

Product Brief

Benefits

1. Real-Time Performance

Mali-C78AE can support up to 4 real-time or up to 16 virtual cameras of varying types, and offers a wide range of data output formats. This provides 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-C78AE 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 in the Mali family of processors for embedded and automotive applications.

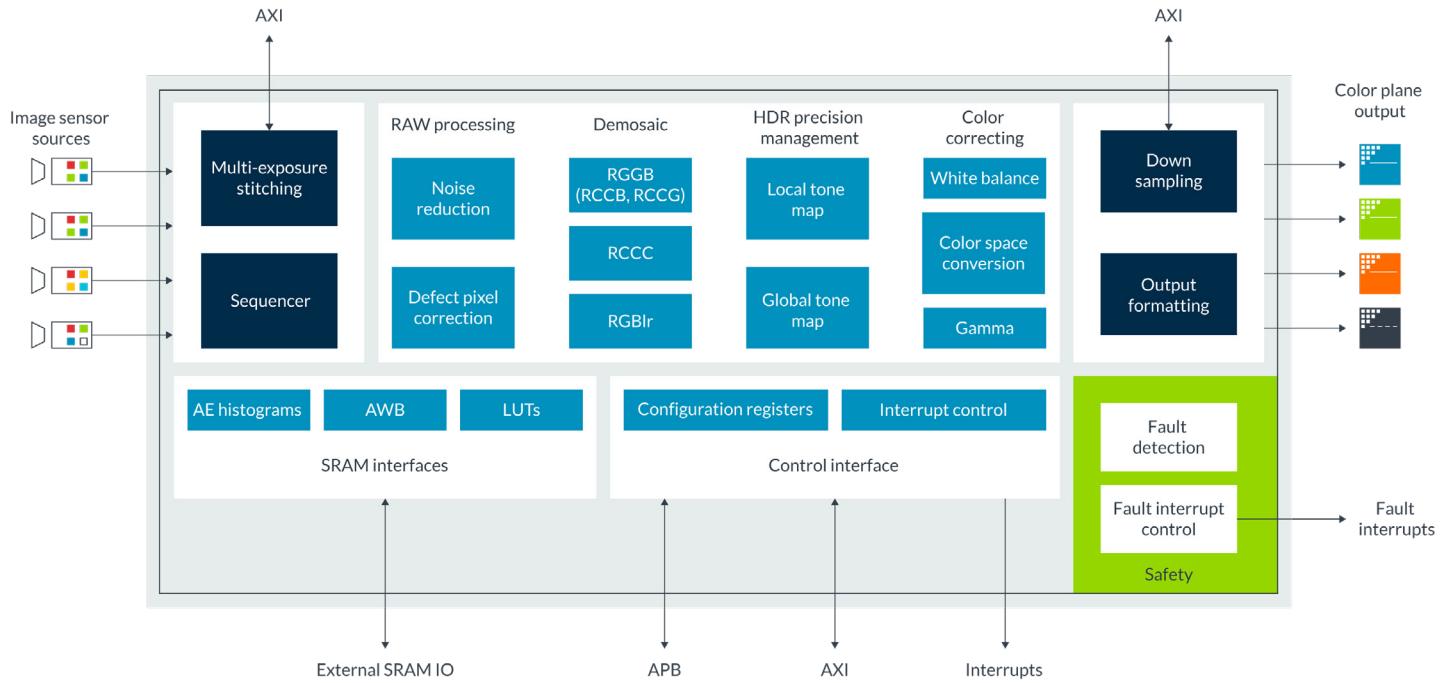
Mali-C78AE is designed for use in combined ADAS and surround-view applications that share cameras for both functions, and contains a range of image quality enhancements for display applications.

Mali-C78AE supports functional safety hardware integrity requirements up to SIL2 and ASIL-B for a variety of applications, from all-round vehicle awareness, surround-view, mirror replacement, and night vision improvement, through to industrial mobile robotics.

Safety Ready

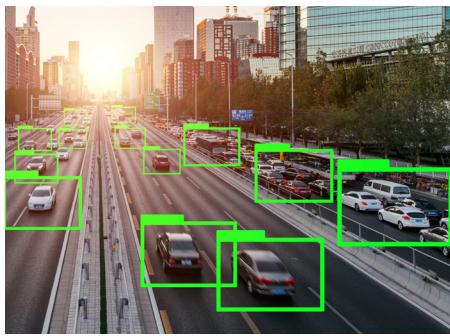
Mali-C78AE provides real-time safety features for functional safety applications and supports automotive vision systems needing to achieve ISO 26262 ASIL B diagnostic requirements in a variety of applications. These safety features also allow Mali-C78AE to achieve IEC 61508 SIL 2 diagnostic requirements in a range of industrial applications, such as mobile robotics and factory automation.





Specifications

Camera support:	Up to 18Mpix max resolution (5696 x 3328)
Image sensor support:	RGGB, RCCB, RCCG, 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% 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 Package

Arm's safety package for Mali-C78AE provides information for partners implementing safety-related features. It includes comprehensive details on specific product safety features, verification and failure mode effects and diagnostic analysis (FMEDA). The safety package simplifies integration of the Mali-C78AE into systems with ISO 26262 and IEC 61508 requirements.

Learn more at www.arm.com/safety.



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