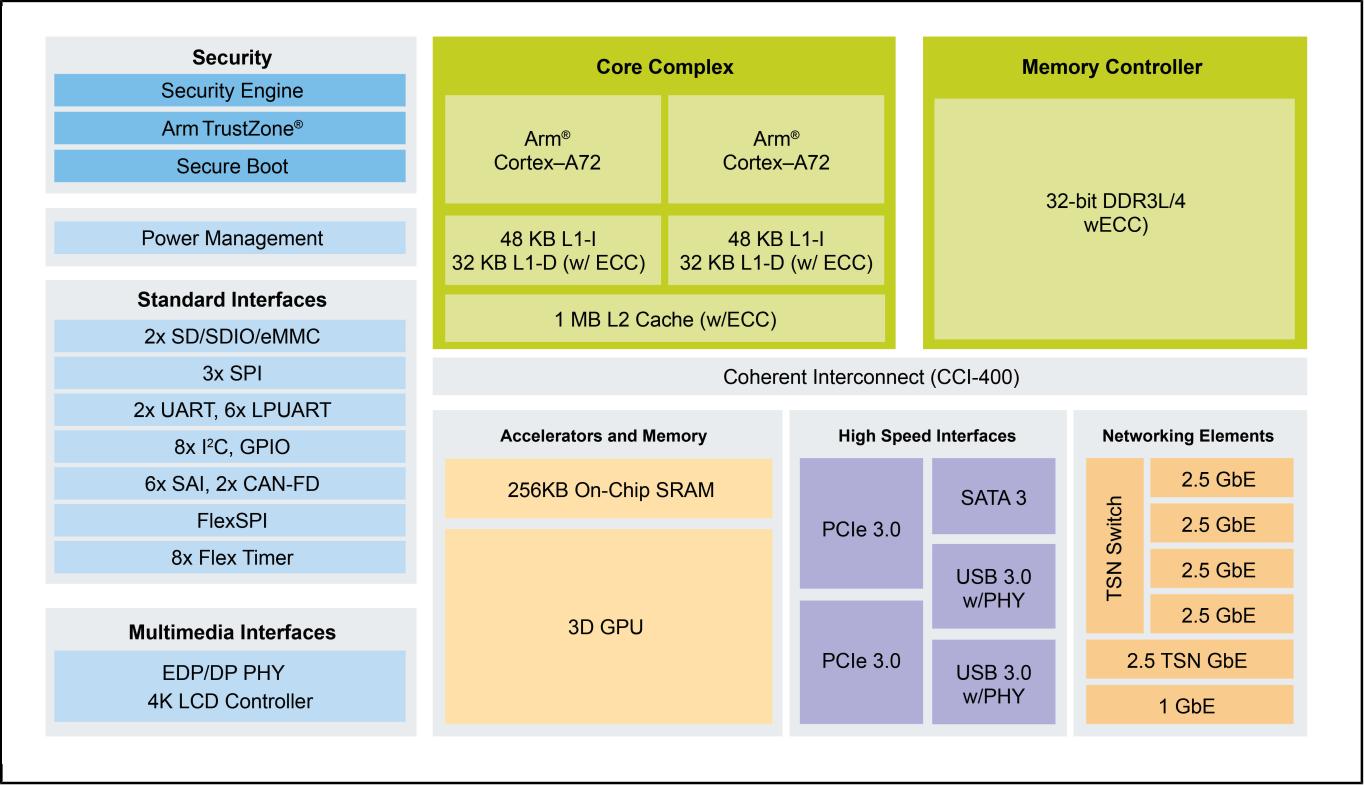# Layerscape® 1028A Applications Processor

LS1028A

Last Updated: Dec 24, 2025

The Layerscape LS1028A processors for industrial and automotive applications integrates the high-performance Arm® Cortex®-A72 processor, Ethernet switching with TSN, Ethernet controller and Trust Architecture with Security Engine to support converged IT and OT networks.

Two powerful 64-bit Arm A72 cores support real-time processing for industrial control and virtual machines for edge computing in the IoT. The integrated 3D GPU with support for 4K display and LCD controller enable Human-Machine Interface (HMI) systems with next-generation interfaces. Integrated Trust Architecture with cryptographic offload provides a trusted platform with encrypted communications for secure applications and services.

Layerscape processors are part of NXP's EdgeVerse™ edge computing platform.

Layerscape LS1028A Block Diagram Block Diagram

Security

Security Engine

Arm TrustZone®

Secure Boot

Power Management

Standard Interfaces

2x SD/SDIO/eMMC

3x SPI

2x UART, 6x LPUART

8x I²C, GPIO

6x SAI, 2x CAN-FD

FlexSPI

8x Flex Timer

Multimedia Interfaces

EDP/DP PHY
4K LCD Controller

Core Complex

Arm®
Cortex–A72

Arm®
Cortex–A72

48 KB L1-I
32 KB L1-D (w/ ECC)

48 KB L1-I
32 KB L1-D (w/ ECC)

1 MB L2 Cache (w/ECC)

Memory Controller

32-bit DDR3L/4
wECC)

Coherent Interconnect (CCI-400)

Accelerators and Memory

256KB On-Chip SRAM

3D GPU

High Speed Interfaces

PCIe 3.0

SATA 3

USB 3.0
w/PHY

PCIe 3.0

USB 3.0
w/PHY

Networking Elements

TSN Switch

2.5 GbE

2.5 GbE

2.5 GbE

2.5 GbE

2.5 TSN GbE

1 GbE

View additional information for Layerscape® 1028A Applications Processor.

Note: The information on this document is subject to change without notice.