



## VGA USB Camera Module USB2.0 OV7725

### Key Properties

OV7725 VGA(640 x 480) Image Sensor  
USB2.0 MJPEG/YUV2 Format  
Frame Rate: 60fps  
S-mount M12 Lens Holder  
Lenses Type: FL3.6mm (Standard) Fixed Focus

- FL2.1/FL6.0/FL8.0
- Fisheye FOV(D)120°/170° (optional)



### Application

Video Camera / Face Detection / Image Processing / Image Sensor  
Video Recorder / DIY Camera / Android, Linux USB Camera



### Feature

- ◆ 0.3M VGA high sensitivity image sensor OV7725
  - High sensitivity for low-light operation and can operate in a wide temperature range, from -20°C to +70°C.
- ◆ Fixed focus M12 lenses optional
  - Standard: FL3.6mm(HxV: 56° x 44°)
  - Optional: FL2.1(84° x 68°)/FL6.0(35° x 26°)/FL8.0(26° x 20°)
  - Fisheye FOV(D)120°/FOV(D)170°
  - The best object image distance range for reference:  
FL2.1(0.5-2m)/FL3.6FL(2-4m)/FL6.0(5-10m)
- ◆ MJPEG compressed format output support
- ◆ UVC support, plug and play for Windows and Linux
- ◆ Support open source code for SDK of Windows and Linux system, suitable for embedded system development.

### Introduction

CM03M60M12Q is a 0.3 MP VGA USB camera board with good lowlight performance. It has an ability to stream seamlessly at wide temperature range (-20°C to 70°C). This USB2.0 camera is based on 1/4" OV7725 CMOS digital image sensor with a pixel size of 6.0 μm x 6.0 μm. It has S-mount (M12) lens holder which allows customers to choose and use the lens according to their requirement. It is a Plug-and-Play camera (UVC compliant) for Windows, Linux. This camera is also backward compatible with USB 1.1 host ports.



## Specifications

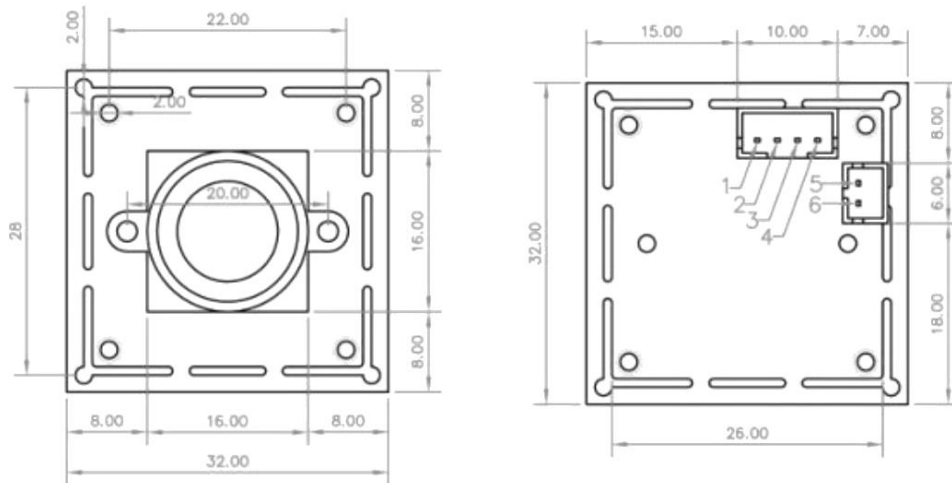
Model	CM03M60M12Q1 / CM03M60M12Q2
Sensor	OV7725
Image Size	1/4 inch
Pixel Size	6.0 $\mu\text{m}$
Image Area	3984 $\mu\text{m}$ x 2952 $\mu\text{m}$
Image Pixels & Resolution	VGA / 640(H) X 480(V)
Image Formats	MJPEG / YUV2 (YUYV)
Image Transfer Rate	640X480 MJPEG@60fps YUY2@30fps 480X480 MJPEG@30fps YUY2@30fps 450X450 MJPEG@30fps YUY2@30fps 352X288 MJPEG@30fps YUY2@30fps 320X240 MJPEG@30fps YUY2@30fps 240X240 MJPEG@30fps YUY2@30fps
Max S/N Ratio	50dB
Dynamic Range	60dB
Sensitivity	3.8V/lux-sec@550nm
Mini illumination	0.2 lux
Shutter Type	Electronic rolling shutter / Frame exposure
Connecting Port	USB2.0 High Speed
Plug & Play	UVC(USB Video Class) Compliant support
Auto Exposure Control (AEC)	Support
Auto white balance (AWB)	Support
Adjustable Parameters	Brightness, Contrast, Saturation, Hue, Sharpness, Gamma, White Balance, Backlight Contrast, Exposure, Image Rotation
Lens Parameters	Standard FL3.6mm Optional: FL2.1/FL6.0/FL8.0mm Fisheye: FOV(D)120°/FOV(D)170°
Lens Holder	Standard M12 lens holder
LED Power Connector	2P-2.0mm Socket
Power Supply	USB BUS POWER 4P-2.0mm Socket
Operating Voltage	DC 5V
Operating Current	100mA ~ 160mA
Operating Temperature	-20 ~ 70°C
Storage Temperature	-20 ~ 80°C
PCBA Dimensions	32X32mm (Compatible 26X26mm)
Weight	~30g
Cable Length	Standard 1m, Optional 2m, 3m, 5m



Operating System Request	<p>WinXP/Vista/Win7/Win8</p> <p>Linux with UVC (above linux-2.6.26)</p> <p>MAC-OS X 10.4.8 or later</p> <p>Wince with UVC</p> <p>Android 4.0 or above with UVC</p>
--------------------------	--

Specifications are subject to change without notice.

Q1 Drawing



Q2 Drawing

TOP VIEW

SIDE VIEW

BOTTOM VIEW

