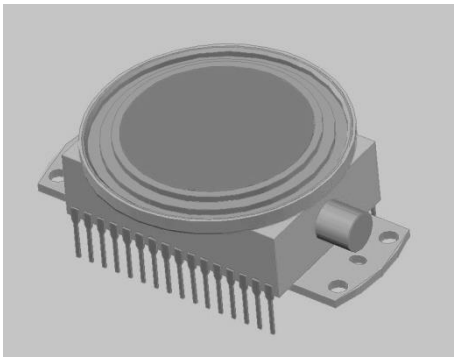
JSC "Ruselectronics"
NATIONAL RESEARCH INSTITUTE
ELECTRON

CHARGE TRANSFER CCD PHOTODETECTOR 1024M



Developed CCD resistant to space environment ionization radiation is intended for operation in visible and near IR spectral range and provides higher accuracy and interference protection of optoelectronic devices for spacecrafts astroorientation and angular measurements, and advanced detection range in enhanced radiation and ultra-wide-band electromagnetic exposure conditions of electric countermeasures equipment.

CCD 1024M has 1024×1024 pixels (one pixel size is 11×11 mm). CCD includes sections of accumulation and storage. The storage section has 1032 (V)×1048(H) elements format and independent of accumulation section control. The basic parameters are shown in Table 1.

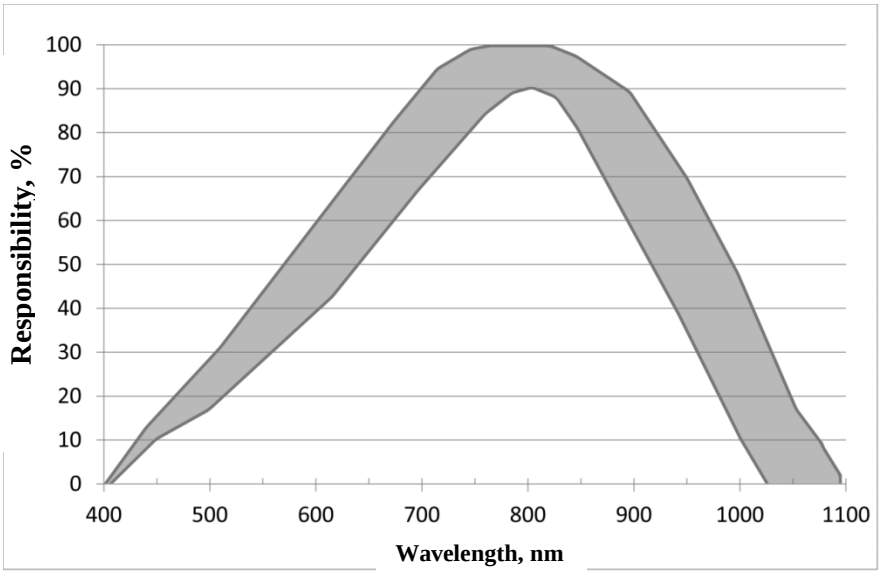
Table 1. Photodetector basic parameters

Parameter	Parameter designation	Parameter norm	
		Not less than	Not more than
Saturation voltage, mV	Us	3	4
Modulation transfer factor along the horizontal at500 TVL, %	M	50	-
Mean dark signal, mV/s	Ud	-	4
Dark signal RMS nonuniformity across the field, %	δUd	-	4
Dark signal RMS local nonuniformity in 5×5 pixel zone, %	δUd_5	-	3
Output signal relative RMS nonuniformity across the field, %	δUs	-	10
Output signal relative RMS local nonuniformity in 5×5 pixel zone, %	δUs_5	-	9
Responsivity to A type source, V/lx·s	S	10	15
Threhold exposure (at exposure time up to 1 s), lx·s	E	-	$2 \cdot 10^{-5}$
Suppression ratio of the local light overload	K	2	-
Charge transfer inefficiency	N	-	$1 \cdot 10^{-5}$
Spectral response, nm	L	450-1000	-

The number of white and black defect elements, pcs	D	-	100

CCD resistance to space environment ionization radiation to 7.C factor with 7.C4 characteristics of not less than 5.75×1Ус.

SPECTRAL RESPONSE



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