

Product brief

AURIX™ TC35xTA

High performance radar and autonomous driving microcontroller

Infineon releases its second generation AURIX™ TC3xx microcontroller in embedded Flash 40 nm Technology. It comes with an increase in performance, memory sizes, connectivity and scalability to address the new automotive trends and challenges. In terms of performance, the radar application high-runner TC35xTA offers 3 cores at 300 MHz, up to 3.6 MBytes embedded RAM, and consumption below 2 W. Its mirrored embedded flash banks (2x 2 MB) support A/B swap capabilities.

For radar applications, the TC35xTA comes in a BGA-292 package (17 x 17 mm) and in a BGA-180 package (12 x 12 mm) for space critical designs. It embeds specific accelerators and offers high amount of radar specific embedded RAM (2.5 MB). The SPU (Signal Processing Units) is dedicated to the radar processing, and offers not only FFT acceleration, but also filtering and mathematical transforms functions (e.g. CFAR, binning, windowing, ...). A complete tool chain is also provided to help customers develop optimized algorithms.

The TC35xTA is software and pin to pin compatible to easily migrate to TC39xXA and TC33xDA, in order to build a complete radar portfolio.

Safety is the core know-how of Infineon, and all products provide safety mechanism (including but not limited to lock-step cores, LBIST, ECC RAM) to ensure a safety platform supporting ASIL-D ISO 26262. The TC35xTA has 2 lock-stepped cores and 1 non lock-stepped core, providing up to 1400 DMIPS in ASIL-D and 700 DMIPS in ASIL-B.

In terms of security, this product has an HSM compliant Full EVITA, ensuring the implementation of future proofed security measure. On top of it, it offers extensive connectivity with CAN-FD, FlexRay, LINs, QSPI and new high speed communicating interfaces such as Gigabit Ethernet (RGMII).

Key features

- › 3 TriCore™ running at 300 MHz with 2 additional checker cores delivering 2100 DMIPS
- › 4 MB flash and up to 3.6 MB SRAM
- › 1 Gbit Ethernet and 8 CAN FD
- › ISO 26262 ASIL-D support
- › EVITA Full HSM (ECC256 and SHA2)
- › AUTOSAR support
- › 165°C junction temperature

Radar cluster

- › LVDS radar interface
- › High bandwidth radar SRAM
- › Radar signal processing unit

Key benefits

- › Infineon chipset: front end and safe power supply
- › Highly integrated solution for performance demanding radar applications
- › Compatible with TC39xXA and TC33xDA for flexibility in design

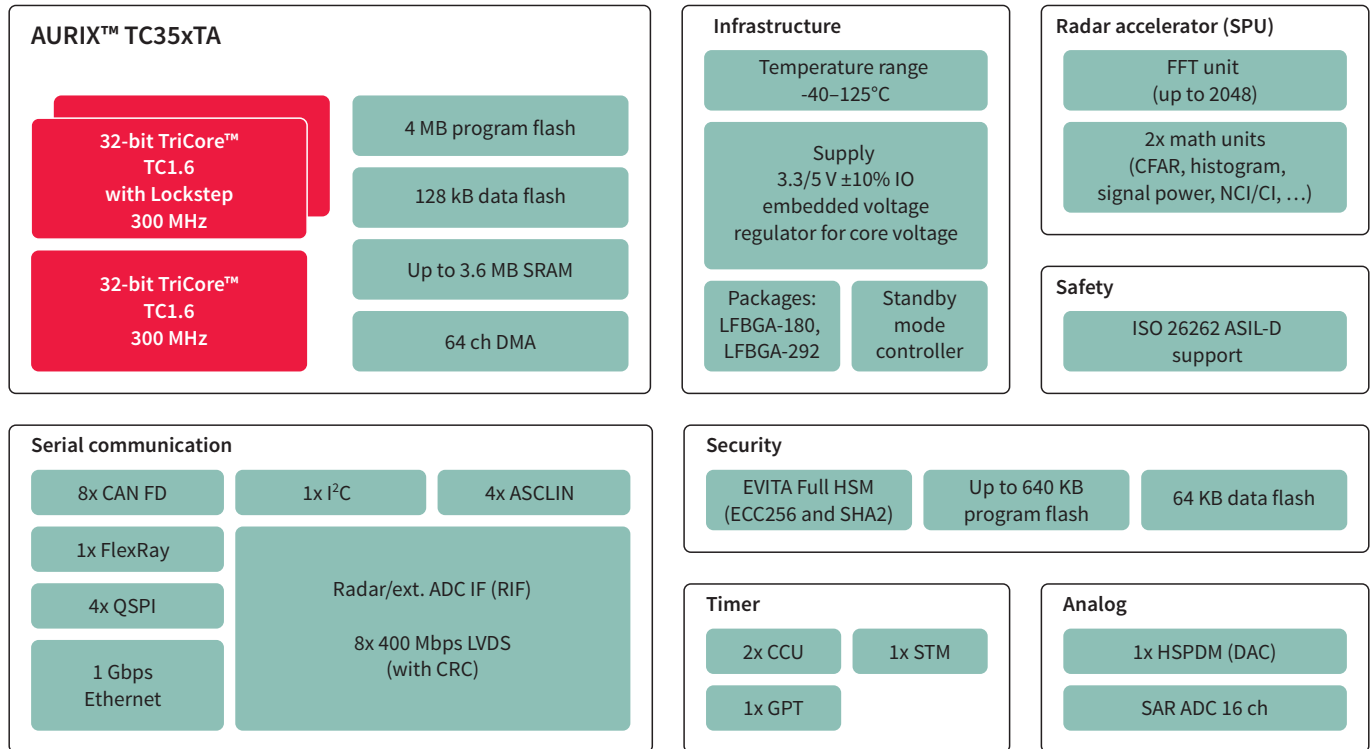
Key applications

- › Long range and medium range radars 77/79 GHz (LRR and MRR), corner and front

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Block diagram – TC357TA



Product table

Type	Description	Ordering code
SAK-TC35xTA-64F300S	3x 300 MHz TriCore™, 4 MB flash, 3.6 MB SRAM, 2x SPU, radar interface, 1 Gbps Ethernet, 8 CAN FD, EVITA Full HSM, LFBGA-292	On request
KIT_A2G_TC35xA_S_TRB	Eval board: 3x 300 MHz TriCore™, 4 MB flash, 3.6 MB SRAM, 2x SPU, radar interface, 1 Gbps Ethernet, 8 CAN FD, EVITA Full HSM, LFBGA-292	On request
KIT_A2G_TC35xA_TFT	Low cost kit: 3x 300 MHz TriCore™, 4 MB flash, 3.6 MB SRAM, 2x SPU, radar interface, 1 Gbps Ethernet, 8 CAN FD, EVITA Full HSM, LFBGA-292	On request

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Warnings

Due to technical requirements, our products may contain dangerous substances. For information on the types in question, please contact your nearest Infineon Technologies office.

Except as otherwise explicitly approved by us in a written document signed by authorized representatives of Infineon Technologies, our products may not be used in any life-endangering applications, including but not limited to medical, nuclear, military, life-critical or any other applications where a failure of the product or any consequences of the use thereof can result in personal injury.