



**GC750** 

## **Description**

#### Low cost Gigabit Ethernet camera - 60 fps

The GC750 is an ultra-compact, economically priced, machine vision camera with Gigabit Ethernet interface (GigE Vision®). The GC750 runs 60 frames per second at 752x480 resolution over the GigE Vision-compliant Gigabit Ethernet interface.

- 60 fps at 752x480
- 1/3" CMOS sensor Aptina MT9V022 with 6.0 um square pixels
- CS-mount
- ultra-compact: 33x46x45mm including connectors, w/o tripod and lens

#### Models:

- GC750, 752x480, 60 fps, CMOS, mono
- ∘ GC750C, 752x480, 60 fps, CMOS, color

Important information: Prosilica GC Power Voltage Specification Update



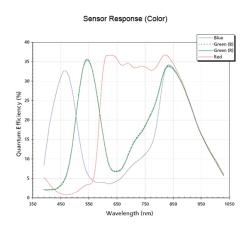
# **Specifications**

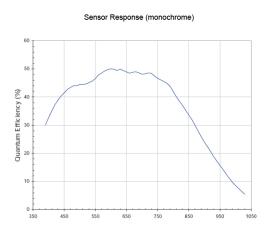
Resolution 752 x 480 Sensor Micron/Aptina MT9V022 Sensor type CMOS Progressive Sensor size Type 1/3 Cell size 6 µm Lens mount CS Max frame rate at full resolution A/D 10 bit On-board FIFO 16 MB Output Bit depth 8/10 bit Mono modes Mono8, Mono12Packed, Mono16 Color modes YUV YUV411, YUV422, YUV444 Color modes RGB RGB24, RGBA24, RGBA24, RGBA24 Raw modes Bayer8, Bayer12Packed, Bayer16 General purpose inputs/outputs (GPIOs) TTL I/Os 1 input, 1 output Opto-coupled I/Os 1 input, 1 output RS-232 1 Operating conditions/Dimensions Power requirements (DC) 2.2 W Mass 85 g Body Dimensions (L x W x H in mm) 45x46x33 including connectors, w/o tripod and lens	Prosilica GC	750
Sensor Micron/Aptina MT9V022 Sensor type CMOS Progressive Type 1/3 Cell size 6 μm  Lens mount CS Max frame rate at full resolution A/D 10 bit On-board FIFO 16 MB Output Bit depth 8/10 bit Mono modes Color modes YUV YUV411, YUV422, YUV444 Color modes RGB Raw modes Bayer8, Bayer12Packed, Bayer16 General purpose inputs/outputs (GPIOs) TTL I/Os 1 input, 1 output Color coupled I/Os RS-232 1 Coperating conditions/Dimensions Power requirements (DC) Power consumption (12 V) Mass Body Dimensions (L x W x H in mm)  CS Max frage Add Apropries Appropriation CS Max frage Add Appropriation CS Max frage Add Appropriation Appropriation CS Max frage Appropriation CS Max frame Appropriation CS Max frame Appropriation CS Appropriation CS Appropriation CS Appropriation CS Appropriation CAPPOPRIATION CAPPOPRI	Interface	IEEE 802.3 1000baseT
Sensor type  CMOS Progressive  Type 1/3  Cell size  6   6   6   Max frame rate at full resolution  A/D  10 bit  On-board FIFO  16   MB  Output  Bit depth  Mono modes  Color modes YUV  Color modes RGB  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Coperating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  CS  Mm  CS  Mm  CS  Mm  CS  Mm  CS  Mm  CS  MB  MB  MB  MB  MB  MB  MB  MB  MB  M	Resolution	752 x 480
Sensor size  Cell size	Sensor	Micron/Aptina MT9V022
Cell size  Lens mount  CS  Max frame rate at full resolution  A/D  On-board FIFO  16 MB  Output  Bit depth  Mono modes  Color modes YUV  Color modes RGB  RB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  RS-232  1  Operating conditions/Dimensions (DC)  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  AD  10 bit  00 bit  00 HB  00	Sensor type	CMOS Progressive
Lens mount  CS  Max frame rate at full resolution  A/D  On-board FIFO  16 MB  Output  Bit depth  Mono modes  Color modes YUV  YUV411, YUV422, YUV444  Color modes RGB  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  1 input, 1 output  Opto-coupled I/Os  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens	Sensor size	Type 1/3
Max frame rate at full resolution  A/D  10 bit  On-board FIFO  16 MB  Output  Bit depth  Mono modes  Color modes YUV  YUV411, YUV422, YUV444  Color modes RGB  RGB24, RGB24, RGB24, RGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  1 input, 1 output  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  10 MB	Cell size	6 μm
full resolution A/D 10 bit  On-board FIFO 16 MB  Output  Bit depth 8/10 bit  Mono modes Mono8, Mono12Packed, Mono16  Color modes YUV YUV411, YUV422, YUV444  Color modes RGB Raw modes Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os 1 input, 1 output  Opto-coupled I/Os 1 input, 1 output  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass Body Dimensions (L x W x H in mm)  A/D  Output  B/I bit  Output  YUV411, YUV422, YUV444  Color modes RGB Rono12Packed, Mono16  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  1 input, 1 output  5-16 V*  2.2 W  45x46x33 including connectors, w/o tripod and lens	Lens mount	CS
On-board FIFO  Output  Bit depth  Mono modes  Mono8, Mono12Packed, Mono16  Color modes YUV  YUV411, YUV422, YUV444  Color modes RGB  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  1 input, 1 output  RS-232  1  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  85 g  Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens	Max frame rate at full resolution	60 fps
Output  8/10 bit  Mono modes  Mono8, Mono12Packed, Mono16  Color modes YUV  YUV411, YUV422, YUV444  Color modes RGB  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  1 input, 1 output  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  85 g  Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens	A/D	10 bit
