

Thin film module with a-Si cells



SCHOTT ASI™
95/97/100/103

At a glance

- High energy output
- Simple and low-cost installation
- Double of the required standard
- High performance output
- Long-term reliability
"Made in Germany"
- Long-term stability of encapsulation

SCHOTT ASI™ 95/97/100/103

The long-established German company SCHOTT Solar operates worldwide and started with the development and manufacturing of components for the solar industry in 1958.

The ASI® thin film technology is the result of extensive experience and the most modern production standards. Thin film solar modules with ASI® cell technology guarantee long-lasting high performance and above-average energy output year after year.

High energy output: SCHOTT ASI™ modules are characterised by their ability to produce an excellent energy output in a range of climatic conditions. Performance remains high, whether in diffused light conditions, in high temperatures, with poor module ventilation, with partial shadowing of module surfaces, or even with non ideal module orientation.

Simple and low-cost installation: The bypass diode is integrated into the junction box. With a low modular voltage of 17 V and a high maximum system current of 1000 V connection is simple, fast and low-cost.

Double of the required standard: SCHOTT Solar tests its modules for twice as long as is required by the IEC.

High performance output: All SCHOTT Solar modules hold a positive tolerance of their nominal power rating. This ensures a stable high-energy output and a quick return on investment.

Long-term reliability "Made in Germany": SCHOTT Solar offers a power output guarantee of 25 years and a product warranty of five years.

Long-term stability of encapsulation: SCHOTT ASI™ modules with the proven ASI® encapsulation have exceptionally high resistance to UV radiation, as well as to extremes of temperature and weather.

Technical Data

Data at standard test conditions (STC)

Module type	SCHOTT ASI™ 95		SCHOTT ASI™ 97		SCHOTT ASI™ 100		SCHOTT ASI™ 103		
	stabilised value	initial value	stabilised value	initial value	stabilised value	initial value	stabilised value	initial value	
Nominal power [Wp]	P_{mpp}	≥ 95	116	≥ 97	118	≥ 100	122	≥ 103	126
Voltage at nominal power [V]	U_{mpp}	17.4	19.3	17.4	19.3	17.5	19.4	17.6	19.5
Current at nominal power [A]	I_{mpp}	5.47	6.00	5.57	6.10	5.71	6.30	5.86	6.40
Open-circuit voltage [V]	U_{oc}	23.6	24.6	23.7	24.7	23.8	24.8	23.9	24.9
Short-circuit current [A]	I_{sc}	6.69	6.90	6.72	6.90	6.79	7.00	6.91	7.10
Module efficiency (%)	η	6.6		6.7		6.9		7.1	

STC (1000W/m²; AM 1.5; cell temperature 25°C)

Power tolerance (as measured by flasher): -0 W / +1.99 W / +2.99 W

Data at normal operating cell temperature (NOCT)

Nominal power [Wp]	P_{mpp}	75	77	79	82
Voltage at nominal power [V]	U_{mpp}	17.2	17.2	17.3	17.4
Open-circuit voltage [V]	U_{oc}	23.3	23.4	23.5	23.6
Short-circuit current [A]	I_{sc}	5.35	5.37	5.43	5.48
Temperature [°C]	T_{NOCT}	49.0	49.0	49.0	49.0

NOCT (800 W/m², AM 1.5, windspeed 1 m/s, ambient temperature 20°C)

Data at low irradiation

Nominal power [Wp]	P_{mpp}	19.0	19.4	20.0	20.6
Voltage at nominal power [V]	U_{mpp}	17.4	17.4	17.6	17.6
Current at nominal power [A]	I_{mpp}	1.09	1.11	1.14	1.17
Open-circuit voltage [V]	U_{oc}	21.2	21.3	21.4	21.5
Short-circuit current [A]	I_{sc}	1.27	1.28	1.29	1.31
Module efficiency (%)	η	6.6	6.7	6.9	7.1

Irradiance 200 W/m², spectrum AM 1.5, cell temperature 25°C

Measurement accuracy: ± 10 %

Temperature coefficients

Power [%/K]	P_{mpp}	-0.20
Open-circuit voltage [%/K]	U_{oc}	-0.33
Short-circuit current [%/K]	I_{sc}	+0.08

Characteristic data

Solar cells per module	56
Cell type	a-Si/a-Si tandem (amorphous silicon)
Junction box	IP65 with one bypass diode
Connector	Tyco-Connector IP67
Dimensions junction box [mm]	138 x 90 x 22
Front panel	thermally treated float glass 4.0 mm
Backside panel	foil
Frame material	aluminium, black

Dimensions and weight

Dimensions [mm]	1,108 x 1,308
Thickness [mm]	50
Weight [kg]	18

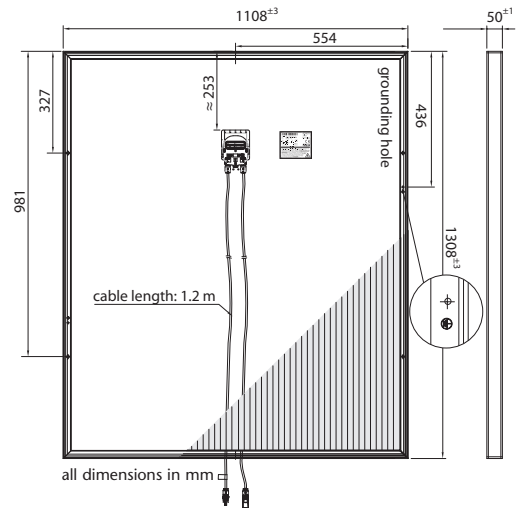
Limits

Maximum system voltage [V _{DC}]	1000
Maximum reverse current I_R [A]*	15
Operating module temperature [°C]	-40 ... +85
Maximum load (to IEC 61646)	pressure: 2,400 N/m ² or 245 kg/m ² suction: 2,400 N/m ² or 245 kg/m ²
Application classification (to IEC 61730)	A
Fire classification (to IEC 61730)	C

* No external voltage in excess of U_{oc} shall be applied to the module.

Permission and certificates

The modules are certified to IEC 61646 and IEC 61730, Electrical Protection Class II and the CE-guidelines. Moreover SCHOTT Solar is certified and registered to ISO 9001 and ISO 14001.



The **installation manual** contains additional information on installation and operation. Power measurement accuracy: ± 5 % All information complies with the requirements of the standard EN 50380.



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