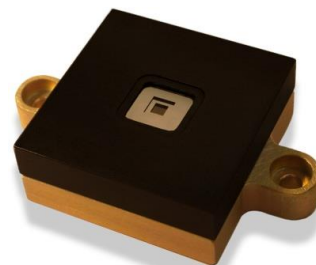


Sun Sensor for small satellites with analog interface

Sun Sensor on a Chip (SSoC), is based on MEMS fabrication processes to achieve highly integrated sensing structures for high accurate sun-tracking, positioning systems and attitude determination.

SSOC-A60 device measures the incident angle of a sun ray in two axes. The high sensitivity is based on geometrical dimensions of the design.

Every sensor is calibrated and characterized, and a look-up table is provided for its application. The use of a metal shield and a cover glass in the optical eye minimizes the ageing of the device under high radiation levels.



ITAR FREE

Technical specifications:

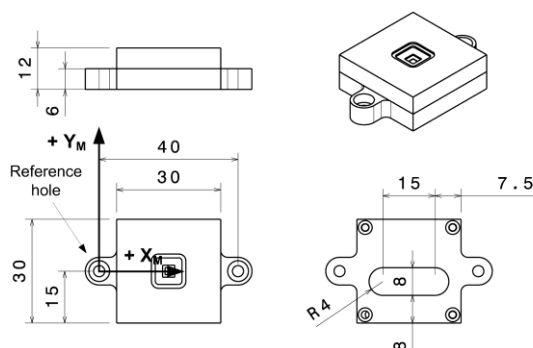
Parameter	SSOC-A60	Unit	Comments
Sensor type	2 axes	-	Orthogonal
Field of view (FOV)	$\pm 60^\circ$	$^\circ$	Angular size of the view cone
Accuracy	< 0.3	$^\circ$	3σ
Precision	< 0.05	$^\circ$	-
Average consumption	< 2	mA (light)	-
Supply voltage	3.3/5	V	-
Output voltages	0-3.3 / 0-5	V	4 analog output photodiode voltages
Mass	25	g	-
Housing	6082		Aluminum, black anodizing

Qualification Data and Flight Heritage:

Data	Value
Operating Temperature	-45° to 85° Celsius
Radiation	> 100 kRad (gamma) 6 MeV 3000 kRad (protons)
Random vibration	$14,1g$ @ $20-2000$ Hz
Shock	$3000g$ @ $1-100$ ms

It includes MEMS technology of Solar MEMS with flight heritage
Electronic components are space-grade.

More than **50 units** included in more than 10 missions.



Mechanical layout and interface dimensions