Double glazed module with a-Si cells

SCHOTT ASI® 100/103/105/107

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At a glance

- Long life through double glazing
- High energy output
- Double of the required standard
- High performance output
- Long-term reliability "Made in Germany"
- Long-term stability of encapsulation

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 an above-average energy output year after year.

Long life through double glazing: The exceptionally long life is ensured by the use of double glazing.

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

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 30 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.

SCHOTT solar

Technical Data

Data at standard test conditions (STC)*

Module type		SCHOTT ASI® 100		SCHOTT ASI® 103		SCHOTT ASI® 105		SCHOTT ASI® 107	
		stabilised value	initial value	stabilised value	initial value	stabilised value	initial value	stabilised value	initial value
Nominal power [Wp]	P_{mpp}	≥ 100	122.0	≥ 103	125.6	≥ 105	128.0	≥ 107	130.5
Voltage at nominal power [V]	U_{mpp}	30.7	34.1	30.9	34.3	31.1	34.5	31.3	34.7
Current at nominal power [A]	I_{mpp}	3.25	3.58	3.33	3.66	3.38	3.71	3.42	3.76
Open-circuit voltage [V]	U_{oc}	40.9	42.6	41.1	42.8	41.3	43.0	41.5	43.2
Short-circuit current [A]	I_{sc}	3.85	3.97	3.94	4.07	4.00	4.12	4.05	4.12
Module efficiency (%)	η	6.9		7.1		7.2		7.4	

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}	78	80	81	83
Voltage at nominal power [V]	U_{mpp}	28.9	29.0	29.2	29.4
Open-circuit voltage [V]	U_{oc}	37.3	37.5	37.7	37.9
Short-circuit current [A]	I_{sc}	3.09	3.17	3.21	3.25
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}	20.0	20.6	21.0	21.4
Voltage at nominal power [V]	U_{mpp}	30.7	30.9	31.1	31.3
Current at nominal power [A]	I_{mpp}	0.65	0.67	0.68	0.68
Open-circuit voltage [V]	U_{oc}	36.8	37.0	37.2	37.3
Short-circuit current [A]	I_{sc}	0.73	0.75	0.76	0.77
Module efficiency (%)	η	6.9	7.1	7.2	7.4

Irradiance 200 W/m², spectrum AM 1.5 , cell temperature 25°C
Measurement accuracy at irradiance of 200 W/m2: +- 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	72 (3 x 24)
Cell type	a-Si/a-Si tandem (amorphous silicon)
Junction box	2 x IP65 by Lumberg, without bypass diode, single-pole, sealed with 2K silicon; 2.5 mm² solar cable
Connector	LC4 connector
Dimensions junction box [mm]	40.1 x 54.4 x 10.5
Front panel	thermally treated float glass 1.8 mm
Backside panel	hardened back glass
Frame material	aluminium, black

Dimensions and weight

Dimensions [mm]	1,308 x 1,108
Thickness [mm]	35
Weight [kg]	20.8

Limits

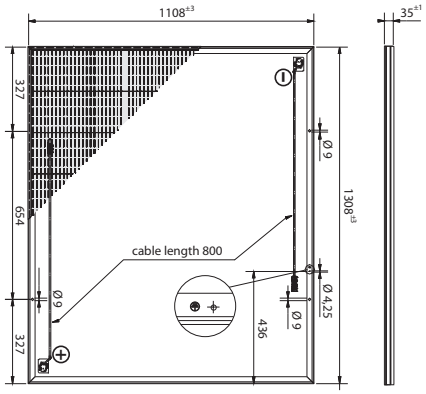
Maximum system voltage [V_{DC}]	1000
Maximum reverse current I_R [A]**	10
Operating module temperature [°C]	-40 … +85
Maximum load (to IEC 61646)	pressure: 5,400 N/m² or 550 kg/m² suction: 2,400 N/m² or 245 kg/m²
Application classification (to IEC 61730)	A
Fire classification (to IEC 61730)	C

*** 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.

** Tolerance for power, if not stated differently in this datasheet, is subject to +- 5% and to other parameters +- 10% respectively.*



The **installation manual** contains additional information on installation and operation.
SCHOTT Solar AG reserves the right to make specification changes in this datasheet without notice.
All information complies with the requirements of the standard EN 50380.

SCHOTT Solar AG
Hattenbergstrasse 10
55122 Mainz
Germany

Phone: +49 (0)6131/66-14099
Fax: +49 (0)6131/66-14105
solar.sales@schottsolar.com
www.schottsolar.com

SCHOTT solar