Bit depth 8/10 bit  Mono modes Mono8, Mono12Packed, Mono16  Color modes YUV YUV411, YUV422, YUV444  Color modes RGB RGB24, BGR24, RGBA24, BGRA24  Raw modes Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os 1 input, 1 output  Opto-coupled I/Os 1 input, 1 output  RS-232 1  Operating conditions/Dimensions  Power requirements (DC)  Power consumption 2.2 W  Mass 85 g  Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens	On-board FIFO	16 MB
Mono modes  Mono8, Mono12Packed, Mono16  Color modes YUV  YUV411, YUV422, YUV444  Color modes RGB  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  1 input, 1 output  RS-232  1  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  Mono8, Mono12Packed, Mono16  YUV411, YUV422, YUV444  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Boyer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  1 input, 1 output  2 operating conditions/Dimensions  5-16 V*  45x46x33 including connectors, w/o tripod and lens		Output
Color modes YUV  YUV411, YUV422, YUV444  Color modes RGB  RGB24, BGR24, RGBA24, BGRA24  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  1 input, 1 output  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  YUV411, YUV422, YUV444  AGRA24  RGB24, BGR24, RGBA24, BGRA24  Boyra 1, B	Bit depth	8/10 bit
Raw modes  Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  RS-232  1  Operating conditions/Dimensions (DC)  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  RGB24, BGR24, RGBA24, BGRA24  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  1 input, 1 output  1 output  2 operating conditions/Dimensions  2 2 W  45x46x33 including connectors, w/o tripod and lens	Mono modes	Mono8, Mono12Packed, Mono16
Raw modes  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  Opto-coupled I/Os  RS-232  1  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  Bayer8, Bayer12Packed, Bayer16  General purpose inputs/outputs (GPIOs)  1 input, 1 output  1 Operating conditions/Dimensions  2.2 W  45x46x33 including connectors, w/o tripod and lens	Color modes YUV	YUV411, YUV422, YUV444
General purpose inputs/outputs (GPIOs)  TTL I/Os  1 input, 1 output  1 input, 1 output  RS-232  1  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  85 g  Body Dimensions (L x W x H in mm)  General purpose inputs/outputs (GPIOs)  1 input, 1 output  2 input, 1 output  2 input, 1 output  2 2 W  45x46x33 including connectors, w/o tripod and lens	Color modes RGB	RGB24, BGR24, RGBA24, BGRA24
TTL I/Os  1 input, 1 output  2.2 W  1 input, 1 output  2.2 W  1 input, 1 output  2.2 W  45x46x33 including connectors, w/o tripod and lens  45x46x33 including connectors, w/o tripod and lens	Raw modes	Bayer8, Bayer12Packed, Bayer16
Opto-coupled I/Os  RS-232  1  Operating conditions/Dimensions  Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  1 input, 1 output  2 2  Mensions  1 input, 1 output  2 2  Mensions  45x46x33 including connectors, w/o tripod and lens		General purpose inputs/outputs (GPIOs)
Power requirements (DC)  Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  Operating conditions/Dimensions  5-16 V*  2.2 W  45x46x33 including connectors, w/o tripod and lens	TTL I/Os	1 input, 1 output
Operating conditions/Dimensions  Fower requirements (DC)  Power consumption (12 V)  Mass 85 g  Body Dimensions (L x W x H in mm)  Operating conditions/Dimensions (2.2 W)  45x46x33 including connectors, w/o tripod and lens	Opto-coupled I/Os	1 input, 1 output
Power requirements (DC)  Power consumption (12 V)  Mass 85 g  Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens	RS-232	1
Power consumption (12 V)  Mass  Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens		Operating conditions/Dimensions
Mass 85 g  Body Dimensions (L x W x H in mm) 45x46x33 including connectors, w/o tripod and lens	Power requirements (DC)	5-16 V*
Body Dimensions (L x W x H in mm)  45x46x33 including connectors, w/o tripod and lens	Power consumption (12 V)	2.2 W
(L x W x H in mm)	Mass	85 g
Regulations CE, FCC, Class A, RoHS	Body Dimensions (L x W x H in mm)	45x46x33 including connectors, w/o tripod and lens
	Regulations	CE, FCC, Class A, RoHS

<sup>\*</sup> Cameras shipped after April 1, 2011 support 5-25 VDC. Please review the <u>Prosilica GC Power Voltage Specification Update</u> for further information.



#### Download Prosilica GC750 technical drawing (click here)





### **Smart features**

The GC750 features include:

- Auto Exposure
- Auto Gain
- Auto White balance
- Flexible Binning
- Region of Interest readout (AOI partial scan)
- StreamBytesPerSecond (easy bandwidth control)
- Stream hold
- Asynchronous external trigger and sync I/O
- Global shutter (digital shutter)
- Recorder and Multiframe Acquisition Modes



# **Applications**

The CMOS sensor is suitable for applications where excellent near-IR sensitivity and resistance to blooming are required. These include:

- high-speed inspection
- machine vision
- optical character recognition
- traffic imaging
- robotics
- OEM applications

## **Application Case Study:**

#### • Here Comes The Sun

Science & Research: Solar power plant uses GigE cameras for mirror alignment.