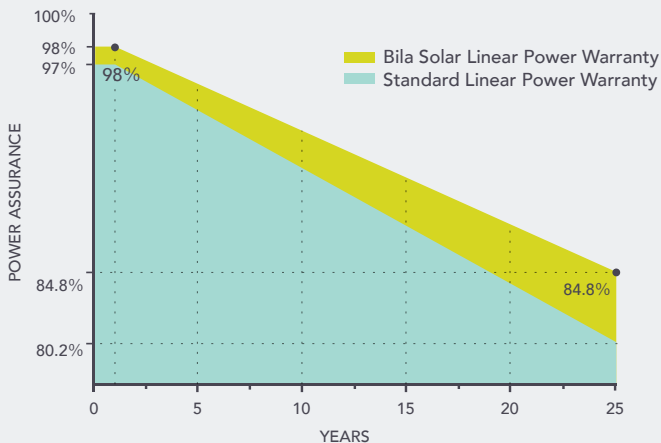


Product Materials & Workmanship Warranty*



Linear Power Performance Warranty*

1st Year degradation <2%, annual degradation <0.45% per year.

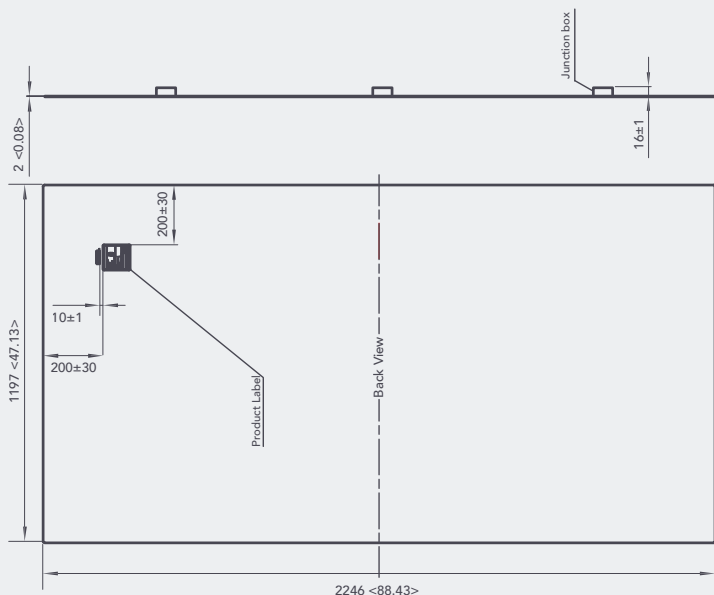


*According to the applicable Bila Solar, Inc. Limited Product Warranty.

Power Characteristics

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

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



Mechanical Characteristics

Solar Cell	Monocrystalline silicon, 182 mm half cell
Number of Cells	144 (12×12)
Module Dimensions	2246×1197×2 mm (88.4×47.1×0.08 inches)
Weight	7.7kg (17 lbs)
Maximum Load Rating	2400Pa (+/-) or 50 lb/ft ²
Backsheet	White
Frame	Frameless
J-Box	IP 68 Rated
Output Cables	Photovoltaic cable 4.0 mm ² , (+)450/(-)450 mm (17.7 in)
Connector	Stäubli EVO-2A

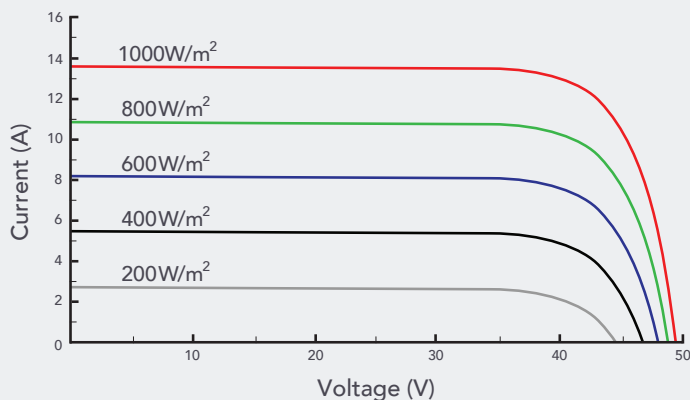


Electrical Characteristics

STC: Irradiance 1000W/m², Cell Temperature 25°C, AM=1.5. Tolerances of P_{max}, V_{oc} and I_{sc} are within ±5%

Maximum Power (P _{max})	520 W	515 W	510 W	505 W
Maximum Power Voltage (V _{mp})	42.26 V	42.06 V	41.81 V	41.58 V
Maximum Power Current (I _{mp})	12.31 A	12.26 A	12.21 A	12.16 A
Open-Circuit Voltage (V _{oc})	49.54 V	49.34 V	49.14 V	48.94 V
Short-Circuit Current (I _{sc})	13.56 A	13.51 A	13.46 A	13.41 A
Module Efficiency (%)	19.3	19.2	19.0	18.8
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			

I-V Curve [520 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	66	66
Pieces Per Container	264	1122

BF520J-12x12UW_v2.3 (April 2025)