NEWSPACE MARKET

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Solar MEMS Technologies

Spain · founded 2009 · solar-mems.com

11 PRODUCTS

9 WITH DATASHEETS

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as of 20 August 2026

ABOUT

Solar MEMS Technologies

Solar MEMS Technologies S.L. was founded in 2009 as a spin-off from the University of Seville, commercializing MEMS (Micro-Electro-Mechanical Systems) technology for space applications. The company develops and manufactures highly miniaturized sun sensors and star trackers that enable precise attitude determination for nanosatellites, microsatellites, and larger spacecraft. The company offers a broad portfolio ranging from coarse analog sun sensors to high-accuracy digital sun sensors and star trackers. Their products are qualified for space operation and have accumulated significant flight heritage on missions operated by NASA, ESA, JAXA, and CNES. Solar MEMS sensors are particularly popular in the CubeSat and small satellite sector due to their compact form factor, low mass, and low power consumption. Solar MEMS Technologies is certified under ISO 9001 and follows ECSS standards for space product development. Their customer base spans commercial satellite operators, research institutions, and government space agencies worldwide.

PRODUCTS

Product catalogue

SOLAR MEMS TECHNOLOGIES

Advanced Coarse Sun Sensor (ACSS)

The Advanced Coarse Sun Sensor (ACSS) is a highly reliable and radiation-hardened device for sun-tracking and attitude determination in space missions, measuring sun ray incident a

Industry	Space
Comm. Interface	Analog
Flight mode	Yes
Engineering mode	Yes
Field of View (º)	±60, Custom
Power Supply (V)	15-13V (3mA)
Operating Temperature	-45 to 85 degrees

price on request datasheet

SOLAR MEMS TECHNOLOGIES

FDSS Fine Digital Sun Sensor

High-accuracy digital sun sensor from Solar MEMS, immune to Earth albedo, with sub-millisecond Sun imaging and plug & play operation.

Industry	Space
Full Field of View	140 x 140º
Accuracy	Better than 0.1 degree
Power Supply	220VAC (50 Hz) 75W max
Optical head temperature range	-50º to 100º C (no vacuum) / -40º to 80º C (vacuum)
Optical head mounting	M6 for rod and/or tripod. Customization available

price on request datasheet

SOLAR MEMS TECHNOLOGIES

HSNS

Quad-thermopile horizon sensor for nadir vector determination and attitude control on nanosatellites and microsatellites.

Interface	UART or I2C, microD 15 pins
Field of View	±64°
Supply voltage	5 V, 150 mW peak
Operating temperature	-30°C to +70°C
Radiation tolerance	30 krad TID
Components	Space-grade components, space-qualified microcontroller

price on request datasheet

SOLAR MEMS TECHNOLOGIES

MicroST

High-precision star tracker for microsatellites with <6 arcsec XY accuracy, multi-camera support and LEO/MEO/GEO qualification.

Type	Star tracker for microsatellites
Interface	Digital
Model	EM and FM
Sun Exclusion Angle	<32°
Supply voltage	5 V, <6 W
Temperature — Qualification	-30°C to +70°C
Temperature — Nominal	-20°C to +50°C

price on request datasheet

SOLAR MEMS TECHNOLOGIES

Nano Sun Sensor on a Chip (NanoSSOC)

The Nano Sun Sensor on a Chip (NanoSSOC) is a two-axis, low-cost sun sensor known for high accuracy in sun-tracking, pointing, and attitude determination, measuring incident sun ra

FOV	120x120 degrees
Accuracy	<0.5 degrees 1sigma
Interface	SPI/UART
Mass	<5 g
Power	<100 mW

price on request

SOLAR MEMS TECHNOLOGIES

nanoSSOC A60

Two-axis MEMS-based analog sun sensor for CubeSats and nanosatellites with ±60° field of view.

Interface	Analog
Flight mode	Yes
Engineering mode	Yes
Field of View	±60°, customization available
Supply voltage	3.3 V or 5 V
Operating temperature	-30°C to +85°C
Radiation tolerance	100 krad (gamma), 6 MeV 3000 krad (protons)

price on request datasheet

SOLAR MEMS TECHNOLOGIES

nanoSSOC-D60

A two-axis, low-cost digital sun sensor on a chip for high-accuracy sun-tracking, pointing, and attitude determination on nanosatellite platforms.

Interface	Digital (UART, I2C, SPI)
Field of View	±60°
Supply voltage	3.3 V or 5 V
Operating temperature	-30°C to +85°C
Radiation tolerance	30 krad TID
Random Vibration	14.1 g @ 20–2000 Hz
Shock	3000 g @ 1–100 ms

price on request datasheet

OneWeb Satellites

SOLAR MEMS TECHNOLOGIES

nanoSSOC-D60 Digital Sun Sensor

High-accuracy digital fine sun sensor for nanosatellites, providing two-axis sun vector measurement with MEMS technology and SPI/UART interface.

Field of View	120° x 120° (±60° each axis)
Accuracy	< 0.5° (1σ)
Interface	SPI / UART
Mass	< 5 g
Power	< 100 mW
Operating Temperature	-40°C to +80°C
Supply Voltage	3.3 V / 5 V

price on request

SOLAR MEMS TECHNOLOGIES

nanoST

Compact plug-and-play star tracker for nanosatellites with <40 arcsec XY accuracy and 15° field of view.

Interface	Digital (RS422 / TTL)
Model	EM and FM
Field of View	15°
Supply voltage	5 V, 1 W consumption
Temperature — Qualification	-30°C to +70°C
Temperature — Nominal	-20°C to +50°C
Temperature — Survival	-45°C to +85°C

price on request datasheet

SOLAR MEMS TECHNOLOGIES

SSOC A60

MEMS-based analog fine sun sensor with ±60° FOV, calibrated with look-up table, for high-accuracy attitude determination.

Interface	Analog
Flight mode	Yes
Engineering mode	Yes
Field of View	±60°
Supply voltage	5 V, <25 mA consumption
Operating temperature	-45°C to +85°C
Radiation tolerance	>100 krad TID

price on request datasheet

SOLAR MEMS TECHNOLOGIES

SSOC-D60

MEMS-based digital sun sensor on a chip that measures the two-axis incidence angle of sunlight for accurate sun-tracking and spacecraft attitude determination.

Measurement axes	2 axes (incidence angle of sun ray)
Output	Sun light incident angles and their derivatives, via digital interface
Processing	Integrated microprocessor, no external calculations required
Calibration	Individually calibrated and characterized; look-up table provided
Radiation protection	Metal shield and cover glass on optical eye to minimize ageing under high radiation

price on request datasheet

Contact Solar MEMS 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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