Solar Frontier K.K.

Product Data Sheet　SF150-L

1. Electrical Characteristics

1.1 Electrical Performance at Standard Test Conditions (STC)*1

		SF150-L
Maximum Power	Pmax	150 W
Tolerance of Pmax		+10 % / -5 %
Open circuit voltage	Voc	110 V
Short circuit current	Isc	2.10 A
Voltage at maximum power	Vmpp	79.0 V
Current at maximum power	Impp	1.90 A

Note *1
Standard Test Conditions (STC): 1,000 W/m^2 irradiance, module temperature 25°C and a spectral distribution of irradiance according to air mass 1.5. Isc and Voc are within ±10% tolerance of the rated values at STC. Sorting range for Pmax is within ±2.5W of the rated value at STC. The SF module may experience greater output when light-soaked due to the unique characteristics of our CIS module.

1.2 Electrical Performance at Nominal Operating Cell Temperature (NOCT) Conditions*2

		SF150-L
Maximum Power	Pmax	109 W
Open Circuit Voltage	Voc	98.7 V
Short Circuit Current	Isc	1.66 A
Voltage at maximum power	Vmpp	74.5 V
Current at maximum power	Impp	1.47 A

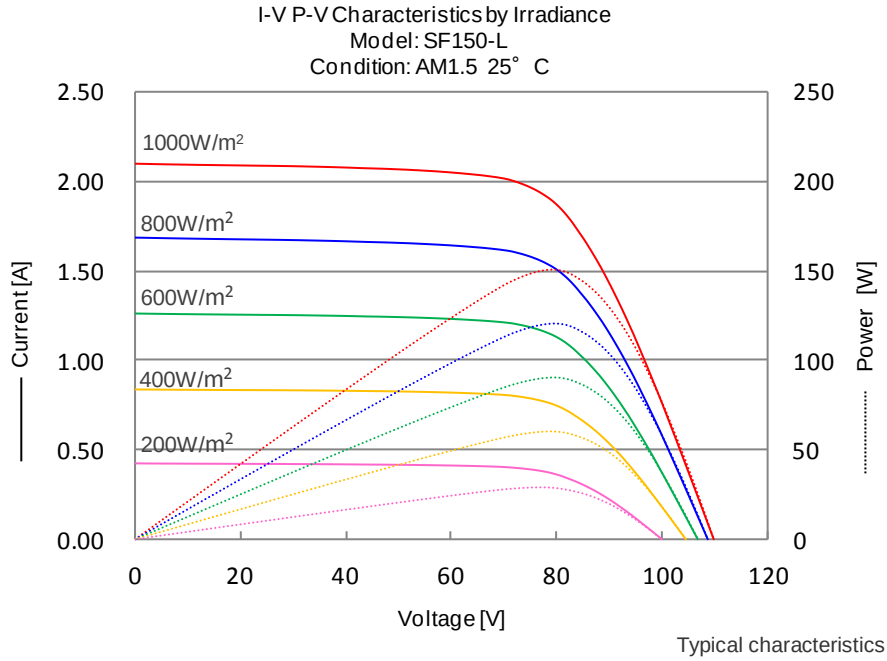
Note *2
Nominal Operating Cell Temperature Conditions: Module operating temperature at 800 W/m^2, air temperature 20°C, wind speed 1 m/s and open circuit condition.

1.3 Performance at Low Irradiance

Efficiency reduction of maximum power from an irradiance of 1,000 W/m^2 to 200W/m^2 at 25°C is typically 3.0%.

The standard deviation for the reduction of efficiency is 2.6%.

