

UL Class A Fire Rated



# ASE Americas' ASE 50 Module with ASE's Crystal Clean™ EFG Cell Technology



ASE-50-ATF/17

## All Purpose, Highly Reliable Module

This module is designed to serve a wide range of applications across the globe: from telecommunication systems on mountain tops to solar home systems in deserts. The module is built in our own production facility with our "Crystal Clean™" EFG Octagon technology, that uses less material and energy than other solar cell processes. The square solar cells provide a homogeneous crystal blue appearance while making optimal use of module area. This translates to high energy yields over a long lifetime. This modular unit is perfect for charging 12, 24, and 48 V battery banks.

## Design Advantage

The robust frame and the spacious j-box provide tremendous versatility in both structural and electrical configuration.

## Reliability Advantage

- Our advanced proprietary encapsulation system overcomes the decline in module performance associated with degradation of traditional EVA encapsulant.
- Weather barrier system on both the front and back of the module protects against tear, penetration, fire, electrical conductance, delamination, and moisture.
- Our patented no-lead high reliability soldering system ensures long life, while making the module environmentally benign for disposal or recycling.

## Quality Advantage

ASE Americas' quality program is focused on meeting or exceeding expected performance and reducing system losses:

- Each module is individually tested under ASE Americas' calibrated solar simulator.
- Each of the 36 crystalline silicon cells is inspected and power matched.
- Tight power tolerance of +/- 2.5 watts for each module.

## Installation Advantage

We designed the ASE-50-ATF/17 to save time and cost:

- 1/2" and 7/8" knock-outs to accommodate a wide range of fittings and connections.
- Plenty of redundant and spare terminals for paralleling modules and installing protective devices.

## Certification Advantage

- To provide our customers with the highest level of confidence, the ASE-50-ATF/17 is independently IEEE 1262 and IEC 1215 certified. It is UL (Underwriters Laboratories) listed with the only Class A fire rating in the industry.

## Available Versions

The standard power ratings are 50 watts and 45 watts STC.

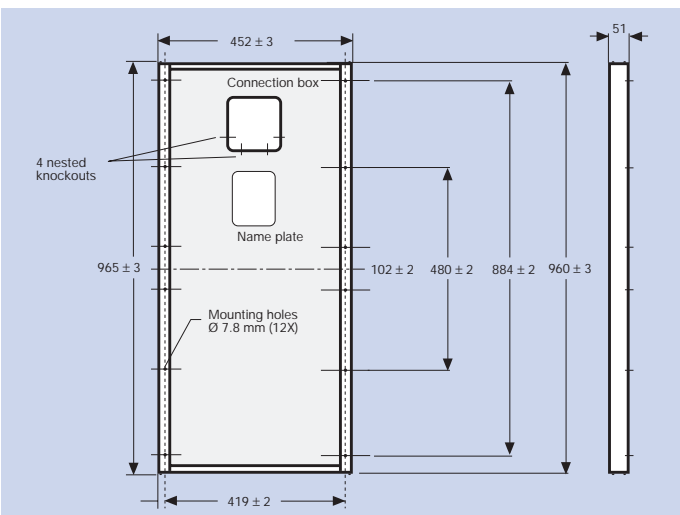
## ASE Core Advantage

ASE's patented EFG process (Edge-defined Film-fed Growth) produces silicon octagons of correct thickness and width. Energy, hazardous waste and material intensive wafer sawing is replaced by highly efficient advanced laser cutting.

Designation:

- A = Aluminium
- T = Tedlar
- F = Frame

/17 = Nominal Voltage at STC



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## Electrical data

The electrical data applies to standard test conditions (STC):  
Irradiance at the module level of 1,000 W/m<sup>2</sup> with spectrum AM 1.5 and a cell temperature of 25° C.

Power (max.)	P <sub>p</sub> (watts)	50 W	45 W
Voltage at maximum-power point	V <sub>p</sub> (volts)	17.2 V	17.0 V
Current at maximum-power point	I <sub>p</sub> (amps)	2.9 A	2.65 A
Open-circuit voltage	V <sub>oc</sub> (volts)	20 V	20 V
Short-circuit current	I <sub>sc</sub> (amps)	3.2 A	2.9 A

The quoted technical data refer to the usual series cell configuration.  
The rated power may only vary by ± 2.5 W and all other electrical parameters by ± 10%.  
NOCT-value (800 W/m<sup>2</sup>, 20° C, 1m/sec.): 45° C.

## Dimensions and weights

Length - mm (in)	965.0 (38.0")
Width - mm (in)	452.1 (17.8")
Weight - kg (lbs)	6.1 ± 1 kg (13.5 ± 2 lbs)
Area	0.44 sq meters (4.7 ft sq)

## Characteristic data

Solar cells per module	36
Type of solar cell	Multi-crystalline solar cells (EFG process, 10 x 10 cm <sup>2</sup> ).
Connection	Connection box with screw terminals. Multiple terminals are available for paralleling modules 1/2" and 7/8" knockouts in connection box. Option for spring terminal is available. 2 bypass diodes (factory installed – optional)

## Cell temperature coefficients

Power	T <sub>K</sub> (P <sub>p</sub> )	- 0.47 % / °C
Open-circuit voltage	T <sub>K</sub> (V <sub>oc</sub> )	- 0.38 % / °C
Short-circuit current	T <sub>K</sub> (I <sub>sc</sub> )	+ 0.10 % / °C

## Limits

Max. system voltage	1000 V <sub>DC</sub> U.S. 700 V <sub>DC</sub> Europe
Operating module temperature	-40...+90° C
Design wind conditions	Wind speed of 130 km/h (80 mph)

The right is reserved to make technical modifications.

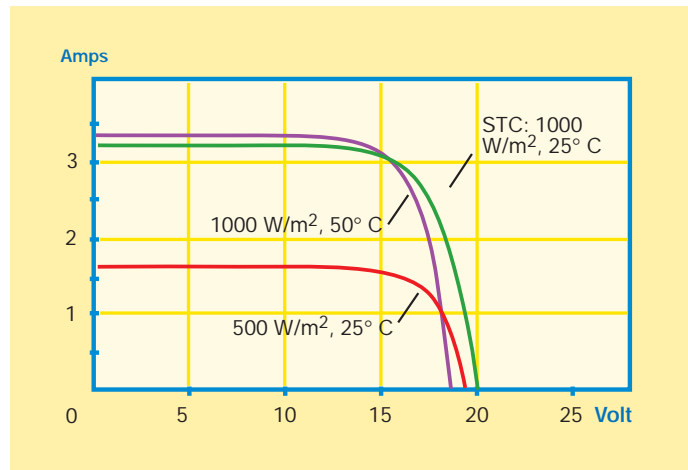
For detailed product drawings and specifications please contact your distributor or our office.

## Certification

The ASE-50-ATF/17 has been independently certified to IEC 1215 and IEEE 1262, UL 1703 (Class A Fire rating). It meets Electrical Protection Class II\* and EWG guidelines 89/392 (CE).

\* Certification applied for

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



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