

AURIX™ TC3xx family system architecture

Scalable 2nd generation AURIX™ TC3xx system architecture

The latest AURIX™ TC3xx microcontrollers are also well-suited for safety-critical applications to support clean, autonomous and connected cars. Ranging from classic airbag, braking and power steering to fail-operational systems supported by sensor-based systems using radar, LIDAR or camera technologies.

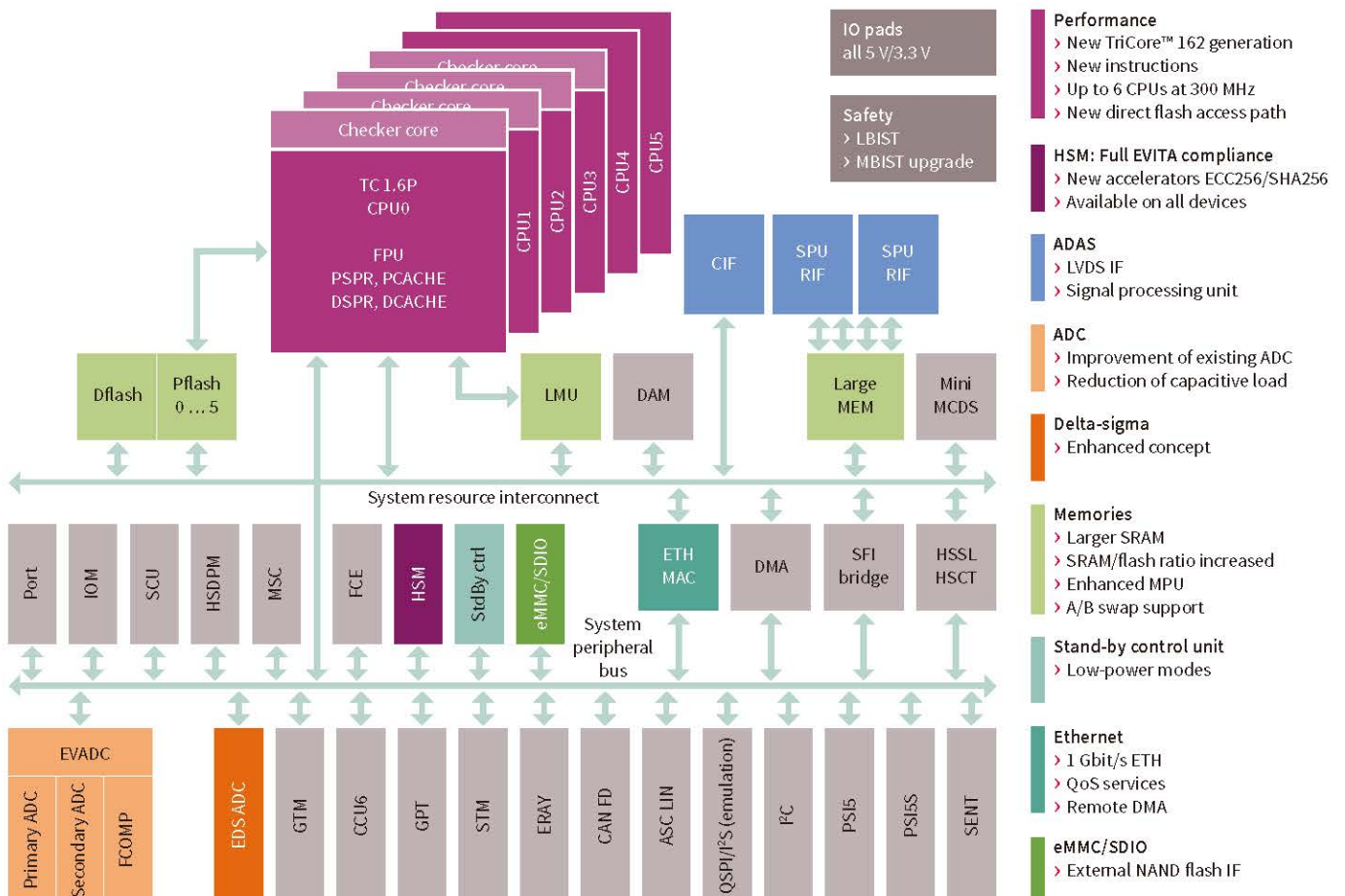
The implemented connectivity features, in combination with the highest level of security, enable connected cars with applications such as a telematics unit, connected gateway or in-vehicle wireless charging for portable devices.

