

Compatible Camera with MiCAM02 **MiCAM02-CMOS**



Original CMOS Image Sensor
 Pixels: 92x60, 188x160
 Max Frame Rate: 1,660 frames/sec
 Max S/N ratio: > 68dB

Features

Original CMOS image sensor developed by Brainvision Inc. Higher frame rate (max: 0.6msec/frame) and lower noise

To achieve signal readout with higher speed and lower noise, many parts from pixel to readout circuit are tuned up with the latest CMOS technology. This allows the CMOS camera to record at higher frame rates of up to 0.6msec/frame at 92x80 pixels, and 1.2msec/frame at 188x160 pixels.

Compatible with MiCAM02

Current MiCAM02 users can easily utilize the new MiCAM02-CMOS camera by simply connecting the camera to the processor and updating the software version.

Wide dynamic range over 68dB

With sufficient light intensity emitted from a biological sample, it is possible to achieve higher S/N ratios than MiCAM02-HR and MiCAM02-HS.

Synchronized dual-camera system for dual-wave length imaging

The dual-camera system can be used to simultaneously image voltage-sensitive dye and calcium ion indicators, as well as perform 3D mapping of multiple locations on a biological sample.

Specifications for MiCAM02-CMOS

Process Technology	0.18CIS -P1M6
Resolution (pixels)	188(H) x 160(V) / 92(H) x 80(V)
Pixel Size	30 μ m square
Pixel Aperture Ratio	63%
Actual Sensor Size	5.76mm x 4.8mm
Well Depth	450,000e
Readout Noise	< 150e
Dynamic Range	> 68 dB
Temporal Noise Factor	< -57dB
Chip Size	7.0mm square
Max. Frame Rate	1,660 fps
Compatibility	MiCAM02
Shutter	Original Global Shutter

Comparison between MiCAM02-CMOS and MiCAM02-HR

Model	MiCAM02-CMOS	MiCAM02-HR
Image Sensor	Original CMOS	1/2 inch CCD (ICX428ALL)
Actual Sensor Size	5.76mm x 4.8mm	6.4mm x 4.8mm
Spatial Resolution (HxV, Pixels)	92 x 80	40 x 28
	188 x 160	88 x 60
		184 x 124
Temporal Resolution (/Frame)	0.6ms@92 x 80	1.3ms@40 x 28
		2.2ms@88 x 60
	1.2ms@188 x 160	3.7ms@184 x 124
Maximum Recordable Frame Number	8,720@92 x 80	7.0ms@376 x 252
		21,480@40 x 28
	4,260@188 x 160	21,480@88 x 60
Well-Depth	450,000e	5,460@184 x 124
		1,364@376 x 252
		100,000e@88x60 (H-bin mode: 6,000e@88x60)
Actual Quantum Efficiency	45%@550nm	100,000e@184x124 (H-bin mode: 12,000e@184x124)
	38%@700nm	75%@550nm
	50%@700nm	
Dark Noise	150e@1.2ms, 188 x 160	40e@2.2ms, 88x60 (H-bin mode: 15e@2.2ms, 88x60)
		60e@3.7ms, 184x124 (H-bin mode: 20e@3.7ms, 184x124)

 **SciMedia**
 SciMedia USA Ltd.

940 South Coast Drive, Suite 160
 Costa Mesa, CA 92626, USA
 Tel: +01 714 850 0797
 Fax: +01 714 850 9308
 Email: info@scimedia.com
 URL: www.scimedia.com

Visit the website (<http://www.scimedia.com/>) for more information.