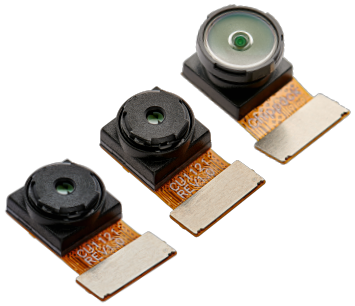
CAM-56G3

Data brief

VD56G3 promodules:
Camera module evaluation samples for instant integration of VD56G3 sensor



ST Bright Sense

Order code	Description
CAM-6G3-073CLR	VD56G3 promodule with 73° FoV lens
CAM-6G3-084CLR	VD56G3 promodule with 84° FoV lens
CAM-6G3-152CLR	VD56G3 promodule with 152° FoV lens

Features

- "Promodules": turnkey camera modules for evaluation:
  - Including VD56G3 image sensor, lens holder, lens, and plug-and-play flex connection.
  - Lens focused, glued, and tested in a cleanroom environment using specialized equipment.
  - Small footprint down to 6.5 mm square.
- Various lens options:
  - Ultra-wide-angle lens for wide scene capture (152° DFOV).
  - Highly compact lens for a thin module (84° DFOV).
  - General-purpose lens enabling various system setups (73° DFOV).
- Plug-and-play connector to change promodules at any time:
  - FPC-to-board 30-pin connector.
  - Same connector for all ST promodules.
- Ready for evaluation and integration:
  - On a computer with a USB output using the EVK Main hardware tool and the Evaluation GUI free software.
  - On embedded processing platforms with a MIPI CSI-2 output using the P-Board hardware tool and free Linux software tools.
- Promodules are also available in color RGB versions (CAM-66GY).

Description

The CAM-56G3 promodules are a full range of sample camera modules made for a seamless evaluation and integration of the VD56G3 1.5-megapixel monochrome image sensor. These ready-to-use vision extensions integrate VD56G3 image sensor, lens holder, lens, and plug-and-play flex connection in a tiny format down to 6.5 mm square.

The CAM-56G3 line leverages the complete toolbox of on-chip features of the VD56G3 image sensor embedded, such as binning, autoexposure, or context management. Multiple GPIOs enable users to synchronize the modules with triggers and illumination. Featuring MIPI CSI-2 output, the promodules are perfectly suited for embedded low-power setups.

Multiple promodule references are available, featuring various lenses to best match the needs of every application in terms of optical setup and mechanical constraints. All camera modules are equipped with the same FPC-to-board connector and pinout. This plug-and-play architecture allows users to change promodule instantly, and reuse the same setup with different lenses, color options and even different image sensors in the ST BrightSense portfolio.

CAM-56G3 promodules can be tested and integrated on computers or embedded processing boards using hardware and software tools from STMicroelectronics. The compatible EVK Main and P-Board hardware kits enable straight connection to PC and embedded processing platforms respectively. Evaluation GUI software and Linux drivers are available for download from the Imaging Software section of the website.

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Figure 1. Common connector to all ST promodules

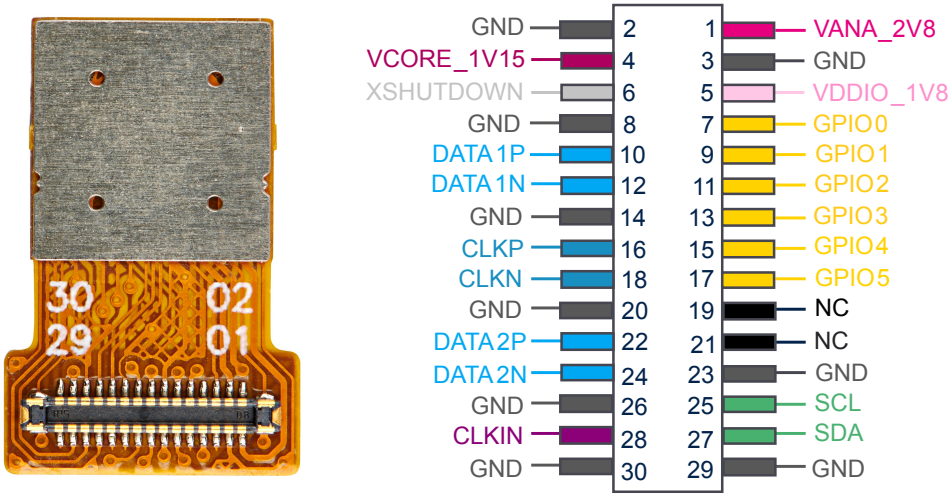
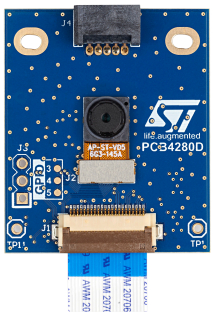


Table 1. Evaluation & development setup with CAM-56G3 promodules

	
Setup for MCU and MPU boards with MIPI CSI-2 output	**Setup for computer with USB output**
CAM-56G3 promodule + P-Board	CAM-56G3 promodule + EVK Main

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1 Technical specifications

Table 2. Technical specifications

Category	Parameter	Common specifications		
Image characteristics	Sensor featured	VD56G3		
	Resolution	1.53 MP – 1124 x 1364		
	Aspect ratio	5 : 6		
	Shutter type	Global shutter		
	Color option	Monochrome		
Electrical characteristics	Connector type	FPC-to-board		
	Connector reference	Hirose BM28 B0.6-30DP/2-0.35V		
	Pinout	30 pins		
	Output interface	MIPI CSI-2 | 1 or 2 lanes		
	Control interface	I²C		
	Output format	RAW8, RAW10		
	Supply voltages	2.8 V – 1.8 V – 1.15 V		
	External clock frequency	6 to 27 MHz		
Embedded features	Image quality optimization	• Autoexposure • Automatic dark calibration • Defective pixel correction • Analog and digital gains		
	Power and data optimization	• Cropping • Binning • Subsampling • Context management with up to 4 contexts		
	Others	• Mirror/Flip • Test pattern generation • Temperature sensor • GPIOs x6		
Category	**Parameter**	**CAM-6G3-073CLR**	**CAM-6G3-084CLR**	**CAM-6G3-152CLR**
Optical characteristics	Aperture – f/#	F/2.0	F/2.0	F/2.0
	Field of view – D | H | V	73° | 51° | 60°	84° | 60° | 69°	152° | 97° | 118°
	EFL	3.03 mm	2.51 mm	1.69 mm
	Depth of field	43 cm -> ∞	30 cm -> 6 m	14.4 cm -> ∞
	TV distortion	< 1%	< 1.5%	< 27%
	Filter	Clear	Clear	Clear
Mechanical characteristics	Module head dimension – L x W x H	6.5 x 6.5 x 4.68 mm	6.5 x 6.5 x 3.98 mm	9.0 x 9.0 x 7.15 mm
	Module total dimension – L x W x H	12.4 x 8.0 x 4.68 mm	12.4 x 8.0 x 3.98 mm	13.65 x 9.0 x 7.15 mm
	Distance from connector to optical center	7.45 mm	7.45 mm	7.45 mm

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Revision history

Table 3. **Document revision history**

Date	Version	Changes
21-May-2024	1	Initial release
25-Apr-2025	2	Updated images in Table 1. Evaluation & development setup with CAM-56G3 promodules. Table 2. Technical specifications: Updated depth of field values.
02-Dec-2025	3	Table 2. Technical specifications: Modified aperture for CAM-6G3-073CLR.

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