



# CMOS Image Sensors



Specifications	KAC-9618	KAC-9619	KAC-9628
Array Format Total	664 x 504	664 x 504	664 x 504
(H x V) Active	648 x 488	648 x 488	648 x 488
Effective Image Area Total	4.98 x 3.78	4.98 x 3.78	4.98 x 3.78
(H x V in mm) Total	4.86 x 3.66	4.86 x 3.66	4.86 x 3.66
Optical Format (Inch)	1/3	1/3	1/3
Pixel Size (µm)	7.5 x 7.5	7.5 x 7.5	7.5 x 7.5
Video Outputs (Bit Digital)	8, 10 and 12	8, 10 and 12	8, 10 and 12
Frame Rate (Frames per second)	30	30	30
Dynamic Range (dB linear mode)	62	62	62
(dB non-linear mode)	110	110	110
Electronic Shutter	Rolling Reset	Rolling Reset	Rolling Reset
FPN (%)	0.1	0.1	0.1
PRNU (%)	1.5	1.5	1.5
Sensitivity (V/lux.s)	5	5	2.7
Quantum Efficiency (%)	27	27	27
Color Mosaic	—	—	Bayer Pattern
Fill Factor (%)	47	47	47
Package	48 CLCC	48 CLCC	48 CLCC
Single Supply (V ±10%)	3.3	3.3	3.3
Power Consumption (mW)	120	120	120
Operating Temperature	-40°C - 85°C	-40°C - 85°C	-40°C - 85°C

## Sensors

Digi-Key Part No.	Price Each		
	1	25	100
KAC-9618-ND	18.19	16.98	15.77
KAC-9619-ND	19.06	17.79	16.52
KAC-9628-ND	19.06	17.79	16.52

## Sensor Evaluation Kit

This software/hardware solution is designed to give the system designer a complete raw data evaluation toolset. Snapshots of any scene can be taken and the raw data of the captured image can be downloaded to a PC through the parallel port. Also included is SNAPs image processing software, which can be used to view and apply different image processing algorithms to the raw data of a captured image.

**Kit Contents:** • Dual-board base • C-mount block • C-mount lens • Power supply • Cables

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# CMOS Image Sensors



**VGA** Micron's VGA resolution sensors feature resolutions of 640x480 and 752x480, and offer on-chip camera functions and very low power consumption for extending battery life. Plus, variable functions including gain, frame rate, and exposure, and can be programmed through a simple two-wire serial interface.

Optical Format	Array	Resolution	Color Filter	Supply Voltage	Frame Rate (fps)	Package	Digi-Key Part No.	1	Price Each 25	100	Micron Part No.
1/4"	640H x 480V	VGA	Color	2.8	30	28-PLCC	557-1315-ND	9.21	7.68	7.25	MT9V011P11STC:B
			Color	2.8	30	48-CLCC	557-1308-ND	18.41	14.61	13.97	MT9V135C12STC
			Color	2.8	30	44-CLCC	557-1241-ND	18.41	14.61	13.97	MT9V131C12STC
			Color	2.8	15 - 90	44-ICSP	557-1272-ND	25.98	21.17	19.24	MT9V11177ATC
			Color	2.8	15 - 90	44-ICSP	557-1273-ND	25.98	21.17	19.24	MT9V111A7ATC
			Color	2.8	30	52-IBGA	557-1238-ND	25.98	21.17	19.24	MT9V125IA7XTC
1/3"	752H x 480V	W-VGA	Color	3.3	60	52-IBGA	557-1166-ND	27.01	22.01	20.01	MT9V022IA7ATC
			Mono	3.3	60	52-IBGA	557-1205-ND	27.01	22.01	20.01	MT9V022IA7ATM
			Color	3.3	60	48-CLCC	557-1237-ND	24.42	19.90	18.09	MT9V032C12STC
			Mono	3.3	60	48-CLCC	557-1306-ND	24.42	19.90	18.09	MT9V032C12STM
			Color	3.3	60	52-IBGA	557-1267-ND	27.01	22.01	20.01	MT9V022I77ATC

**Megapixel** Micron's megapixel-resolution sensors combine the image quality of CCD technology with the compact size, adaptability, and ease-of-design of CMOS. CMOS-based technology can simplify camera designs compared to conventional CCD technology, thereby enabling designers to create smaller, high-performance applications with shorter development periods.