To make the car clean, the new family is well-suited to new systems in electrical and hybrid drives – specifically hybrid domain control, inverter control, battery management, on-board charger and DC-DC converters, in addition to engine management and transmission control systems.

The AURIX™ TC3xx combines performance with a powerful safety architecture and offers enhanced security with the second-generation HSM with asymmetric cryptography accelerators and Full EVITA support. This combination makes the family the ideal fit for domain control and data fusion applications supporting the next levels of autonomous driving.

The AURIX™ TC3xx family is pin compatible with the AURIX™ TC2xx family and offers increased flash memory sizes of up to 16 MByte, over 6 MByte of integrated RAM and up to six TriCore™ 1.62 embedded cores, each with a full clock frequency of 300 MHz. New features include a new radar processing sub-system with up to two dedicated Signal Processing Units (SPU), Gigabit Ethernet, additional CAN FD and LIN interfaces and an eMMC interface for external flash.

AURIX™ TC3xx – scalable family – from low-cost to high-performance applications



AURIX™ TC3xx package scalability

6x 300 MHz	9xA Series 16 MB							TC397XA 300 MHz	
6x 300 MHz	9x Series 16 MB	Control and Actuate Sense and Compute						TC397X 300 MHz	TC399X 300 MHz
4x 300 MHz	Ex Series 12 MB							TC3E7Qx 300 MHz	
4x 300 MHz	8x Series 10 MB							TC387Q 300 MHz	TC389Q 300 MHz
3x 300 MHz	7xX Series 6 MB							TC377TX 300 MHz	
3x 300 MHz	7x Series 6 MB					TC375T 300 MHz		TC377T 300 MHz	
2x 300 MHz	6x Series 4 MB			TC364D 300 MHz	TC366D 300 MHz	TC365D 300 MHz		TC367D 300 MHz	
4x 300 MHz	Ax Series 4 MB						TC3A8Q 300 MHz	TC3A7Q 300 MHz	
3x 300 MHz	5xA Series 4 MB				TC356TA 300 MHz			TC357TA 300 MHz	
2x 300 MHz	3xA Series 2 MB				TC336DA 300 MHz			TC337DA 300 MHz	
1x 300 MHz	3x Series 2 MB	TC332L 300 MHz	TC333L 300 MHz	TC334L 300 MHz	TC336L 300 MHz			TC337L 300 MHz	
1x 160 MHz	2x Series 1 MB	TC322L 160 MHz	TC323L 160 MHz	TC324L 160 MHz				TC327L 160 MHz	
Flash	Package	TQFP-80	TQFP-100	LQFP-144 TQFP-144	BGA-180	LQFP-176	BGA-233	LFBGA-292	LFBGA-516

- › Advanced package technologies deliver the best price/performance ratio
- › Customers can choose between different devices in the same pin-compatible package

MCU scalability

- › Performance and flash
- › Pin compatibility
- › Binary-compatible cores

Safety/security concept

- › ISO 26262 compliance
- › Hardware security support Full EVITA
- › IEC 61508 compliant



AURIX™ TC3xx

Power consumption

- › On-chip SC DC-DC high-efficiency power supply
- › Integrated stand-by controller

Connectivity

- › Ethernet: up to 2x 1 GB
- › CAN FD: up to 20 channels
- › LIN: up to 24 channels
- › eMMC IF