



A robust, efficient,
flexible solution
for vision and
sensor fusion
applications

S32V234 Processor for Advanced Driver Assistance

Targeted for ASIL B ADAS applications, the S32V234 is a high-performance automotive processor designed to support safe computation-intensive applications in the area of vision and sensor fusion.

TARGET APPLICATIONS

- ▶ Front camera advanced driver assistance systems (ADAS), including applications like pedestrian detection, object detection, lane departure warning, smart head beam control and traffic sign recognition
- ▶ Surround view applications where the image data can be received in encoded form (MJPEG or H.264) via Ethernet or in raw formats via the MIPI-CS12 or VIU interfaces
- ▶ Smart rear view camera applications
- ▶ Sensor fusion computing in communication with a radar MCU

Designed and manufactured to our proven automotive practices, and with embedded Crypto Security Engine (CSE), the S32V234 satisfies developers' needs for safety, security and reliability.

ENABLEMENT TOOLS

- ▶ S32V234 EVB
- ▶ BlueBox S32VLS2-RDB
- ▶ Green Hills® INTEGRITY OS
- ▶ Green Hills MULTI compiler
- ▶ Green Hills debug probe/supertrace
- ▶ Lauterbach Debugger
- ▶ Lauterbach TRACE32
- ▶ Simulation and early code development solutions available

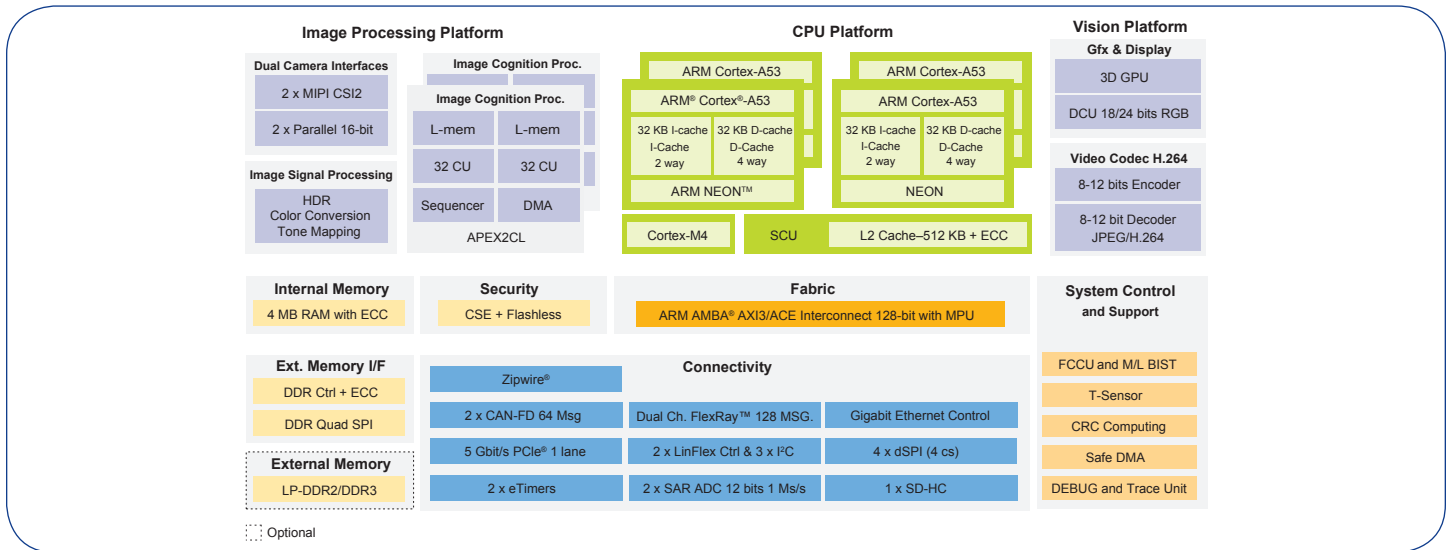


S32V234 MCU FAMILY

Key Features	Benefits
Designed and manufactured to satisfy automotive reliability and ISO 26262 ASIL B functional safety requirements	Enables assessment to ISO 26262 ASIL B standard for automotive safety applications
Quad 1 GHz ARM® Cortex®-A53 + ARM NEON™ core platform	9.2 K DMIPS processing horsepower (without acceleration) for management of ADAS tasks.
ARM Cortex-M4 at 133 MHz for I/O control and AUTOSAR OS	Enables automotive OS such as AUTOSAR to control interfaces to external devices without impacting ARM Cortex-A53 performance
Embedded security	Security engine together with ARM TrustZone® technology provides protection against IP theft and malicious hacking
Dual APEX-2 image processing engine	Allows high-performance, low-power processing of incoming image data
Image signal processor	Performs image housekeeping tasks such as HDR and color conversion, plus some dedicated image processing tasks
3D graphics processing unit (3D GPU)	For rendering 3D images; may also be used for additional image analysis tasks
Video input: dual MIPI-SCI; dual video input unit (VIU)	Supports mono, stereo and surround view camera inputs; H.264 decode and encode also supported
Memory interfaces	DRAM support for LPDDR2/DDR3L/DDR3 for high bandwidth data access, plus Dual QuadSPI for external flash

The S32V234 is part of our SafeAssure program and designed specifically to address ISO 26262 ASIL B functional safety requirements.

S32V234 BLOCK DIAGRAM



SafeAssure PROGRAM

Functional safety. Simplified.

Our SafeAssure functional safety program is designed to help system manufacturers more easily achieve system compliance with International Standards Organization (ISO) 26262 and International Electrotechnical Commission (IEC) 61508 functional safety standards. The program highlights our solutions—hardware and software—that are optimally designed to support functional safety implementations and come with a rich set of enablement collateral.

For more information, visit www.nxp.com/SafeAssure.

