

Charcoal – 108 Cell



High-efficiency Australian-Certified Building-integrated photovoltaic (BIPV) module.

Provide savings in materials and electricity costs, reduce greenhouse gases, and add aesthetic architectural features to the building

**Improve
Building
Sustainability**

**Create
Cost-saving
Opportunities**

**Mimic
Building
materials**



Low carbon
footprint



Aesthetic



Certified in Australia
as a building material



Excellent thermal
insulation



Durable and
Shatter-proof



Energy saving

Charcoal – 108 Cell



Mono-Si Charcoal BIPV module
AST-MS-CHAR00315

108
Cell

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)				
Module Type	AST-MS-CHAR00315			
Power output	P _{max}	W	315.9	315.8
Power output tolerances	ΔP _{max}	%	+5	
Module efficiency	η _m	%	15.0%	15.0%
Voltage at P _{max}	V _{mpp}	V	63.69	63.48
Current at P _{max}	I _{mpp}	A	4.96	4.74
Open-circuit voltage	V _{oc}	V	74.90	74.73
Short-circuit current	I _{sc}	A	5.19	4.95
STC: 1,000 W/m ² irradiance, 25°C cell temperature, AM1.5g spectrum				
Average relative efficiency reduction of 3.0% at 200 W/m ²				

ELECTRICAL PERFORMANCE

Electrical parameters at Nominal Operating Cell Temperature (NOCT)				
Power output	P _{max}	W	232.8	232.8
Power output tolerances	ΔP _{max}	%	+5	
Module efficiency	η _m	%	11.08%	11.08%
Voltage at P _{max}	V _{mpp}	V	59.52	59.24
Current at P _{max}	I _{mpp}	A	3.90	4.53
Open-circuit voltage	V _{oc}	V	70.29	69.25
Short-circuit current	I _{sc}	A	4.12	4.78
NOCT: For irradiance of 800W/m ² , ambient temperature of 20°C, and wind speed of 1m/s, AND working temperature of module in the open circuit state.				

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	45±2
Temperature coefficient of P _{max}	γ	%/°C	-0.36
Temperature coefficient of V _{oc}	β _{Voc}	%/°C	0.30
Temperature coefficient of I _{sc}	α _{Isc}	%/°C	0.05

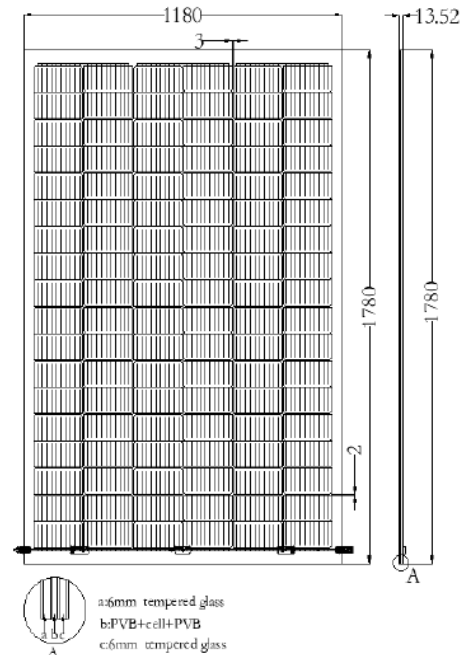
NOCT: Under the conditions of irradiance of 800W/m², ambient temperature of 20°C, and wind speed of 1m/s, the working temperature of the module in the open circuit state.

OPERATING CONDITIONS

Max.system voltage	1500V _{DC}
Max.series fuse rating	20A
Operating temperature range	(-40°C- 85°C)
Max.static load,front(e.g.,snow)	5400Pa
Max.static load,back(e.g.,wind)	2400Pa
Max. hailstone (diameter/velocity)	25mm / 23m/s

CONSTRUCTION MATERIALS

Glass (material / thickness)	Low-iron Tempered 6mm
Cell (quantity /material /dimensions)	108/mono/182*91
Encapsulating material	PVB
Junction box (protection degree)	≥IP67
Cable (length / cross-section)	300mm/4mm ² . Also, customised
Plug connector (type/protection)	MC4 / IP67
Weight (kg)	70.0



Warranty:

- 10 years materials and workmanship.
- 25 years power output guarantee for:
 - 90% of nominal output during 1st 10 years & 80% over 25 years
 - End-of-life modules will be collected & recycled by AST at no cost

Alpha Solar Technologies Pty Ltd

Unit 1/93A Leach Hwy,
Kewdale WA 6105,
Australia
www.alphasolartech.com
Email: sales@alphasolartech.com.au
Tel: +61 (08) 6239 0230

- Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.
- The data do not refer to a single module and they are not part of the offer, they only serve for comparison with different module types.

QUALIFICATIONS & CERTIFICATES

IEC 61215, IEC 61730, 3C