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 lock-step 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 single-core microcontroller level.

### Leading edge performance
- Three high performance 32-bit super-scalar TriCore™ V1.6.1 CPUs running up to 300 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
- Dedicated emulation device chip (ED) for multicore debugging, tracing and calibration
- Hot package options for extended temperature

### Main features

**Features TC29xT**
- Triple TriCore™ with up to 300 MHz
- TriCore™ DSP functionality
- Up to 8 MB flash w/ECC protection
- 128 KB EEPROM at 500 k cycles
- Up to 728 KB RAM w/ECC protection
- 128x DMA channels
- Delta-sigma ADC converter (10x channels)
- 12-bit ADC converter (84x channels)
- 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
- LFBGA-292 package
- LBGA-416 package
- LFBGA-516 package

**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™ – TC297T/TC298T/TC299T
Performance meets safety

Product Brief
AURIX™ – TC297T / TC298T / TC299T

Performance meets safety

Block diagram

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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<tbody>
<tr>
<td>SAK-TC299T-128F300S</td>
<td>8</td>
<td>128[1]</td>
<td>300</td>
<td>728</td>
<td>LFBGA-516</td>
<td>-40 ... +125[1]</td>
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1) EEPROM emulation (up to 60 k w/e cycles)
2) Hot package options with \( T_a = 150^\circ C \) are available on request

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