

MicroLine ML50100

Quality. Cooled. Cameras.

8176 x 6132 Imaging Array

6 μm Pixel Size

The new microlensed KAF-50100 is the result of a year-long collaborative effort between ON Semiconductor (and Finger Lakes Instrumentation). Our goal: to create a sensor with both extremely high resolution and excellent quantum efficiency (QE). The significantly boosted QE of the new KAF-50100 sensor brings it in line with popular full frame sensors such as the KAF-16803 and KAF-8300 but with much higher spatial resolution.

At 5" diameter in the front and less than 5" front to back, the ML50100 is a small camera with big camera capabilities. Each component of the camera is designed and manufactured for a long life in the most demanding conditions. The MicroLine ML50100 can cool to 45C below ambient in less than five minutes. Simply set the MicroLine cooling where you want it and the camera will do the rest, quickly and without worries.



Applications

Astronomy

Satellite Imaging

Bioluminescence

Low Light Level Imaging

Chemiluminescence

Features

Benefits

2 channels at 8 MHz each	Fast Image capture with full 16-bit resolution
8176 x 6132 Array with 6 μm pixels	Resolves fine detail
Flexible binning and readout	Increases frame rate
Thermoelectric Cooling to 45°C Below Ambient	Excellent low-noise imaging
Excellent quantum efficiency	High sensitivity for fast image acquisition
Optional Nikon F-mount & Canon EOS mount	Wide variety of optical choices
Acquisition software included	Ease of integration with open source SDK
USB 2.0 interface	Industry standard connectivity; fast data transfer



Engineering Excellence

Because Your Image Depends On It.

1250 Rochester St.
Lima NY 14485 · USA
585 624 3760
sales@flicamera.com
www.flicamera.com

*Due to continuous development, all specifications subject to change without notice.

Sensor Specifications (from manufacturer)

Sensor	On Semi KAF-50100	Sensor Size	49 X 36.7 mm	Megapixels	50
Pixels	8176 x 6132	Sensor Diagonal	61.2 mm	Video Size (inch)	3.8"
Pixel Size	6 x 6 μ m	CCD Variants			
Full Well Capacity	40300 electrons	CCD Grades	Standard		
Color Options	Mono	Anti-Blooming	800x		
CCD Type	Full frame				

Sensor Quantum Efficiency (Absolute)



Camera Performance

Typical Maximum Cooling	45°C below ambient	Dark Current (typical)	.015 eps at -25°C
Temperature Stability	0.1°C	Cooling Method	Air (Optional liquid)
Digitization Speed	Two channels at 8 MHz each		
Typical System Noise	12 e- @ 8 MHz	Non-Linearity	<1%
Focal Plane to Face Plate	0.83" optical (21mm)	Weight	4.27 lbs (1.9 kg)
Typical Gain	0.57e-/count	Housing	5.07 X 5.07 X 5 inches (12.8 X 12.8 X 12.7 cm)
Lens Mounts	Optional Nikon F-mount & Canon EOS mount		
Interface	USB 2.0	Camera Channels	2
Available Shutters	65 mm		
External Triggering	Standard		
Environment	-30°C to 45°C 10% - 90% Relative Humidity		
Power	12V (100-240V AC to 12V DC power supply included). With TEC off: <1A. TEC at 100%: 4.6A. Shutter open: 4A pulse for 100msec. Shutter held open, add 0.22A.		



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