

# C Series

DuPont Apollo C Series photovoltaic modules are designed and manufactured using the cutting-edge amorphous / microcrystalline silicon (a-Si/ $\mu$ c-Si) thin film technology. With unique product features and capabilities, they are able to provide ideal solution for rooftop solar projects.



## Key Product Advantages:

- **Better Return on Investment (ROI)**

### *High Efficiency*

DuPont Apollo C Series thin film modules can generate high energy power resulted from their improved cell conversion efficiency.

### *Light-Weight Feature*

With its light-weight feature (12.8kg/sqm), DuPont Apollo C Series modules provide an ideal choice for light rooftop applications. This feature minimizes the overall BOS (Balance-of-System) cost through simplifying supporting structure, and thus lowering the system installation cost.

### *Stable Performance Under High Temperature and Weak Light Conditions*

DuPont Apollo C Series modules provide stable performance under high temperature and weak light conditions (e.g. reflective, indirect and diffusive light) and the shadowing environment. This feature enables greater flexibility for adjusting the mounting angle to meet special rooftop requirement in the system design.

- **Suitable for Green Building with Aesthetic Design**

The aesthetic design of DuPont Apollo C Series modules is a preferable option for green building design and can blend with the original building appearance. Its white backsheet design can reduce the rate of heat absorption of PV modules and thus improve the overall power performance.

- **Quality and Reliability**

DuPont Apollo C Series modules are manufactured in an ISO 9001 certified facility, and the modules have received the internationally recognized IEC 61646, IEC 61730 and UL 1703 certifications.

- **Green Product Commitment**

DuPont Apollo is committed to environmental responsibility and our hazardous substance process management in product design, development and manufacturing has obtained the internationally recognized IECQ QC 080000 qualification.

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# DuPont Apollo C Series Thin Film Modules

- High Energy Yields**
- Stable Power Output**
- Robust Encapsulation**
- Easy Mounting**
- Low Cable Power Loss**

## Product Specification

Model	DA130	DA133	DA136	DA139	DA142	DA145
Technology	Amorphous / Microcrystalline Silicon (Tandem Junction)					

Mechanical Characteristics	
Dimensions	L 1409 x W 1110 x T 35 mm
Weight	20 kg
Front Cover	4.0 mm TCO Glass
Encapsulant	EVA
Back Cover	Backsheet
Frame	Aluminium

Electrical Characteristics	
At Standard Test Conditions (STC)	
Nominal power output (Pmpp)	130W 133W 136W 139W 142W 145W
Voltage at Pmpp (Vmpp)	118V 119V 120V 120V 121V 122V
Current at Pm point (Impp)	1.10A 1.12A 1.14A 1.16A 1.17A 1.19A
Open circuit voltage (Voc)	154V 154V 155V 156V 156V 157V
Short circuit current (Isc)	1.27A 1.31A 1.35A 1.39A 1.43A 1.47A
Open circuit voltage, initial (Voc, initial)	158V 159V 159V 160V 161V 162V
Short circuit current, initial (Isc, initial)	1.30A 1.34A 1.38A 1.42A 1.46A 1.50A

At Nominal Operating Cell Temperature (NOCT)	
Nominal power output (Pmpp)	96W 98W 100W 102W 105W 107W
Voltage at Pm point (Vmpp)	108V 108V 109V 109V 110V 111V
Current at Pm point (Impp)	0.89A 0.91A 0.92A 0.94A 0.95A 0.97A
Open circuit voltage (Voc)	143V 143V 144V 144V 145V 146V
Short circuit current (Isc)	1.04A 1.07A 1.10A 1.13A 1.16A 1.19A

Temperature Characteristics at 1000W/m <sup>2</sup> , AM 1.5	
α Temperature coefficient of Isc	+ 0.06% / °C
β Temperature coefficient of Voc	- 0.31% / °C
γ Temperature coefficient of Pmpp	- 0.32% / °C

Operating Conditions	
Operating temperature	- 40 ~ + 85 °C
Maximum mechanical load (front/back)	2400 / 2400 N/m <sup>2</sup>
Maximum system voltage	1000 V (IEC) / 600 V (UL)
Maximum reverse current overload	2A
Connector	MC4 compatible
Cable size	2.5 mm <sup>2</sup>
Cable length	400 mm, 900 mm

Standard Guarantees and Certifications	
Product warranty	5 years
Performance warranty	80% of nominal power for 25 years 90% of nominal power for 10 years
Certifications	IEC 61646 / IEC 61730 / UL1703 / ULC1703

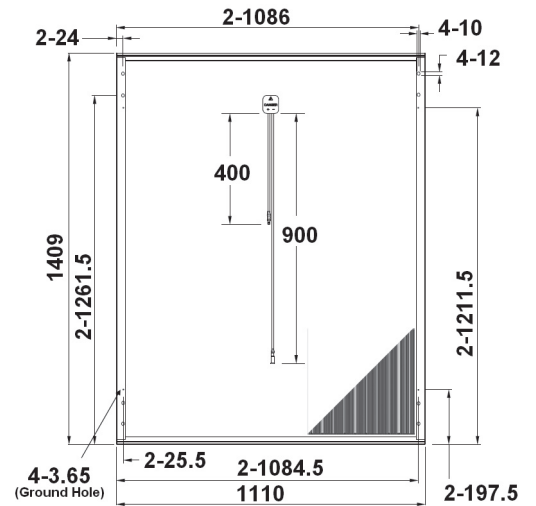
Packaging Details	
Packaging unit	29 modules per pallet
Dimensions	L 1436 x W 1117 x H 1275 mm
Storage	928 modules (32 pallets) in 40' HQ container

Above electrical data represents stabilized module performance, unless specified otherwise.  
 Pmpp at STC is subject to tolerance of +/-5%.  
 Initial Pmpp is approximately 12-16% higher than stabilized Pmpp.  
 STC: 1000 W/ m<sup>2</sup>, AM 1.5, cell temperature 25°C.  
 NOCT: 43.4 ± 0.2°C, 800 W/ m<sup>2</sup>, AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

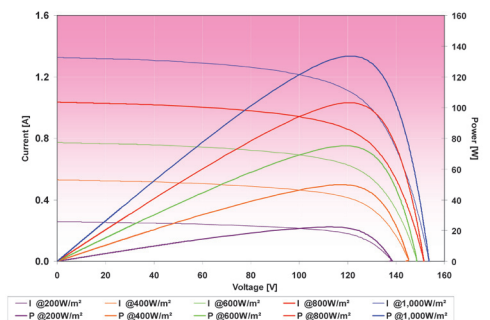
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## Module Outline



## Electrical Characteristics for DA130 at 25°C



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