Arm Mali-C71AE

Benefits

1. Real-Time Performance

Mali-C71AE supports up to 4 real-time, or up to 16 virtual cameras of varying types and offers a wide range of data output formats with the flexibility to support both human and machine vision applications, such as production line monitoring, quality control and ADAS camera systems.

2. Safety Features

Mali-C71AE has built-in features to achieve ASIL B/SIL 2 diagnostic requirements and ASIL D/SIL 3 for the avoidance of systematic failure. It enables safe-vision use cases, such as ADAS or industrial mobile robotics.
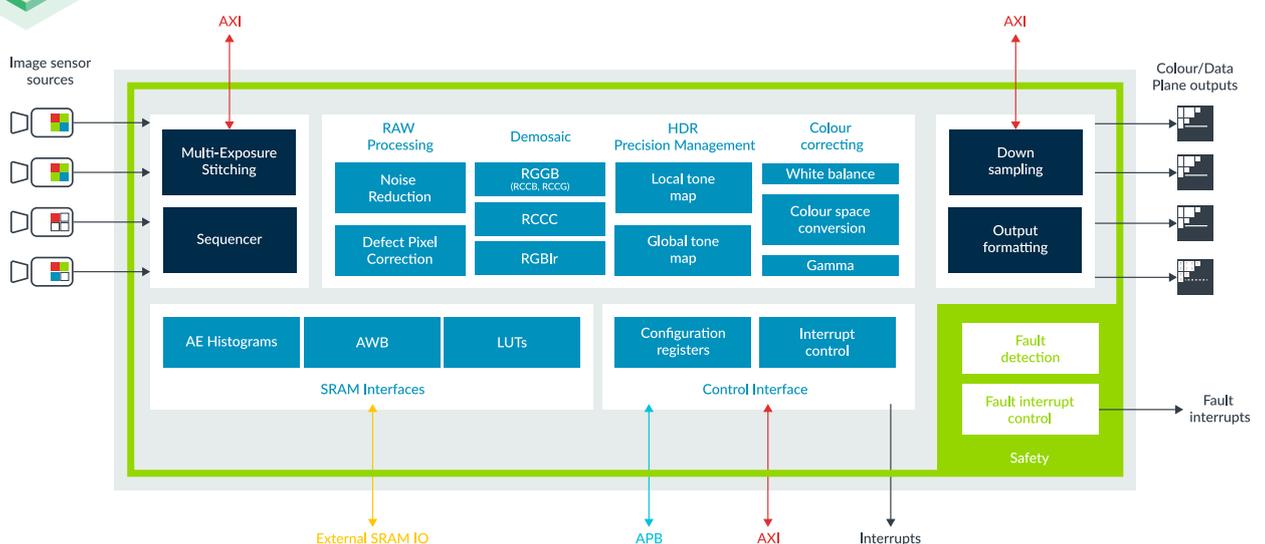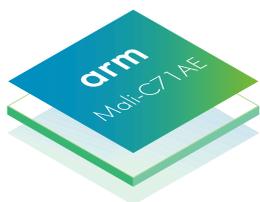
Overview

Arm Mali Camera image signal processors (ISPs) deliver the highest image quality for embedded and automotive applications.

Mali-C71AE is designed for the emerging smart automotive and industrial markets, capturing twice the dynamic range of a standard single exposure sensor, and in some cases even outperforming the human eye. Mali-C71AE supports the requirements of SIL3 and ASIL B functional safety for a variety of applications, from all-round vehicle awareness, mirror replacement, and night-vision improvement, through to industrial mobile robotics.

Safety Ready

Mali-C71AE is the first product in the Mali Camera family of ISPs with built-in features for functional safety applications. Mali-C71AE supports vision systems that must meet the functional safety requirements of ISO 26262 ASIL B in a variety of automotive applications, from all-round vehicle awareness advanced driver assistance systems (ADAS), mirror replacement, and night vision improvement, and IEC 61508 SIL3 for a range of industrial mobile robotics applications.

Learn more at www.arm.com/safety

Specifications

Camera Support	Up to 16Mpix max resolution (4096 x 4096)
Image sensor support	RGGB, RCCC, RCCB, RCCG, RGBIr and RYYCyan Up to 4:1 HDR exposure combination
Multi-channel input support	Up to 4 real-time camera inputs Memory-to-memory processing mode for up to 16 virtual camera inputs
Performance	Up to 1.2 Gigapixels/second throughput

Related Products

Cortex-A78AE

With the flexibility to run different workloads concurrently and a 30 percent performance uplift compared to its predecessor, Cortex-A78AE offers the scalable, heterogeneous compute required for complex automated driving and industrial autonomous systems.

Mali-G78AE

Mali-G78AE is a highly scalable GPU that enables configurable workload separation and virtualization. Mali-G78AE is designed to the IEC 61508 and ISO 26262 safety standards for industrial and automotive applications respectively and is ASIL B SIL-2 safety-capable.

Safety Documentary Package

Arm's Safety Documentation Package for Mali-C71AE provides information for partners implementing safety related features. It includes comprehensive details on specific product safety features, verification and Failure Mode Effects & Diagnostic Analysis (FMEDA).
The Safety Documentation package simplifies integration of the Mali-C71AE into in systems with ISO 26262 and IEC 61508 requirements.

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