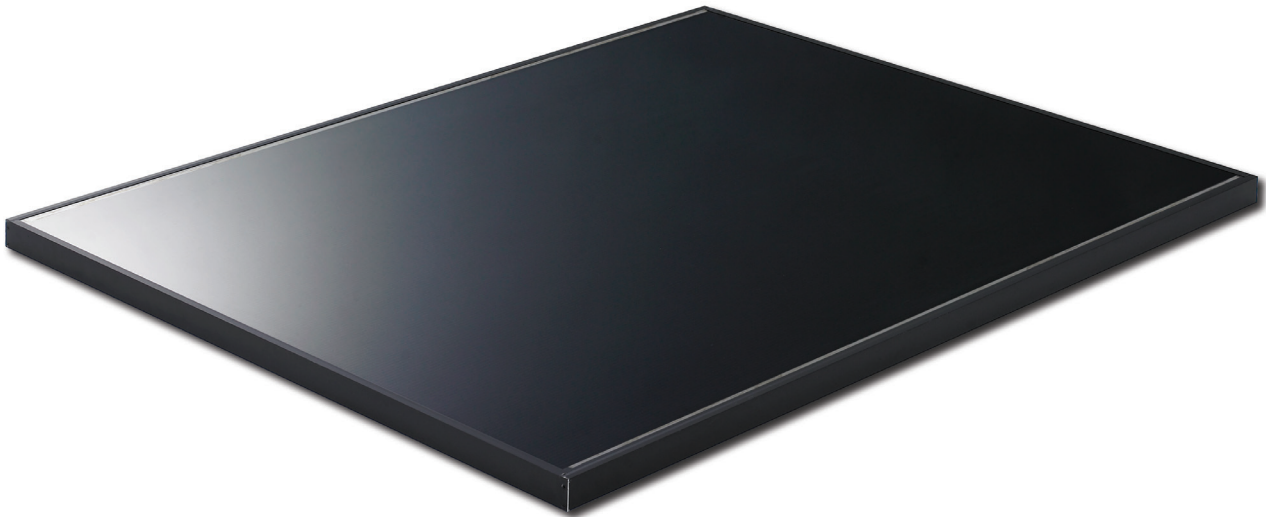


Solar Frontier Europe GmbH

Product Data Sheet SF170-S



Electrical Characteristics

Electrical Performance at Standard Test Conditions (STC)*1

| | | SF170-S |
|--------------------------|------|------------|
| Nominal Power | Pmax | 170 W |
| Power tolerance | | +5 W / 0 W |
| Open circuit voltage | Voc | 112.0 V |
| Short circuit current | Isc | 2.20 A |
| Voltage at nominal power | Vmpp | 87.5 V |
| Current at nominal power | Impp | 1.95 A |

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

| | | SF170-S |
|--------------------------|------|---------|
| Nominal Power | Pmax | 126 W |
| Open circuit voltage | Voc | 102 V |
| Short circuit current | Isc | 1.76 A |
| Voltage at nominal power | Vmpp | 82.1 V |
| Current at nominal power | Impp | 1.55 A |

