

## 1024 x 1024 Imaging Array

## 13 $\mu\text{m}$ Pixel Size

ProLine sets the standards in key performance areas that include: download speeds, cooling, low noise operation, anti-ghosting technology, image quality, and linearity. ProLine download speeds are fast while maintaining low noise frame quality. ProLine achieves outstanding cooling without water assist. simply set the ProLine cooling where you want it and the camera will do the rest -- quickly and without worries. ProLine frame quality is second to none thanks to careful design, implementation, and setup. All cameras are assembled in our clean room under exacting conditions and must pass a battery of tests before being shipped.



### Features

### Benefits

750 kHz and 2 MHz digitization

Fast Image capture with full 16-bit resolution

1024 x 1024 Array with 13  $\mu\text{m}$  pixels

Resolves fine detail

Flexible binning and readout

Increases frame rate

Thermoelectric Cooling to 60°C Below Ambient

Excellent low-noise imaging

Excellent quantum efficiency

High sensitivity for fast image acquisition

Optional Nikon F-mount or Canon EOS lens 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

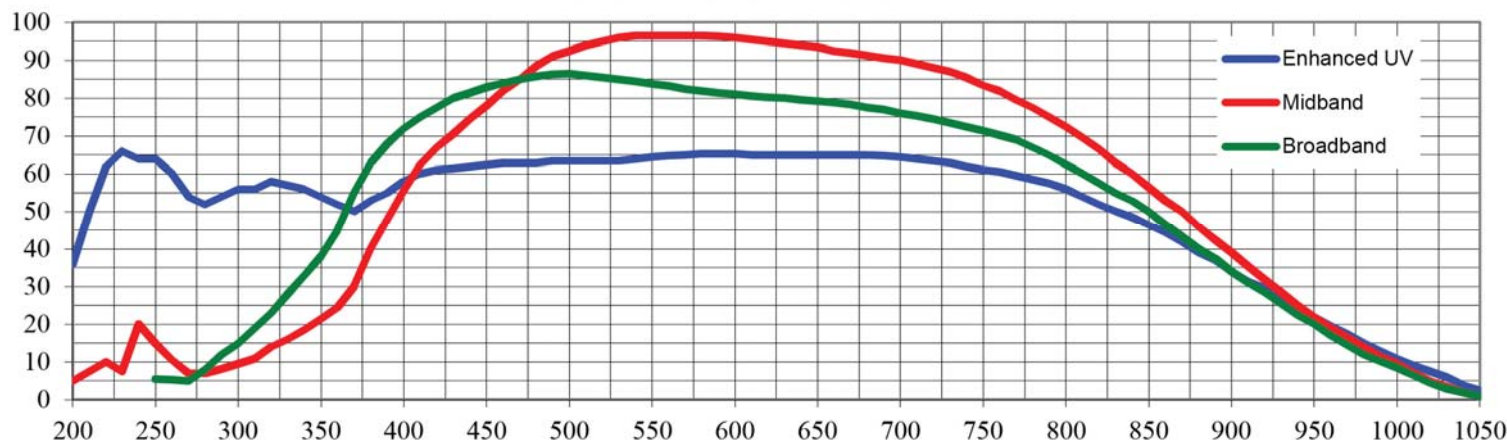
*Because Your Image Depends On It.*

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## Sensor Specifications (from manufacturer)

<b>Sensor</b>	e2v CCD47-10-1-353	<b>Sensor Size</b>	13.3 X 13.3 mm	<b>Megapixels</b>	1
<b>Pixels</b>	1024 x 1024	<b>Sensor Diagonal</b>	18.8 mm	<b>Video Size (inch)</b>	1.2
<b>Pixel Size</b>	13 $\mu$ m	<b>CCD Variants</b>	MB (353);BB (371);UV (373)	<b>CCD Grades</b>	1
<b>Full Well Capacity</b>	100000 electrons	<b>Anti-Blooming</b>	NA		
<b>Color Options</b>	Monochrome only				
<b>CCD Type</b>	Full frame				

## Sensor Quantum Efficiency (Absolute)



## Camera Performance

<b>Typical Maximum Cooling</b>	60°C below ambient	<b>Dark Current (typical)</b>	0.05 electrons/pixel/sec at -40°C
<b>Temperature Stability</b>	0.1°C	<b>Cooling Method</b>	Air (Optional liquid)
<b>Digitization Speed</b>	750 kHz & 2 MHz	<b>Non-Linearity</b>	<1%
<b>Typical System Noise</b>	9 e- @ 750 kHz; 15 e- @ 2 MHz	<b>Weight</b>	5.6 lbs (2.5 kg)
<b>Housing Dimensions</b>	6.2 X 6.2 X 3.8 inches (15.7 X 15.7 X 9.6 cm)		
<b>Focal Plane to Face Plate</b>	21 mm		
<b>Lens Mounts</b>	Optional Nikon F-mount or Canon EOS mount		
<b>Interface</b>	USB 2.0	<b>Camera Channels</b>	1
<b>Available Shutters</b>	65 mm	<b>Shutter MTBF</b>	1000000
<b>External Triggering</b>	Standard		
<b>Environment</b>	-30°C to 45°C   10% - 90% Relative Humidity		
<b>Power</b>	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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