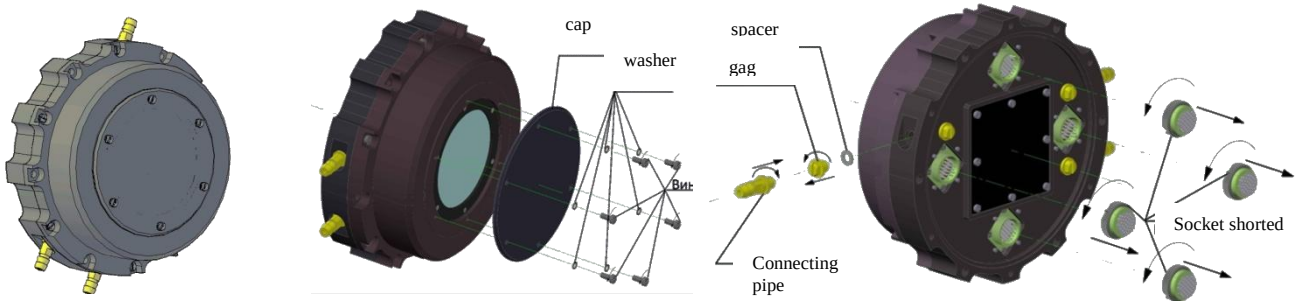
JSC "Ruselectronics"
NATIONAL RESEARCH INSTITUTE
ELECTRON

PHOTODETECTOR FPU-1R

Photodetector is intended for wide application, including detection of small size objects in systems of higher accuracy. It is used in TV systems of image conversion and processing with continuous and pulse illumination as well as in measurement equipment.



Photodetector consists of:

- CCD chip;
- thermoelectric battery (TEB);
- package;
- removable input window.

Photodetector basic photosensitive element is cooled 4096×4096 CCD.
The CCD is a silicon frame transfer n-channel device based on p-type substrate.

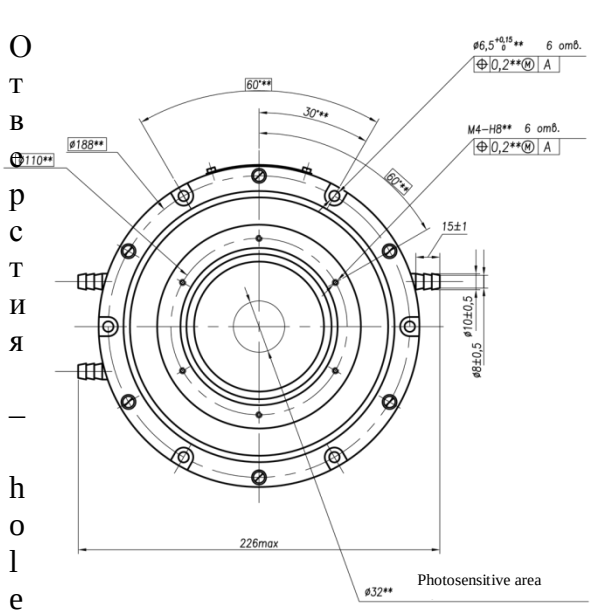
SPECIFICATIONS

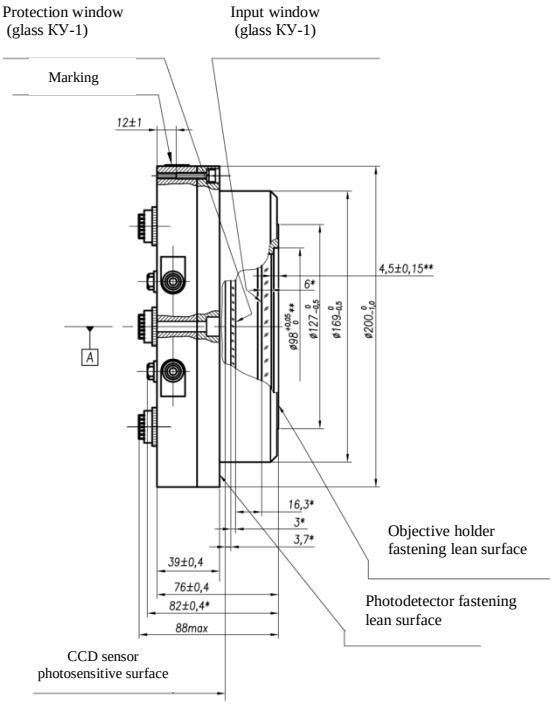
Saturation voltage, mV	>600
Saturation charge, thousand of electrons	>120
Dynamic range	>2400
Quantum efficiency in spectral range maximum, %	>80 (1)
Spectral response, nm	300-1000 (1)
Dark signal, mV/s	<100
Relative dark signal nonuniformity, %	<4
Relative luminous nonuniformity, %	<20
Transfer efficiency along the horizontal	>0.99995
Transfer efficiency along the vertical	>0.99995
Pixel size, μm	11×11
CCD thermoelectric cooling regarding external temperature, K	>30
Number of pixels	4096×4096
Register operation frequency, MHz	>1.0

(1) For backside illuminated thinned CCD.

Отверстия – holes Фо

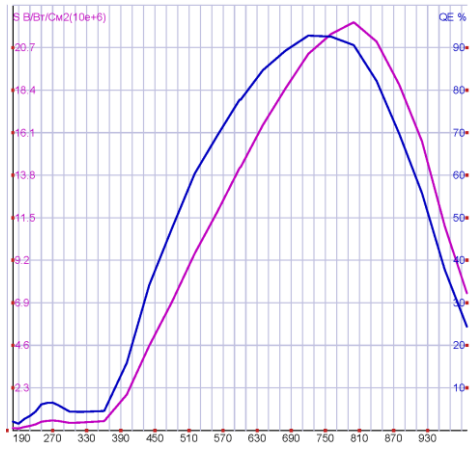
DIMENSIONAL OUTLINE



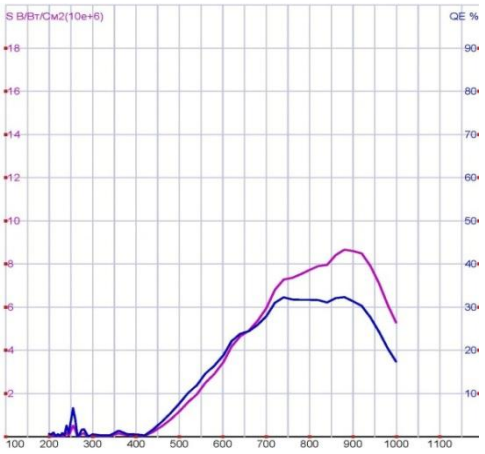


SPECTRAL RESPONSE CHARACTERISTICS

Backside illuminated CCD



CCD illuminated from electrode side



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