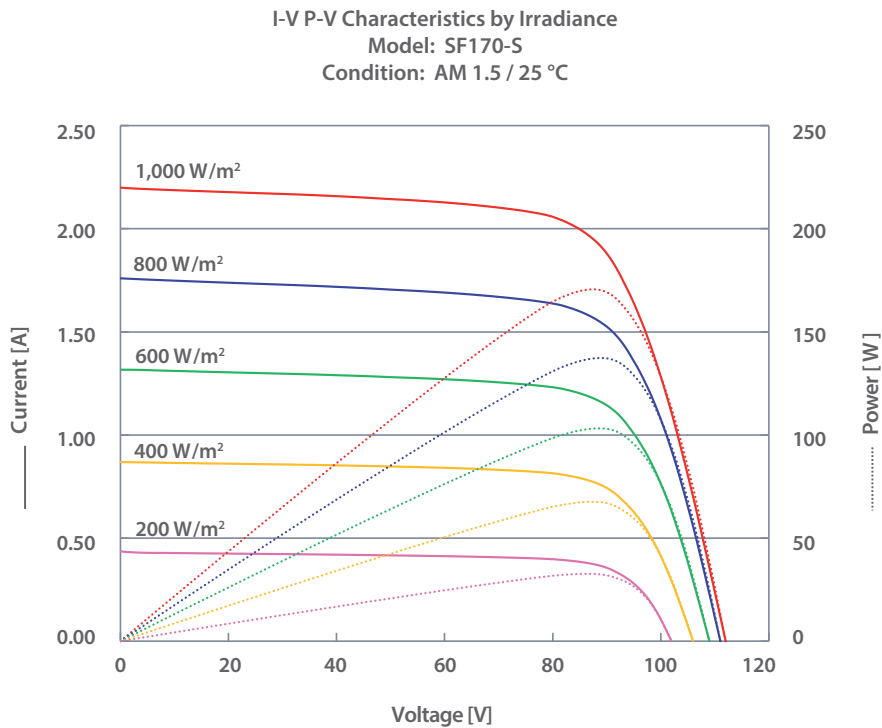
Performance at Low Irradiance

Efficiency reduction of maximum power from an irradiance of 1,000 W/m² to 200 W/m² at 25 °C is typically 2.0 %.
The standard deviation for the reduction of efficiency is 1.9 %.

*1 Standard Test Conditions (STC): 1,000 W/m² irradiance, module temperature 25 °C, air mass 1.5. Isc and Voc are ±10 % tolerance of STC rated values. Module output may rise due to the Light Soaking Effect. Subject to simulator measurement uncertainty (using best-in-class AAA solar simulator and applying Solar Frontier preconditioning requirements): +10 % / -5 %.

*2 Nominal Operating Cell Temperature Conditions: Module operating temperature at 800 W/m² irradiance, air temperature 20 °C, wind speed 1 m/s and open circuit condition.

Typical I-V Characteristics at STC

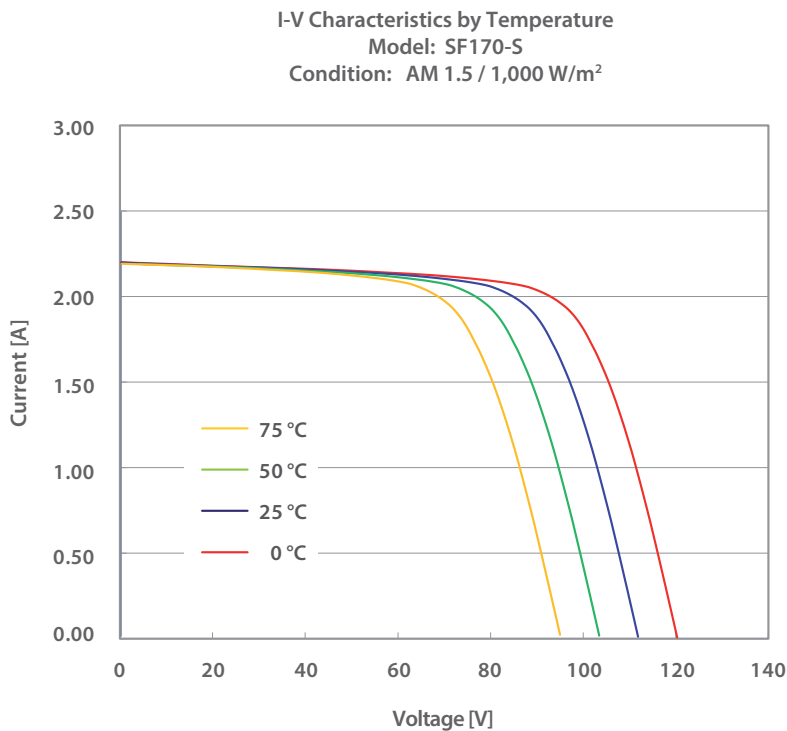


Typical characteristics

Thermal Characteristics

| | |
|---|-----------|
| NOCT | 47 °C |
| Temperature coefficient of I _{sc} | +0.01 %/K |
| Temperature coefficient of V _{oc} | -0.30 %/K |
| Temperature coefficient of P _{max} | -0.31 %/K |

These thermal characteristics are typical data.



