

AURIX™

TC2xx Documentation

V1.0 2019-03



Technical Documentation Overview

User's Manual

- › System architecture & basic safety architecture
- › Peripheral details including register description
- › Use cases

Data Sheet

- › Pinout, electrical characteristics e.g. power consumptions and timing parameters

Data Sheet Addendum

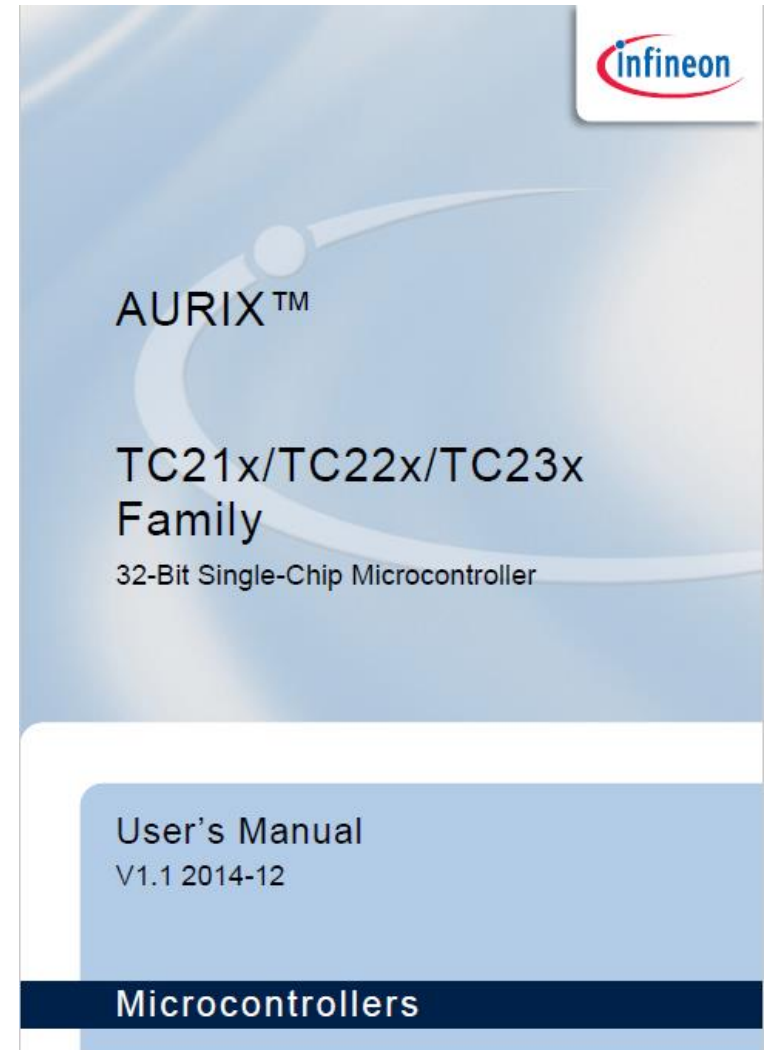
- › Lists all AURIX™ devices with order codes and feature set

