

Mako G

G-503



- ON Semiconductor CMOS sensor
- Power over Ethernet
- Switchable shutter modes
- Ultra-compact design

Description

Gigabit Ethernet camera, ON Semiconductor CMOS sensor, 14 fps

Mako G-503 is a 5.0 megapixel GigE machine vision camera that incorporates the high quality Type 1/2.5 (7.13 mm diagonal) ON Semiconductor MT9P031 (monochrome) / MT9P006 (color) CMOS sensor. At full resolution, this camera runs 14 frames per second. With a smaller region of interest, higher frame rates are possible.

Mako G cameras have an ultra-compact form factor and the same mounting positions as many analog cameras. All models include Power over Ethernet (PoE), three opto-isolated outputs, and a 64 MByte image buffer. The image quality profits from the precisely aligned sensor. By default monochrome models ship with no optical filter and color models ship with IRC Hoya C-5000 IR cut filter.

Options:

- Various optical filter and lens mount options
- White medical housing

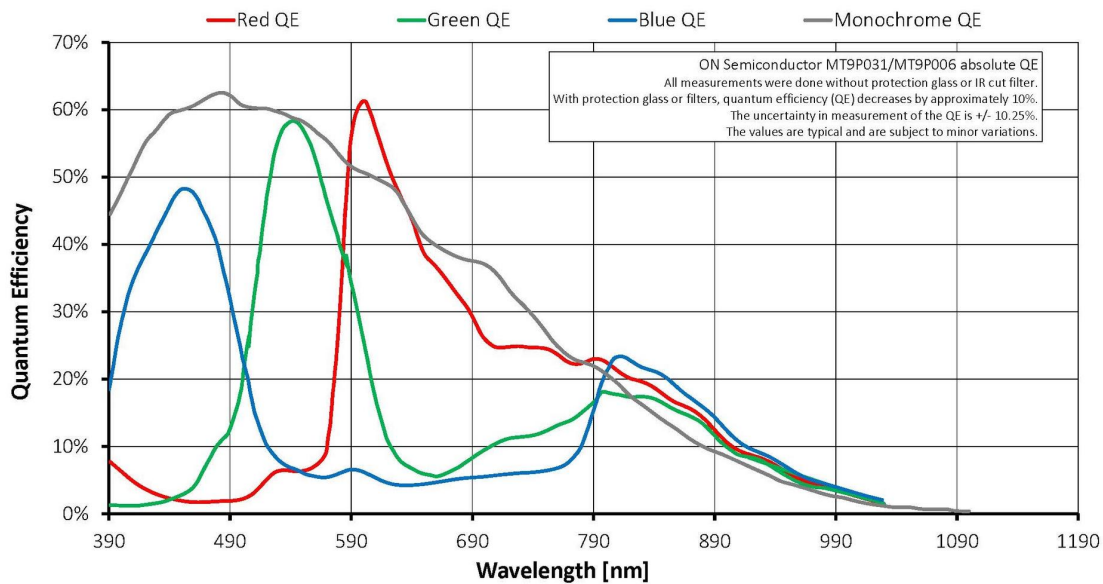
See the [Modular Concept](#) for lens mount, optical filter, and housing design options.

See the [Customization and OEM Solutions](#) page for additional options.

Specifications

Mako G	G-503
Interface	IEEE 802.3 1000BASE-T, IEEE 802.3af (PoE)
Resolution	2592 (H) × 1944 (V)
Sensor	ON Semi MT9P031 / MT9P006
Sensor type	CMOS

Mako G	G-503
Sensor size	Type 1/2.5
Pixel size	2.2 μm \times 2.2 μm
Lens mount (default)	C-Mount
Max. frame rate at full resolution	14 fps
ADC	12 bit
Image buffer (RAM)	64 MByte
Output	
Bit depth	8/12 bit
Monochrome pixel formats	Mono8, Mono12, Mono12Packed
YUV color pixel formats	YUV411Packed, YUV422Packed, YUV444Packed
RGB color pixel formats	RGB8Packed, BGR8Packed
Raw pixel formats	BayerGR8, BayerGR12Packed, BayerGR12
General purpose inputs/outputs (GPIOs)	
Opto-isolated I/Os	1 input, 3 outputs
Operating conditions/dimensions	
Operating temperature	+5 °C to +45 °C housing temperature
Power requirements (DC)	12 to 24 VDC; PoE
Power consumption	2.0 W @ 12 VDC; 2.2 W PoE
Mass	80 g
Body dimensions (L \times W \times H in mm)	60.5 \times 29.2 \times 29.2 (including connectors)
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU (RoHS); FCC Class B; CAN ICES-003





Features

Image optimization features:

- Auto gain (manual gain control: 0 to 24 dB; 1 dB increments)
- Auto exposure (31 μ s to 1 s; 36.4 μ s increments)
- Auto white balance (G-503C only)
- Binning
- Color transformation, hue, saturation (G-503C only)
- Decimation
- Gamma correction
- One look-up table (LUT)
- Pixel defect masking
- Region of interest (ROI), separate ROI for auto features
- Reverse X/Y

Camera control features:

- Event channel
- Image chunk data
- Storable user sets
- StreamBytesPerSecond (bandwidth control)
- Stream hold
- Switchable Rolling/GlobalReset shutter modes
- Sync out modes: Trigger ready, input, exposing, readout, imaging, strobe, GPO
- Temperature monitoring (main board only)

Technical drawing





Applications

Mako G-503 is suitable for a wide range of applications including:

- Robotics
- Quality control
- Inspection, surveillance
- Industrial imaging
- Machine vision
- Logistics