DATASHEET

DESIGNCORE®
D3RCM-IMX390-953 RUGGED CAMERA MODULE

D3 Engineering

IMX390 camera module for performance-critical embedded vision.

Ruggedized, fully-enclosed 2.1 MP FPD-Link™ III camera suits automotive and industrial applications

This Rugged Camera Module is designed for automotive and performance-critical industrial applications. It has superior thermal characteristics and the production version will be able to withstand harsh environmental conditions.

The digital video stream, control data, and power are carried by coaxial cable between the camera module and vehicle/system electronic control unit (ECU). The lens and electronic components are housed in a rugged enclosure with integrated FAKRA connector for connection to the ECU wire harness.

Note: SKU 1000843-R is not weather sealed.

Use Limitation Notice:

D3RCM-IMX390-953 rugged camera modules SKU 1000843-R and SKU 1001087 are available as pre-production prototypes. They are intended for mechanical, optical and functional product development use only.

FEATURES

SONY® IMX390 Image Sensor

Power, Data, & Communication over a Single Coaxial Cable

Motion Artifact-Free HDR

LED Flicker Mitigation

Compact Size

Ultra-Lightweight

Thermal Management

Lens to Sensor Actively Aligned

APPLICATIONS

Automotive Advanced Driver Assist Systems (ADAS)

- Front or Rear Camera
- 3D Surround View
- Camera Monitoring Systems (CMS)

Autonomous Trucking & Transportation Systems

Autonomous Mobile Robots (AMR's)

Machine Vision

DesignCore® Platforms Supported: DesignCore® platforms with Intel®, NVIDIA®, and Texas Instruments® processors and SoCs. Visit d3engineering.com for a complete list of supported platforms for this rugged camera module. Customized processor solutions available.

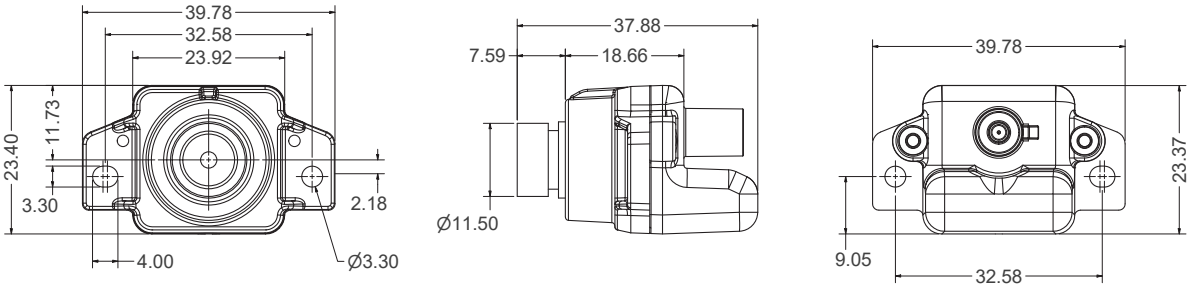
SPECIFICATIONS

Sensor	SONY® IMX390
Optical Format	1/2.7 inch
Maximum Resolution	1920 × 1200
Maximum Frame Rate (fps)	60
Pixel Size (µm)	3.0 × 3.0
Sensor Dimensions (mm)	5.76H x 3.6V x 6.79D
Data Output	10\12\20\24-bit Raw Bayer Linear and HDR Options MIPI CSI-2 Format
High Dynamic Range (HDR)	Sub-Pixel Method On-Chip Combination
ISP	None - External ISP Required
Serializer	FPD-Link™ III DS90UB953A
I2C Addresses (7b)	Serializer: 0x18 Sensor: 0x1A
Connector	FAKRA Straight Plug Connector Interface Code – Z
Operating Voltage (V)	+5 to +12 (+12 Typical)
Power Consumption (W)	< 1.5 at Maximum Data Rate
Operating Temperature (°C)	–40 to 85
Storage Temperature (°C)	–40 to 105
Additional Features	Frame Synchronization Input via DS90UB953 Control Available