1.4 Typical I-V Characteristics at STC

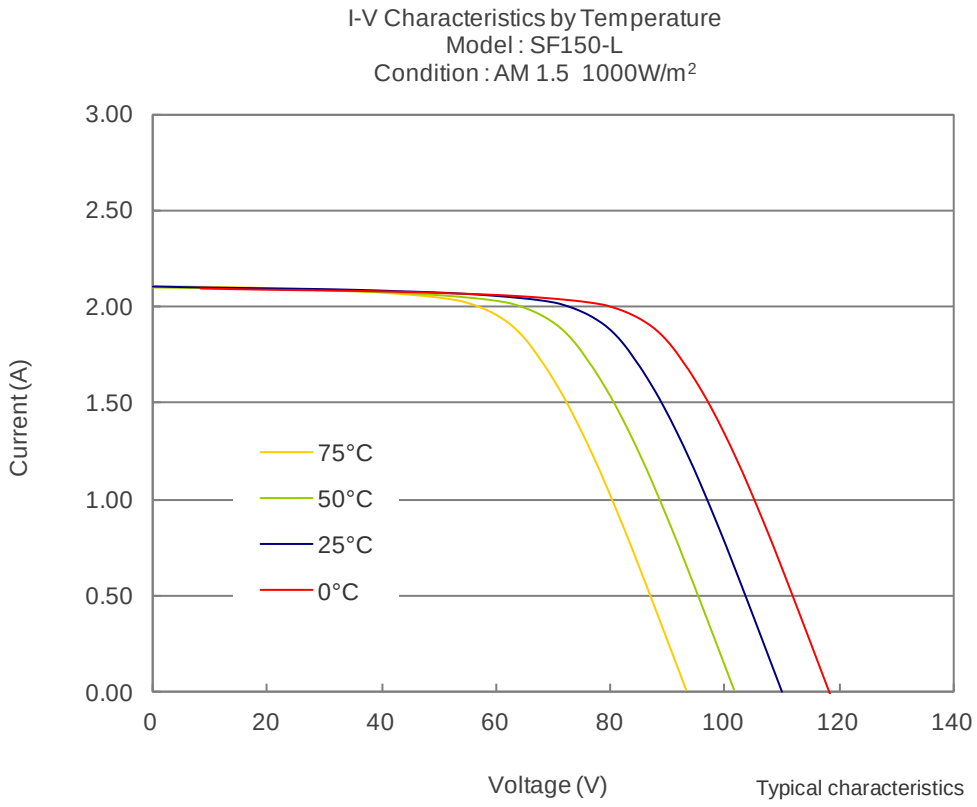


Typical characteristics

1.5 Thermal Characteristics

NOCT		47°C
Temperature Coefficient of Isc	α	+0.01 % / K
Temperature Coefficient of Voc	β	-0.30 % / K
Temperature Coefficient of Pmax	δ	-0.31 % / K

These thermal characteristics are typical data.



Typical characteristics

1.6 Characteristics for System Design

Maximum System Voltage	Vsys	1,000V DC (UL 600V DC)
Limiting Reverse Current	Ir	7A
Maximum Series Fuse Rating	Isf	4A

2. Mechanical Characteristics

Dimensions (L x W x H)*3	1,257 x 977 x 35 mm (49.5 x 38.5x 1.4 inch)
Weight	20 kg (44.1 lbs)
Module Operating Temperature	-40°C to 85°C
Application Class on IEC61730	Class A
Fire Safety Class on IEC61730	Class C
Safety Class on IEC61140	II
Snow Load (to the front of the module) *4	2,400 Pa (IEC61646) / 1,600Pa design load (UL1703)
Wind Load (to the back of the module)	2,400 Pa (IEC61646) / 1,600Pa design load (UL1703)

Cell Type	CIS substrate glass (Cadmium free)
Front Cover	3.2 mm Clear tempered glass
Encapsulant	EVA
Back Sheet	Weatherproof plastic film (Color: black & silver)
Frame	Anodized aluminum alloy (Color: black)
Edge Sealant	Butyl rubber
Junction Box	Protection rating: IP67 (with Bypass diode)
Adhesive	Silicone
Output Cables (Conductor)	2.5 mm^2 /14AWG (Halogen free)
Cable lengths (Symmetrical)	1,200 mm (47.2 inch)
Connectors	MC4 compatible

Note *3 Dimensional tolerances are stated in the drawing section of this product data sheet.
Note *4 UL: 1.5 times design load is applied to the module. Accordingly, 2,400 Pa (50.1lbs /ft^2) is loaded to test the 1,600 Pa (33.4 lbs /ft^2) UL design load

3. Qualifications and Compliance

IEC 61646 / IEC 61730 / UL1703 certified

CE-Mark Declaration

No conflict with ROHS

4. Disclaimers

The data contained in this Product Data Sheet indicates nominal data of our products as of the shipment of the products. Any warranty with respect to the quality or performance of our products will be provided only based on a limited warranty certificate separately issued by Solar Frontier. See the Installation and Maintenance Guide or contact the Technical Service for further information on approved installation and use of this product.

