

NEWSPACE MARKET · COMPANY PROFILE



Ascent Solar Technologies

United States · founded 2005 · ascentsolar.com

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as of 20 August 2026



Ascent Solar Technologies

Ascent Solar Technologies (ASTI) is a US manufacturer of ultra-light, flexible thin-film photovoltaic (PV) solar modules based in Thornton, Colorado. The company specializes in Copper Indium Gallium Selenide (CIGS) thin-film solar technology deposited on flexible plastic substrates, producing some of the lightest and most conformable solar panels available for space and terrestrial applications. AST's ELF (Extremely Light and Flexible) product line provides specific power density of over 1,000 W/kg — dramatically exceeding rigid silicon solar arrays — enabling new form factors for spacecraft, SmallSats, and CubeSats where mass budget and stowage volume are critical constraints. The flexible, rollable solar panels can be deployed from compact housings to generate substantial power, making them ideal for next-generation solar arrays on small satellites and constellation spacecraft. The company's space heritage includes solar panels deployed on multiple satellite missions and ISS experiments, demonstrating on-orbit performance under the full range of orbital thermal cycling and space radiation. ASTI also supplies panels for terrestrial applications including defense portable power systems, wearable electronics, and UAVs. Founded in 2005 and headquartered in Thornton, Colorado, Ascent Solar Technologies is a publicly traded company (NASDAQ: ASTI) with a dedicated R&D and manufacturing facility for thin-film PV technology development and production.

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SERVICES

Services

Advanced Testing and Experimentation for Space Ascent Solar Technologies participates in advanced testing and experimentation of its thin-film modules on platforms like the International Space Station and with agencies like JAXA.	Customization for Electrical Outputs Ascent Solar Technologies offers customization of its thin-film PV technology to meet specific electrical output requirements, ranging from 20V to 270V.
Integration of Solar Modules Ascent Solar Technologies offers seamless integration of its lightweight and flexible solar modules into various platforms, including high-altitude airships, drones, UAVs, and space vehicles.	Material and Manufacturing Validation for Space Ascent Solar Technologies validates its CIGS material, manufacturing, integration, and quality processes for space environments, achieving NASA TRL9 for its products.

Product catalogue



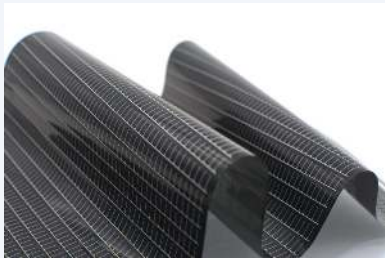
ASCENT SOLAR TECHNOLOGIES

CubeSat HDK Solar Array

The CubeSat Hardware Developer Kit packages Ascent Solar's flexible CIGS thin-film technology into body-mountable and folding solar arrays for 0.5U–6U CubeSat form factors, optimiz

Form Factors	0.5U, 1U, 3U, 6U
Array Configurations	Body-mountable and folding deployable
Bus Voltage	28 V
Technology	CIGS thin-film (Titan modules)
Specific Power	>2000 W/kg (bare modules)
AM0 Efficiency	15.7% (production scale)
Space Flight Heritage	TRL 9 (Momentum Vigoride-6, MISSE-10 ISS)

price on request



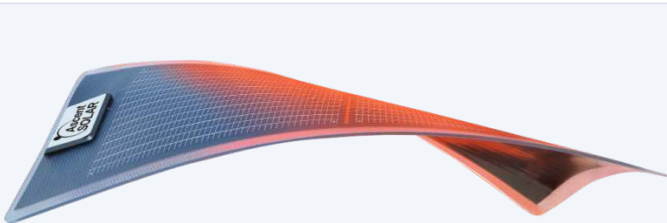
ASCENT SOLAR TECHNOLOGIES

EP-500V HDK Solar Array

The EP-500V HDK provides 500 V electric propulsion-optimized solar arrays in ESPA and ESPA Grande flatpack form factors, enabling direct high-voltage power delivery to Hall-effect

Output Voltage	500 V
Platform Compatibility	ESPA and ESPA Grande
Array Configuration	Flatpack folding deployable
Technology	CIGS thin-film (Titan modules)
Specific Power	>2000 W/kg (bare modules)
Application	Electric propulsion (Hall-effect thrusters)
Key Advantage	High-voltage direct output reduces PPU mass and losses

price on request



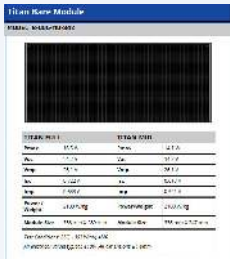
ASCENT SOLAR TECHNOLOGIES

Smallsat HDK Solar Array

The Smallsat HDK delivers 28 V ESPA and ESPA Grande optimized flatpack folding solar arrays for small satellite missions, maximizing on-orbit power generation with Ascent's ultra-l

Platform Compatibility	ESPA and ESPA Grande
Array Configuration	Flatpack folding deployable
Bus Voltage	28 V
Technology	CIGS thin-film (Titan modules)
Specific Power	>2000 W/kg (bare modules)
AM0 Efficiency	15.7% (production scale)
Space Flight Heritage	TRL 9

price on request



ASCENT SOLAR TECHNOLOGIES

Titan Bare Module

Ascent Solar's Titan is a monolithically integrated, flexible CIGS thin-film PV module optimized for space applications, achieving up to 2100 W/kg specific power at AM0.

Model	B-006-110-342
Technology	CIGS thin-film on flexible polyimide substrate
Titan Full – Pmax	16.5 W
Titan Full – Voc	34.2 V
Titan Full – Vmp	26.1 V
Titan Full – Isc	0.722 A
Titan Full – Module Size	336 mm × 289 mm

price on request

Contact Ascent Solar Technologies

Open the company profile on NewSpace Market to see full specifications and datasheets, and to send a request for quotation that reaches the manufacturer directly.

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<https://ascentsolar.com>

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