Near IR
PA5120 F91 NCP



GPixel GMAX0505 – 25MP High-Resolution Global Shutter Imaging

Advanced 2.5 µm Global Shutter Pixel Technology

The GPixel GMAX0505 features advanced 2.5 µm charge-domain global shutter pixels, delivering an impressive 25-megapixel resolution within a compact 1.1-inch optical format.

Despite its small pixel pitch, the sensor achieves a peak Quantum Efficiency (QE) of over 65% and excellent angular response, thanks to GPixel's advanced light-pipe technology.

An optimized tungsten shielding structure over the pixel memory nodes ensures a shutter efficiency of more than 80 dB, effectively minimizing unwanted light leakage during image readout.

This advanced sensor architecture delivers exceptional image detail and reliable global shutter performance for demanding high-speed machine vision applications.

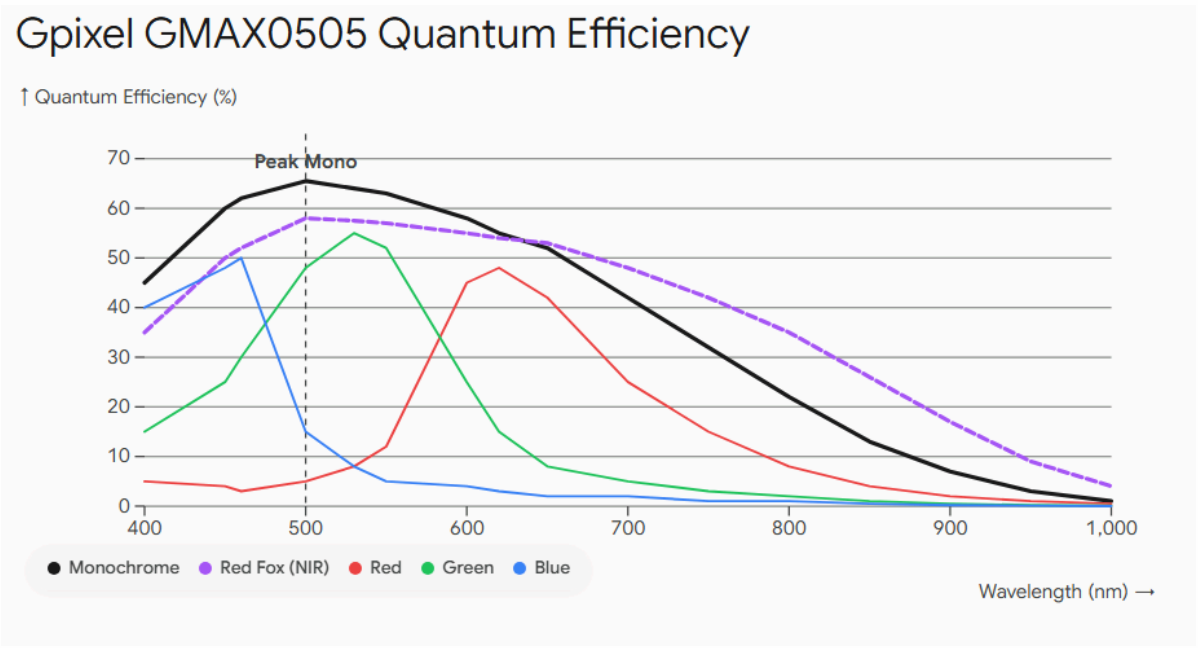
APPLICATIONS

• **Semiconductor & PCB Inspection (AOI)**
Enables high-speed, high-precision inspection of fine circuit patterns, soldering defects, missing components, and assembly irregularities in semiconductor and PCB manufacturing.

• **Flat Panel Display Inspection (FPD)**
Supports precise detection of pixel defects and backlight uniformity issues in mobile displays, television panels, and other flat panel display products.

• **Intelligent Transportation Systems (ITS)**
Captures high-resolution images of fast-moving vehicles and license plates with minimal motion distortion, supporting reliable traffic monitoring and vehicle identification.

• **Logistics & Pharmaceutical Packaging Inspection**
Enables real-time barcode reading, label verification, and surface defect detection on products moving along high-speed production and packaging lines.



SPECIFICATION

	PA5120 F91 NCP
SWIR Sensor Information	
Sensor	GPIX GMAX0505
Maker	Area NIR Global shutter
Spectral Response	
Pixel Pitch	2.5µm
Frame Rate	91fps
Focal Plane Array	5120 x 5120
Interfaces	
Mode	CXP6-4
Pixel clock / Protocol	CoaXPress
Image Data	10-bit Mono.
Functionality	
Image Acquisition Mode	Free running / External Trigger using +5V TTL or CC1 (for CL only) or Software(for CXP only)
Image Correction	PRNU / VIGNETTNG / Bad Pixel
Electrical Interface	
Input Voltage	DC12V or PoCXP
Power Consumption	<7W
Environmental Conditions	
Operation Temperature	-10°C ~ 40°C
Operation Relative Humidity	maximum 90% non-condensing
Storge Temperature	-40°C ~ 85°C
Storage Relative Humidity	maximum 90% non-condensing
Mechanical Interface	
Size (W x H x D)	60 x 60 x 51.39mm
Weight	272g (without Lens)
Lens mount	M4
Power connector	6-pin threaded Hirose Mating connector part# HR10A-7R-6PB(73)

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