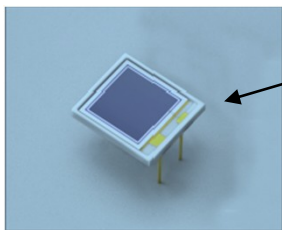
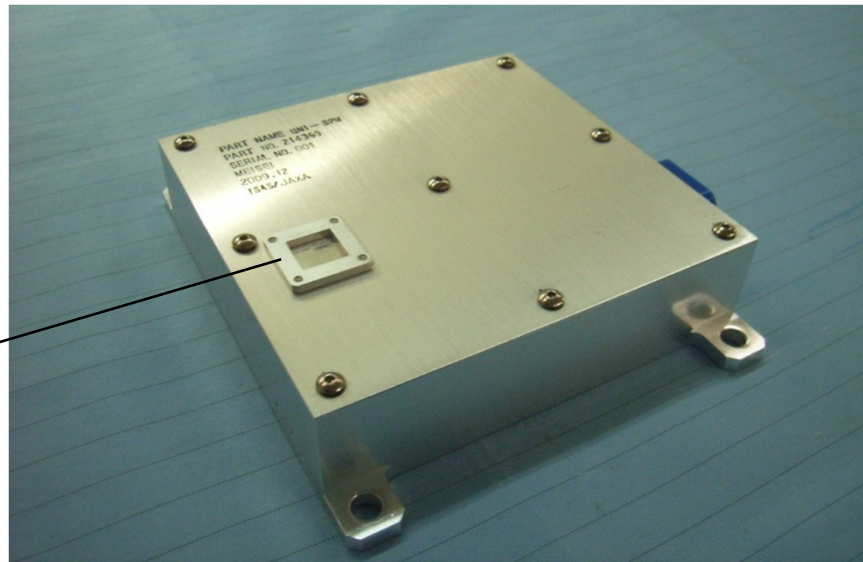


Space Particle Monitor (SPM) for Spacecraft



Si photodiode sensor



Outline

A space particle monitor observes radiation environment of spacecrafts by a Silicon semiconductor sensor. The instrument is mainly used for measurements of the proton, and it can also measure the electron and other particles.

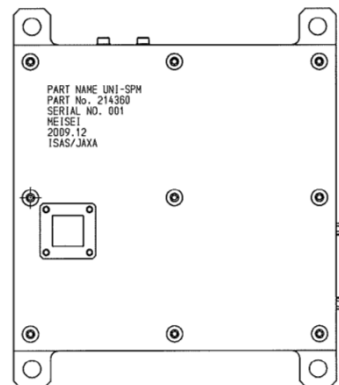
Heritage:

Deep space satellite UNITEC-1

Features

- Compact and light weight
- Vibration and shock proof against rocket launch
- Sensor's effective area 10mm x 10mm with filmy observation window
- No high voltage power supply is required for measurement.
- Parts quality: MIL-STD-883B

Outer Shape Drawing



* This product was developed with the support of JAXA (Japan Aerospace Exploration Agency)

* Note that, with due to the rights of other relevant parties and/or depending on usage, application and/or delivery place, the product may not be sold, commercially distributed, leased or included in a part of product or system which intends to receive benefits through the inclusion of the product.

Specifications

The radiation count is measured at four different energy levels (70KeV, 300KeV, 700KeV, 1MeV). The SMP transmits the number of particles counted by 16-bit counter in certain time. Only a single +5V power supply is required. Power supply for the sensor (+70V), for the analog part (+5V), and for the digital part (+5V and +2.5V) are generated inside from the +5V power supply. The interface with the satellite system receives serial command and transmits selected count data. In addition, calibration signal can be input by command.

Measuring range		4 different energy levels (70KeV, 300KeV, 700KeV, 1MeV) 16-bit counter at representative energy
Electrical performance	Frequency	10MHz
	Interface	RS-422 synchronous communication/start-stop synchronization (command)/C-MOS 8bits bus (telemetry)
	Power consumption	0.22W (max. value)
	Power supply voltage	+5.0 to +5.3V
	Connector	MDM-25S(Mini Dsub)
Mechanical performance	Field of vision	Half vertical angle 45°
	Mass	280g
	Dimension	D126 × W107 × H28.7 mm (excluding flange, screw, etc)
	Operating temp. range	-20°C to +50°C
	Storage temp. range	-20°C to +60°C

* The specifications will be tailored to suit your needs



Caution

- Specifications and designs are subject to change without notice.
- Specifications and designs are based on the standard model. Please contact us regarding further customization to suit your project's needs.
- This products may be subject to the application of the Foreign Exchange and Foreign Trade Act and other related laws and regulations in Japan. Customer agrees to comply with such regulations and acknowledges that it is their responsibility to obtain any required licenses to export, re-export, or import this products.
- We shall not be liable for any damages arising out of or in connection with the use of specifications herein, including liability for lost profit, business interruption, or any other damages whatsoever.
- The printed colors may appear difficult from the actual product.

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