5. Contact

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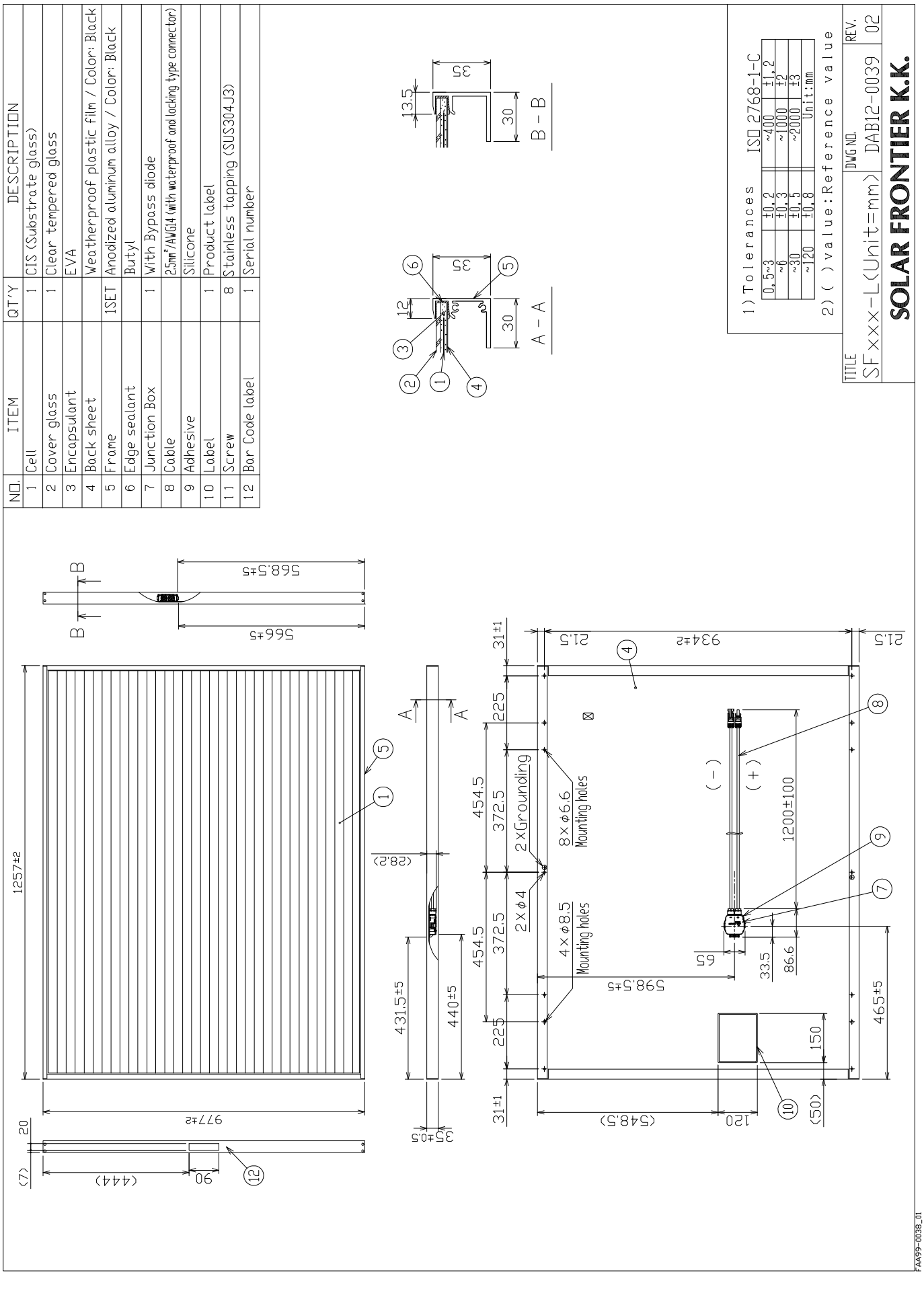
6. Module Drawing

NO.	ITEM	QT'Y	DESCRIPTION
1	Cell	1	CIS (Substrate glass)
2	Cover glass	1	Clear tempered glass
3	Encapsulant		EVA
4	Back sheet		Weatherproof plastic film / Color: Black
5	Frame	1SET	Anodized aluminum alloy / Color: Black
6	Edge sealant		Butyl
7	Junction Box	1	With Bypass diode
8	Cable		2.5mm²/AWG14 (with waterproof and locking type connector)
9	Adhesive		Silicone
10	Label	1	Product label
11	Screw	8	Stainless tapping (SUS304J3)
12	Bar Code label	1	Serial number

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