Typical characteristics

Characteristics for System Design

| | | |
|----------------------------|------------------|--------------------------|
| Maximum system voltage | V _{sys} | 1,000 V DC (UL 600 V DC) |
| Limiting reverse current | I _r | 7 A |
| Maximum series fuse rating | I _{sf} | 4 A |

Mechanical Characteristics

| | | |
|--|---|--|
| Dimensions (L x W x H)* ³ | 1,257 x 977 x 35 mm (49.5 x 38.5 x 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) / 1,600 Pa design load (UL1703) | |
| Wind load (to the back of the module) | 2,400 Pa (IEC61646) / 1,600 Pa design load (UL1703) | |
| Cell type | CIS substrate glass (cadmium free) | |
| Front cover | Clear tempered glass, 3.2 mm | |
| 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 / AWG14 (halogen free) | |
| Cable lengths (symmetrical) | 1,200 mm (47.2 inch) | |
| Connectors | MC4 compatible | |

Qualifications and Compliance

IEC 61646 / IEC 61730 / UL 1703 / MCS 005-2.3

CE-Mark declaration

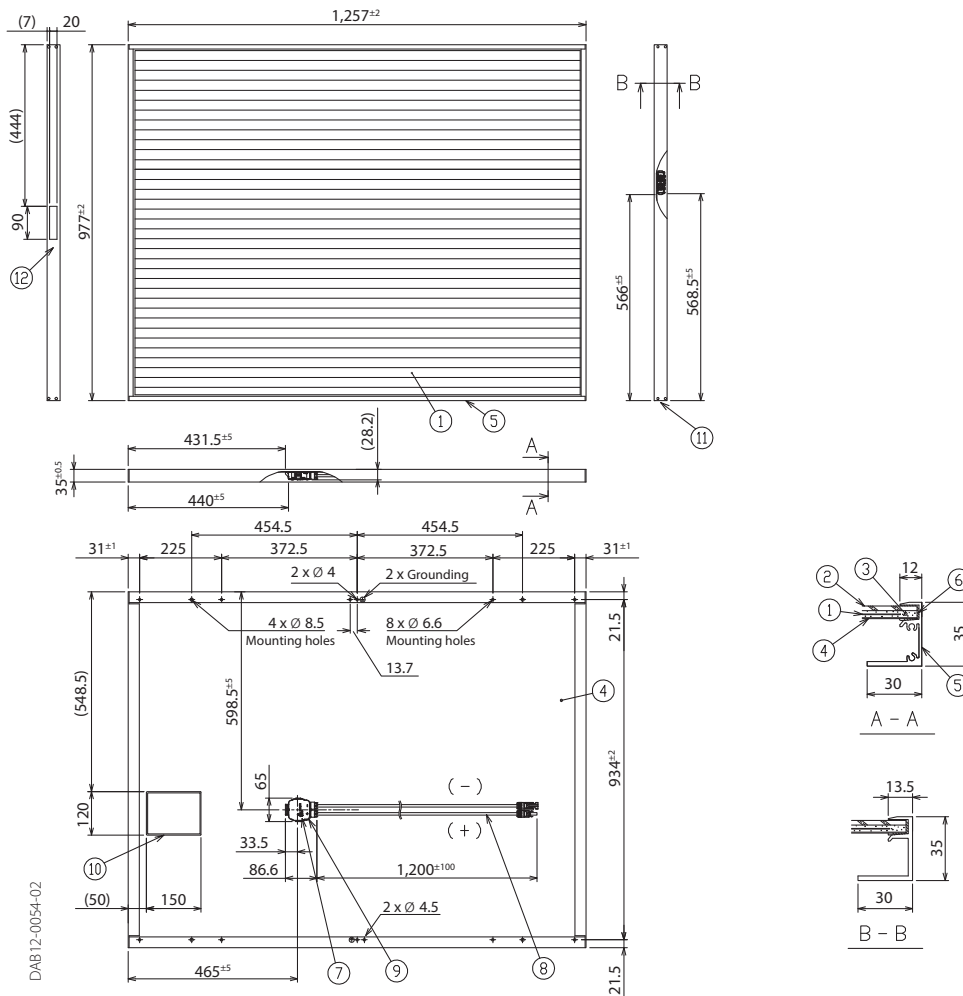
Solar Frontier is certified as: ISO 9001 / ISO 14001 / OHSAS 18001

RoHS compliant

*3: Dimensional tolerances are stated in the drawing section of this product data sheet.

*4: UL - 1.5 times design load is applied to the module. Accordingly, 2,400 Pa (50.1 lbs /ft²) is loaded to test the 1,600 Pa (33.4 lbs /ft²) UL design load.

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 & silver) |
| 5 | Frame | 1 Set | Anodized aluminium alloy (color: black) |
| 6 | Edge sealant | | Butyl rubber |
| 7 | Junction box | 1 | With bypass diode |
| 8 | Cable | | 2.5 mm ² / AWG14 (with waterproof and locking 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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