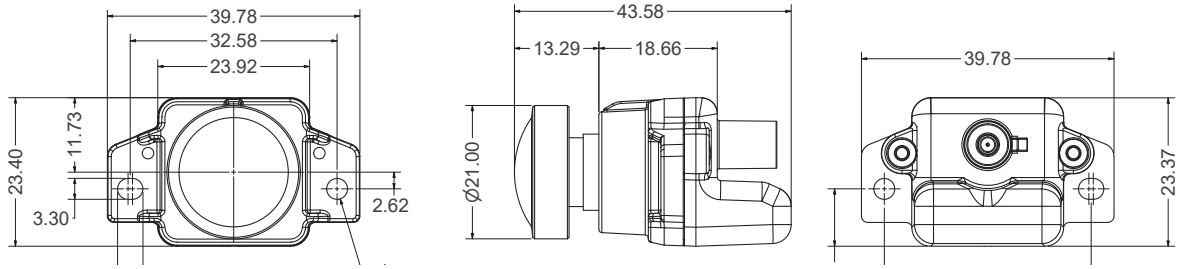
LENS SPECIFICATIONS

Lens	DSL239Q-650-F2.4 (Lens includes IR-cut at 650nm)	DSL958V-650-F2.8 (Lens includes IR-cut at 650nm)
Field of View (FOV) on SONY® IMX390	192H x 120V x 192D	70H x 44V x 72D
Lens Aperture (F#)	2.4	2.8
Focal Length (mm)	1.83	4.6
Image Circle (mm)	5.2	6.0

SKU 1000843-R

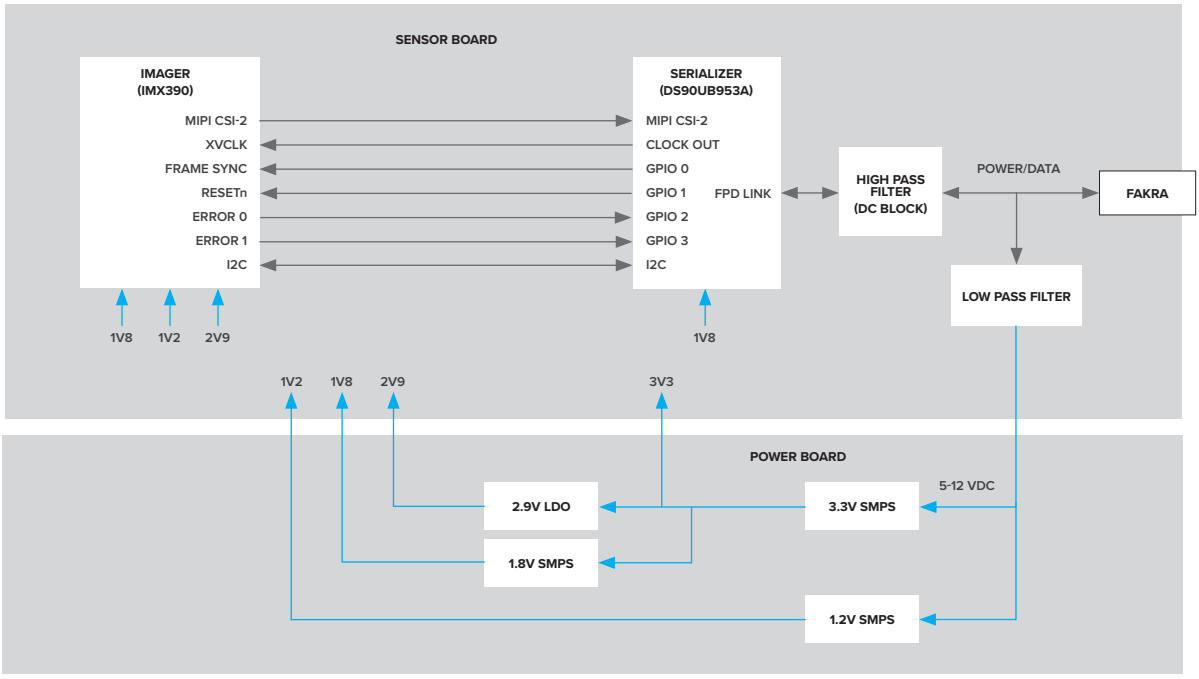


SKU 1001087



3D models available upon request

Measurements in mm



NEXT STEPS

Purchase samples online and contact us for volume pricing. We can support integration of D3 Rugged Camera Modules into your end product with services including custom ISP tuning, software drivers, and verification support. We can also help you speed embedded vision system development with our proven DesignCore® vision processor platforms and full-cycle embedded product development services.

ACCELERATE TIME TO MARKET

Our expertise in imaging system design will help you get to market faster, while reducing the risks and costs of new product development.

D3RCM ORDERING INFORMATION

SKU: 1000843-R (192° FOV Wide Angle, *Unsealed*)
SKU: 1001087 (70° FOV Narrow Angle, *Sealed*)

COMPATIBLE CABLE ORDERING INFORMATION

SKU: 1000476 (28 inch)
SKU: 1000496 (60 inch)
SKU: 1000567 (300 inch)

CALL: **585-429-1550**
EMAIL: **Sales@D3Engineering.com**
VISIT: **D3Engineering.com**

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