AURIX™ is Infineon’s brand new family of microcontrollers serving exactly the needs of the automotive industry in terms of performance and safety. Its innovative multicore architecture, based on up to three independent 32-bit TriCore™ CPUs, has been designed to meet the highest safety standards while increasing the performance at the same time.

Using the AURIX™ platform, automotive developers will be able to control powertrain, body, safety and ADAS applications with one single MCU platform. Developments using AURIX™ will require less effort to achieve the ASIL-D standard than with a classical lockstep architecture.

Customers are now able to cut down their MCU safety development significantly. By the same token, a performance surplus of 50 percent up to 100 percent allows for more functionality and offers a sufficient resource buffer for future requirements, keeping the power consumption on the singlecore microcontroller level.

Leading edge performance
› Three high performance 32-bit super-scalar TriCore™ V1.6.1 CPUs running at 200 MHz in the full automotive temperature range
› Dedicated closely coupled memory areas per core
› Innovative general timer module, additional redundant diverse GPT1 timer unit

System benefits
› Diverse lockstep architecture to reduced development effort for ISO 26262 systems
› High integration for reduced complexity and significant cost savings
› Delta-sigma analog-to-digital converters for fast and accurate measurements
› Innovative single supply concept leads for low power consumption and low cost external supply
› Scalable package family for flexibility across platform concepts
› Dedicated emulation device chip (ED) for multicore debugging, tracing and calibration
› Hot package options for extended temperature range

Main features

Features TC275T/TC277T
› Triple TriCore™ with 200 MHz
› TriCore™ DSP functionality
› Up to 4 MB flash w/ECC protection
› 64 KB EEPROM at 500 k cycles
› Up to 472 KB RAM w/ECC protection
› 64x DMA channels
› 6 diff. ch. delta-sigma ADC
› 60x 12-bit SAR ADC converter
› Powerful Generic Timer Module (GTM)
› SENT, PSI5, PSI5S sensor interfaces
› Ethernet 100 Mbit
› FlexRay, CAN, LIN, SPI including data rate enhanced CAN FD
› Programmable HSM (Hardware Security Module)
› Single voltage supply 5 V or 3.3 V
› LQFP-176 package
› LFBGA-292 package, 17 x 17 mm small

Most innovative safety
› Diverse lockstep core with clock delay
› Redundant and diverse timer modules (GTM, CCU6, GPT12)
› Access permission system
› Safety management unit
› Safe DMA
› I/O, clock, voltage monitor
› ISO 26262 compliance to support safety requirements up to ASIL-D
› AUTOSAR V3.2 and V4.x

www.infineon.com/AURIX
AURIX™ – TC275T/TC277T
Performance meets safety

Product summary

<table>
<thead>
<tr>
<th>Type</th>
<th>eFlash [MB]</th>
<th>Data Flash [KB]</th>
<th>Frequency [MHz]</th>
<th>SRAM [KB]</th>
<th>Package</th>
<th>Temp. range [°C]</th>
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<td>4</td>
<td>64²</td>
<td>200</td>
<td>472</td>
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<td>LQFP-176</td>
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</tbody>
</table>

1) EEPROM emulation (up to 500 k w/e cycles)
2) Hot package options with $T_a = 150°C$ are available on request

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