



## ■ CMOS Image Sensors for Digital Cameras/Digital Camcorders

Optical format	Total pixels	Color filter	Model No.	Video performance	Resolution	Pixel size H × V (μm)	Sensitivity (mV/Lux-sec) TYP.	Package
					Image pixels (H × V)			
1 type	13 110 k	R, G, B primary color mosaic filters	RJ5DY1BA0LT	4K2K 60 fps	4 144 × 3 096	3.1 × 3.1	1 420	N-LCC120-R898
		B/W	RJ5DY2BA0LT				2 340	
2/3 type	2 320 k	R, G, B primary color mosaic filters	RJ52N1BA0LT	1 080p 120 fps	1 984 × 1 116	5.0 × 5.0	3 520	N-LCC120-R898A
		B/W	RJ52N2BA0LT				5 200	
	9 130 k	R, G, B primary color mosaic filters	RJ52V1BA0LT	4K2K 60 fps	3 968 × 2 232	2.5 × 2.5	1 780	
		B/W	RJ52V2BA1LT				2 600	

**Notice**

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## High-sensitivity Image Sensors for Security Usage

### ■ Progressive CCDs

Optical format	Total pixels	Model No.	Video performance	Color filter	Resolution	Pixel size H × V (μm)	Sensitivity*1 (mV) TYP.	Smear ratio (dB) TYP.	Package			
					Image pixels (H × V)							
1/3 type	350 k	RJ33B3AA0DT*2	VGA 120 fps (1 ch output)	Primary color	660 × 494	7.4 × 7.4	3 000	-125	P-DIP024-0400			
		RJ33B4AA0DT*2		B/W			4 500					
		RJ33B3AD0DT*2	VGA 200 fps (2 ch output)	Primary color			3 000					
		RJ33B4AD0DT*2		B/W			4 500					
	520 k	RJ3331AA0PB	NTSC 650 TV lines	Complementary color	976 × 494	5.0 × 7.4	1 500	-120	P-DIP016-0450			
	610 k	RJ3341AA0PB	PAL 650 TV lines	Complementary color	976 × 582	5.0 × 6.3						
1 350 k		RJ33J3CA0DT*2	1.3M 30 fps 720p 30 fps (1 ch output)	Primary color	1 320 × 976	3.75 × 3.75	950	-120	P-DIP024-0400			
		RJ33J4CA0DT*2		B/W			1 430					
1/1.8 type	2 100 k	RJ31N3AA0DT	2M 25 fps (1 ch output)	Primary color	1 644 × 1 236	4.4 × 4.4	1 100	-120	P-DIP028-0566			
		RJ31N4AA0DT		B/W			1 650					
	2 130 k	RJ31N3AD0DT	2M 50 fps (2 ch output)	Primary color			1 100					
		RJ31N4AD0DT		B/W			1 650					
	2 960 k	RJ31P3AD0DT*2	2.8M 30 fps (2 ch output)	Primary color			1 940 × 1 460			3.69 × 3.69	750	-115
		RJ31P4AD0DT*2		B/W							1 150	

\*1 The average G signal output voltage (the average output voltage in the case of the complementary color filter) when a 1,000-lux light source with a 90% reflector is imaged by a lens of F4 at 1/30 sec (1/25 sec in the case of RJ3341AA0PB) frame accumulation.

\*2 This model is the next-generation model. Light efficiency including the near-infrared light region has been drastically improved by our process technology.

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### ■ Progressive CCDs (cont'd)

Optical format	Total pixels	Model No.	Video performance	Color filter	Resolution	Pixel size H × V (μm)	Sensitivity*1 (mV) TYP.	Smear ratio (dB) TYP.	Package
					Image pixels (H × V)				
2/3 type	5 240 k	RJ32S3AA0DT	5M 9 fps (1 ch output)	Primary color	2 456 × 2 058	3.45 × 3.45	530	-110	P-DIP028-0566
		RJ32S4AA0DT		B/W			800		
		RJ32S3AD0DT	5M 15 fps (2 ch output)	Primary color			530		
		RJ32S4AD0DT		B/W			800		
1/1 type	6 090 k	RJ3DT3AF0DT*2	6M 30 fps (4 ch output)	Primary color	2 758 × 2 208	4.54 × 4.54	1 150	-125	P-DIP064-1000
		RJ3DT4AF0DT*2		B/W			1 750		
	8 290 k	RJ3DV3AF0DT*2	8M 25 fps (4 ch output)	Primary color	3 320 × 2 496	3.88 × 3.88	750	-120	
		RJ3DV4AF0DT*2		B/W			1 100		
4/3 type	8 340 k	RJ3EV3EF0DT*2	8M 25 fps (4 ch output)	Primary color	3 848 × 2 168	5.14 × 5.14	1 500	-125	P-DIP064-1000B
		RJ3EV4EF0DT*2		B/W			2 250		

\*1 The average G signal output voltage when a 1,000-lux light source with a 90% reflector is imaged by a lens of F4 at 1/30 sec frame accumulation.

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### ■1/3-type CCDs

Total pixels	Standard		Model No.	Resolution		Pixel size H × V (μm)	Sensitivity*1 (mV) TYP.	Smear ratio (dB) TYP.	Package
				Horizontal TV lines	Image pixels (H × V)				
410 k	Color	NTSC	RJ2355DA0PB	480	768 × 494	6.4 × 7.5	2 700	-135	P-DIP016-0450
470 k		PAL	RJ2365DA0PB		752 × 582	6.53 × 6.39			
520 k		NTSC	RJ2331BA0PB	650	976 × 494	5.0 × 7.4	2 400	-125	
610 k		PAL	RJ2341BA0PB		976 × 582	5.0 × 6.3			

\*1 The average output voltage measured when imaging a 90% reflector illuminated by a 1,000-lux light source through an optical system set at an f number of F4.0.

### ■1/4-type CCDs

Total pixels	Standard		Model No.	Resolution		Pixel size H × V (μm)	Sensitivity*1 TYP. (mV)	Smear ratio TYP. (dB)	Package
				Horizontal TV lines	Image pixels (H × V)				
410 k	Color	NTSC	RJ2455DA0PB	480	768 × 494	4.9 × 5.6	1 350	-120	P-DIP014-0400A
470 k		PAL	RJ2465DA0PB		752 × 582	5.0 × 4.77			
520 k		NTSC	RJ2431AA0PB	650	976 × 494	3.75 × 5.56	1 400		
610 k		PAL	RJ2441AA0PB		976 × 582	3.75 × 4.74			

\*1 The average output voltage measured when imaging a 90% reflector illuminated by a 1,000-lux light source through an optical system set at an f number of F4.0.

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