

# The World's Single Most Powerful Photovoltaic Module

Utilized in a wide range of applications, the ASE-300-DGF/50 is an industrial-grade solar power module built to the highest standards. Extremely powerful and reliable, the module delivers maximum performance in large systems that require higher voltages, including the most challenging conditions of military, utility and commercial installations. For superior performance, quality and peace of mind, the ASE-300-DGF/50 is renowned as the first choice among those who recognize that not all solar modules are created equal.

## Faster Installation

- Large surface area requires fewer interconnects and structural members
- All module-to-module wiring is built right into the module
- Multi-Contact Plug-n-Play connectors mean source-circuit wiring takes just minutes
- Unique mounting systems available for commercial roofs eliminate need for traditional mounting rails, heavy ballast, and roof penetrations

## More Reliability

- Bypass diode protection for every 18 solar cells in series, thus minimizing power loss, and mitigating overheating/safety problems
- Advanced encapsulation system ensures steady long-term module performance by eliminating degradation associated with traditional EVA-encapsulated modules
- Moisture impermeable glass on *both* sides of the module protects against tears, perforations, fire, electrical conductivity, delamination and moisture
- Patented no-lead, high-reliability soldering system guarantees long life and ensures against environmental harm should the module break or be discarded

## Higher Quality

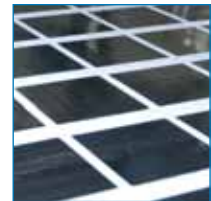
- Each of the module's 216 individual semi-crystalline silicon cells is inspected and power matched to ensure consistent performance between modules
- Every module is tested utilizing a calibrated solar simulator to ensure that the electrical ratings are within the specified tolerance for power, voltage, and current
- Module-to-module wiring loss is factored into the module's labeled electrical ratings by testing through the module's cable/connector assemblies

## Independently Certified

- The ASE-300-DGF/50 is independently certified to meet IEEE 1262, IEC 61215, and UL 1703 Standards
- It is also the *only* module in the industry to receive a UL (Underwriters Laboratories) Class A fire rating



*ASE-300-DGF/50 diode housing with bypass diodes, UV resistant cables with MC®-connectors.*



*Full square semi-crystalline EFG cells ensure maximum energy yield.*

### Designation:

*DG = Double Glass*

*F = Frame*

*/50 = Nominal Voltage at STC*

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Current/voltage characteristics with dependence on irradiance and module-temperature.

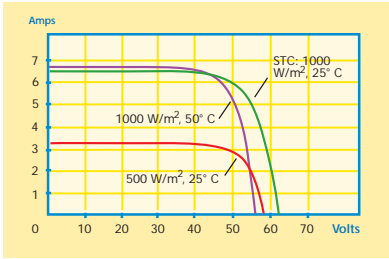
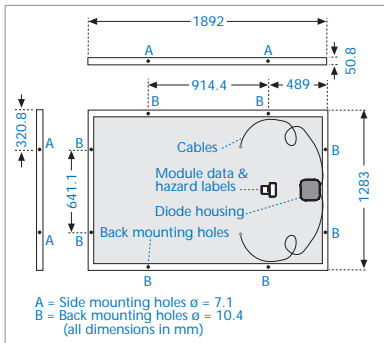


Chart applies to ASE 300 W module only.



### Electrical data

The electrical data applies to standard test conditions (STC):

Irradiance at the module level of  $1,000 \text{ W/m}^2$  with spectrum AM 1.5 and a cell temperature of  $25^\circ \text{C}$ .

Power (max.)	$P_p$ (watts)	280 W	290 W	300 W	310 W	320 W
Voltage at maximum-power point	$V_p$ (volts)	49.6 V	50.1 V	50.6 V	51.1 V	51.6 V
Current at maximum-power point	$I_p$ (amps)	5.7 A	5.8 A	5.9 A	6.1 A	6.2 A
Open-circuit voltage	$V_{oc}$ (volts)	61.9 V	62.5 V	63.2 V	63.8 V	64.4 V
Short-circuit current	$I_{sc}$ (amps)	6.2 A	6.4 A	6.5 A	6.5 A	6.8 A

The rated power may only vary by  $\pm 4\%$  and all other electrical parameters by  $\pm 10\%$ .

NOCT-value ( $800 \text{ W/m}^2$ ,  $20^\circ \text{C}$ ,  $1 \text{ m/sec.}$ ) =  $45^\circ \text{C}$ .

### Dimensions and weights

Length mm (in)	1,892.3 (74.5")
Width mm (in)	1,282.7 (50.5")
Weight kg (lbs)	$46.6 \pm 2 \text{ kg}$ ( $107 \pm 5 \text{ lbs}$ )
Area	2.43 sq meters (26.13 ft sq)

### Characteristic data

Solar cells per module	216
Type of solar cell	Semi-crystalline solar cells (EFG process), $10 \times 10 \text{ cm}^2$
Connections	10 AWG single conductor, stranded copper with Multi-Contact connector. Junction box comes with 10 built-in bypass diodes.

### Cell temperature coefficients

Power	$T_K (P_p)$	- 0.47 % / $^\circ \text{C}$
Open-circuit voltage	$T_K (V_{oc})$	- 0.38 % / $^\circ \text{C}$
Short-circuit current	$T_K (I_{sc})$	+ 0.10 % / $^\circ \text{C}$

### Limits

Maximum system voltage	600 VDC U.S.
Operating module temperature	-40 to $+90^\circ \text{C}$
UL certified design load	50 PSF
Equivalent wind resistance	Wind speed of $192 \text{ km/h}$ (120 mph)

The right is reserved to make technical modifications. For detailed product drawings and specifications please contact SCHOTT Solar or an authorized reseller.

### Certifications and Warranty

The ASE-300-DGF/50 has been independently certified to IEC 61215, IEEE 1262, and UL 1703 (Class A Fire rating). The ASE-300-DGF/50 comes with a 20 year power warranty (see terms and conditions for details).

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