Design and manufacturing of solar arrays for Space

DHV starts the design from early stages and produces according to customer needs, supporting and helping in a huge range of possible solutions.

Our design team will ensure the solar panel meets with your satellite structure.

DHV Technology solar array products for small satellites and CubeSats are listed at **NASA publications NASA/TP-2015-216648/REV1 "Small Spacecraft Technology State of the Art"** (pp.24-26).

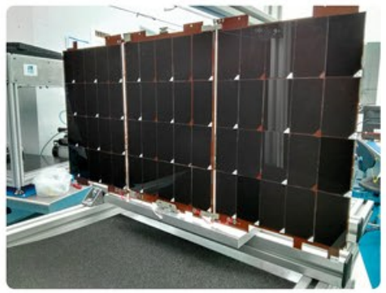
Custom solar arrays

DHV Technology has supplied solar panels to international missions as UNISAT-6 launched on June 2014.

DHV has experience manufacturing many formats and we are open to hearing your project and mission requirements.

DHV ´s products are being tested at Certified Laboratories by ESA in order to offer the best results and performance.

Deployment Systems



Design and manufacturing of deployable solar arrays.

Different configuration in Cubesat architecture as single and double deployables for 2U, 3U, 6U, 12U and 16U solutions.

Single or redundant thermal knife are used as hold-down and release mechanism for CubeSat missions.

Systems are tested in TVAC, vibration and shock.

Mechanical parts and electronic design to release panels adapted to customer needs.

Clean Room ISO-7 Facilities

All products are manufactured in a clean room. Production process is under quality control and with traceability of all parts.

- Inspection
- Welding
- Soldering
- Assembly
- Electrical test
- Packaging

dhv technology

ISO 9001 ISO 14001 BUREAU VERITAS Certification

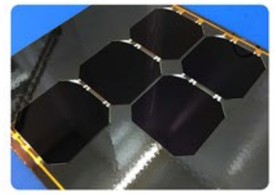
Parque Tecnológico de Andalucía, Av. Juan López Peñalver 21, 29590, Málaga, Spain 00 34 951 956 837 dhv@dhvtechnology.com

www.dhvtechnology.com

Specifications

	Pocketqubesat	1U	3U	Custom panel
Power (*)	272 mW	2.42 W	8.48 W	From 1.21 W to (n) SCA's
Sensors	Magnetometer Temperature Sensor	Magnetometer Temperature Sensor Sun Sensor	Magnetometer Temperature Sensor Sun Sensor	Magnetometer Temperature Sensor Sun Sensor
Mass(**)	23 g	39 g	132 g	Please, contact us!

(*) @ (AM0 WRC) 1367 W/m²; T=28°C (**) 1.6mm PCB without sensors.



Features

- Compatible panels with Cubesats standard structures (Top/Bottom/Side panels).
- Up to 30% Triple Junction GaAs Junction Solar Cell in series configuration.
- Solar cells on PCB with integrated circuit board.
- Protection diodes with space grade qualification.
- Temperature sensor and magnetometer integrated.
- Harnessing and wires included.
- Special coatings under request.
- Products compatible with EPS from Gomspace and Clyde Space.

Product Properties

- Polyimide copper laminate with Kapton coverlay as susbtrate.
- Nominal thickness from 0,8 to 1.6 mm.
- Operational Temperature from -120°C to +150°C
- Aerospace grade adhesives to bond solar cells.
- Atomic oxygen protection with space grade silicone.
- Welding and soldering.
- Aluminium honeycomb with CFRP.

In flight since 2014

Missions:

Unisat-6 (GAUSS)
Polytech-1 (Almaty University)
QBEE-1 (Open Cosmos)
UoS-3 (University of Southampton)
PAINANI I (CICESE)
Unisat-7 (GAUSS)
TRISAT (Maribor University)

Qualification

- Functional
- Vibration / Shock
- Thermal Cycling
- Vacuum Thermal Cycling
- Continuity / Isolation
- I-V Illuminated measurement Flash test

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