Optical Format	Array	Resolution (MP)	Color Filter	Supply Voltage	Frame Rate (fps)	Package	Digi-Key Part No.	1	Price Each 25	100	Micron Part No.
1/4.5"	1280H x 1024V	1.6	Color	2.8	30 - 60	48-ILCC	557-1395-ND	27.53	22.44	20.40	MT9M032C12STC
			Mono	2.8	30 - 60	48-ILCC	557-1396-ND	31.69	25.82	23.48	MT9M032C12STMU
1/3"	752H x 480V	1.3	Color	2.8	15	48-CLCC	557-1312-ND	22.34	18.21	16.55	MT9M131C12STC
			Color	3.3	60	52-IBGA	557-1398-ND	30.12	24.69	23.44	MT9V023IA7XTC
			Mono	3.3	60	52-IBGA	557-1401-ND	30.12	24.69	23.44	MT9V023IA7XTM
			Color	3.3	60	52-IBGA	557-1404-ND	30.12	24.69	23.44	MT9V023IA7XTR
			Color	3.6	60	48-CLCC	557-1407-ND	30.12	24.69	23.44	MT9V033C12STC
			Mono	3.6	60	48-CLCC	557-1408-ND	30.12	24.69	23.44	MT9V033C12STM
1/3.2"	1600H x 1200V	2	Color	2.8	15	48-CLCC	557-1311-ND	26.49	21.59	19.63	MT9D131C12STC
			Mono	3.3	30	48-CLCC	557-1151-ND	25.45	20.74	18.86	MT9M001C12STM
1/2"	2048H x 1536V	3	Color	3.3	12 - 93	48-PLCC	557-1164-ND	38.48	30.79	29.25	MT9T001P12STC
			Color	3.3	12 - 93	48-PLCC	557-1264-ND	35.32	28.79	26.17	MT9T031P12STC
			Color	2.8	14	48-ILCC	557-1262-ND	21.30	17.36	15.78	MT9P03112STC
1/2.5"	2592H x 1944V	5	Color	3.1	14	48-ILCC	557-1397-ND	26.49	21.59	19.63	MT9P03112STM
			Color	2.8	15 - 60	48-ILCC	557-1263-ND	29.09	23.71	21.55	MT9P40112STC
			Mono	3.3	500	280-PGA	557-1153-ND	721.85	—	—	MT9M413C36STM
1"	1280H x 1024V	1.3	Mono	3.3	500	280-PGA	557-1152-ND	915.78	—	—	MT9M413C36STC

◆ RoHS Compliant

## Image Sensor Evaluation Kits

Micron Imaging's Demonstration system family supports the full line of Micron's CMOS image sensor products. Several software applications are provided with the demonstration system, which allows the user to display the data from the sensor on the host computer, and to change some basic settings of the sensor for evaluation purposes. A Software Development Kit (SDK) is also provided to customers who wish to write their own software applications to access the sensor on the Demo System.

**Kit Includes:** • Imaging Demo Camera Board • Sensor Head Board with Lens • USB 2.0 Cable • Tripod • Software • Users Manual

557-1156-ND◆ For use with MT9M001	900.39	557-1429-ND◆ For use with MT9P031, Mono	900.39	557-1402-ND◆ For use with MT9V023, Mono	900.39
557-1163-ND For use with MT9T001	900.39	557-1431-ND◆ For use with MT9P033, Color	900.39	557-1405-ND◆ For use with MT9V023, RCCC	900.39
557-1159-ND For use with MT9M413, Mono	8587.49	557-1433-ND◆ For use with MT9P033, Mono	900.39	557-1244-ND◆ For use with MT9V032, Mono	900.39
557-1158-ND† For use with MT9M413, Color	7720.66	557-1313-ND For use with MT9P401, Color	763.75	557-1249-ND◆ For use with MT9V032, Color	900.39
557-1248-ND◆ For use with MT9D131, Color	900.39	557-1257-ND◆ For use with MT9T031, Color	900.39	557-1256-ND◆ For use with MT9V111, Color	900.39
557-1411-ND◆ For use with MT9M032, Color	855.37	557-1265-ND For use with MT9V011, Color	900.39	557-1239-ND For use with MT9V125, Color	855.37
557-1246-ND◆ For use with MT9M131, Color	900.39	557-1268-ND For use with MT9V022, Color	900.39	557-1242-ND For use with MT9V131, Color	900.39
557-1409-ND◆ For use with MT9M032, Mono	900.39	557-1399-ND◆ For use with MT9V023, Color	900.39	557-1247-ND◆ For use with MT9V135, Color	900.39
557-1258-ND◆ For use with MT9P031, Color	900.39				

† With Frame Grabber ◆ RoHS Compliant

## Sensor Head Boards

The Sensor Head Boards include the image sensor and lens mounted with all necessary components. The Sensor Head Boards will connect to the Demo2 board (not included) to make a complete development system.

557-1165-ND◆ For use with MT9T001, Color	259.73	557-1430-ND◆ For use with MT9P031, Mono	259.73	557-1240-ND For use with MT9V125, Color	246.74
557-1204-ND◆ For use with MT9V022, Mono	246.91	557-1314-ND For use with MT9P401, Color	259.73	557-1243-ND For use with MT9V131, Color	259.73
557-1253-ND◆ For use with MT9D131, Color	259.73	557-1259-ND◆ For use with MT9T031, Color	259.73	557-1252-ND◆ For use with MT9V135, Color	259.73
557-1261-ND For use with MT9M001, Mono	259.73	557-1254-ND◆ For use with MT9V032, Color	259.73	557-1400-ND◆ For use with MT9V023, Color	259.73
557-1412-ND◆ For use with MT9M032, Mono	259.73	557-1307-ND For use with MT9V032, Mono	259.73	557-1403-ND◆ For use with MT9V023, Mono	259.73
557-1428-ND◆ For use with MT9M032, Color	246.74	557-1432-ND◆ For use with MT9V011, Color	259.73	557-1406-ND◆ For use with MT9V023, RCCC	259.73
557-1251-ND◆ For use with MT9M131, Color	259.73	557-1434-ND◆ For use with MT9V033, Mono	259.73		
557-1260-ND◆ For use with MT9P031, Color	259.73	557-1266-ND For use with MT9V011, Color	259.73		

◆ RoHS Compliant

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