

Product Overview

STAR1000: CMOS Image Sensor, 1 MP, Radiation Tolerant

For complete documentation, see the data sheet.

STAR1000 is a CMOS image sensor with 1024 by 1024 pixels on a 15 µm pitch. It features on-chip Fixed Pattern Noise (FPN) correction, a programmable gain amplifier, and a 10-bit Analog-to-Digital Converter (ADC).

All circuits are designed using the radiation tolerant design techniques to allow high tolerance against total dose effects. Registers which contain the X- and Y- addresses of the read out pixels can be directly accessed by the external controller. This architecture provides for flexible operation and allows different operation modes such as (multiple) windowing, subsampling, etc.

STAR1000 is assembled using a BK7G18 glass lid with a Nitrogen-filled cavity which increases the temperature operating range. The STAR1000 flight model has additional screening to space qualified standards.

Export restrictions from the European Union require technical information concerning this device to be controlled for customers outside of the EU. The datasheet as well as any appropriate technical documents for this device are available in the (<https://www.onsemi.com/PowerSolutions/myon/erCispFolder.do>)Image Sensor Portal, available to customers with an NDA (and, as appropriate, an export license) in place with ON Semiconductor.

Features

- 1 inch 35 mm optical format
- High radiation tolerance
- High sensitivity
- Low noise
- Region of Interest (ROI) readout

Applications

- Nuclear inspection
- Machine vision
- Space science

End Products

- Star trackers
- Sun sensors

Part Electrical Specifications

Product	Compliance	Status	Type	Megapixels	Frame Rate (fps)	Optical Format	Shutter Type	Pixel Size (µm)	Output Interface	Color	Package Type
NOIS1SM1000A-HHC	Pb-free	Active	CMOS	1	11	1 inch	Rolling	15 x 15	-	Mono	JLDCC-84
	Halide free										
NOIS1SM1000S-HHC	Pb-free	Active	CMOS	1	11	1 inch	Rolling	15 x 15	-	Mono	JLDCC-84
	Halide free										
NOIS1SM1000S-HWC	Pb-free	Active	CMOS	1	11	1 inch	Rolling	15 x 15	-	Mono	JLDCC-84
	Halide free										

For more information please contact your local sales support at www.onsemi.com.

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