TriCore™ Core Architecture

- › TriCore™ CPU architecture and instruction set reference

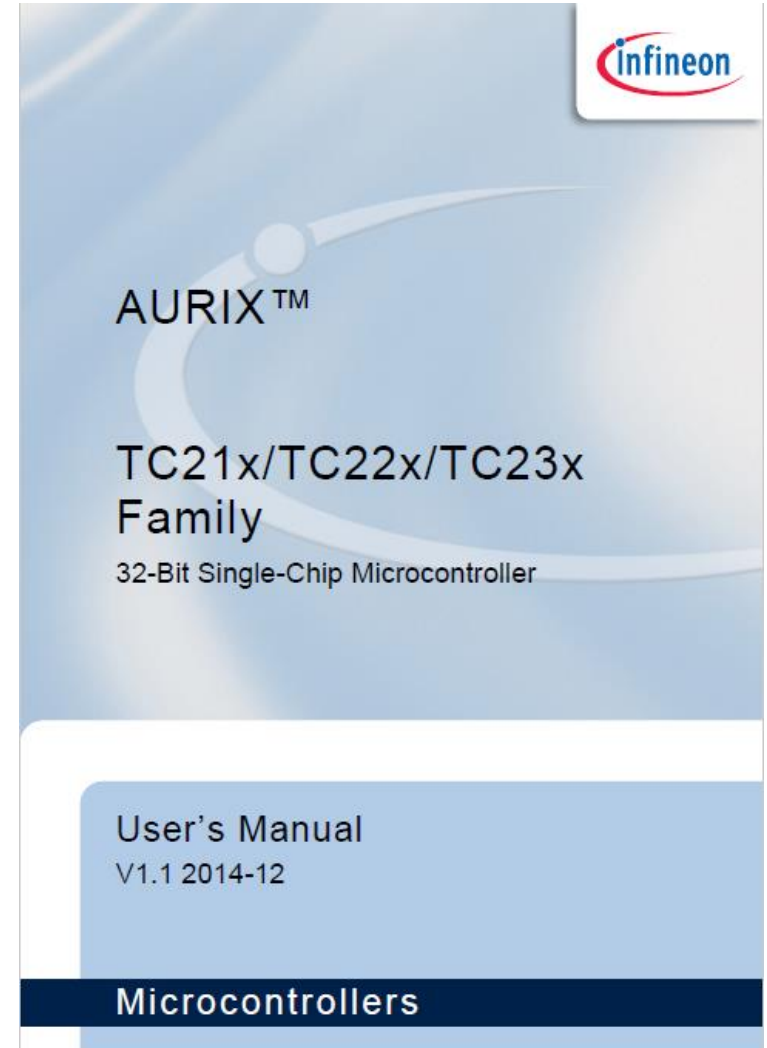
Errata Sheet

- › Description of known deviations from above documents



User's Manual

- › User's manual is the primary reference for programmers
- › Provides:
 - Implementation specific details of one AURIX™ series device (e.g TC21x)
 - Detailed description of all functional blocks and peripherals
 - Memory maps
 - Special function register definitions (down to bit level)



Data Sheet

- › Data Sheet is the primary reference for hardware designer
- › Provides:
 - Details for specific AURIX™ devices (ex: TC233, TC234, TC237)
 - Summary of features
 - Package and pinning definition
 - Electrical parameters (AC, DC, and signal timing)
 - Flash target parameters
 - Package outline and reliability data



Data Sheet Addendum

- › The Data Sheet Addendum lists all orderable AURIX™ devices
- › Provides:
 - Order numbers of AURIX™ devices
 - Top level feature list for each device
 - Memory Mapping for each memory variant



AURIX™ variants

Data Sheet Addendum

About this document

Scope and purpose

This document is an addendum to the TC2xx Data Sheet listing all intended product variants, key parameters such as memory size, and optional features.

Naming Conventions

Prefix

- SAK: T_{ambient} Temperature Range from -40 °C up to +125 °C
- SAL: T_{ambient} Temperature Range from -40 °C up to +150 °C (packaged device)

Feature Package

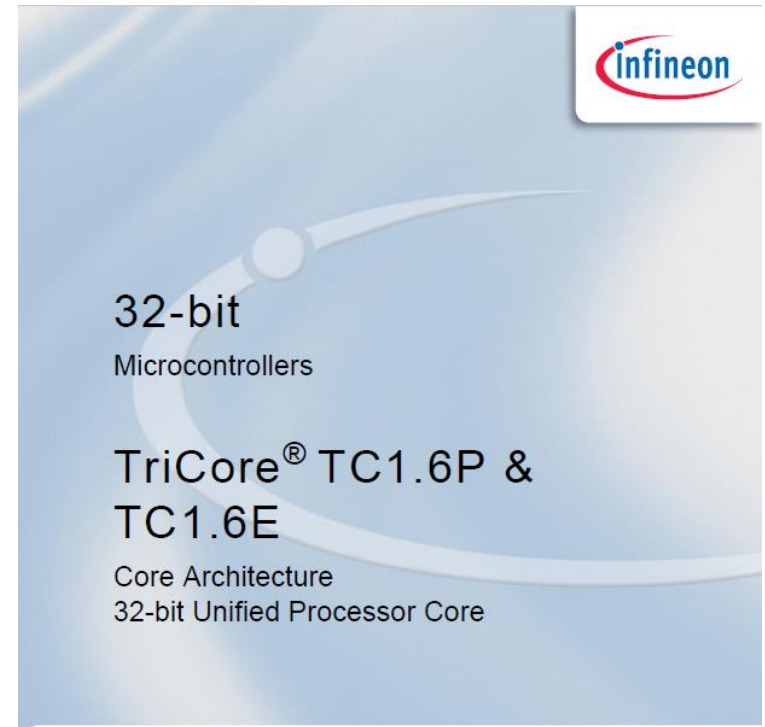
- T – Standard type without HSM
- TP – Standard type with HSM enabled
- TA – ADAS feature package – HSM enabled
- TX – Truck / SRAM extension – HSM enabled

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TriCore™ Core Architecture

- › This document describes the Core Architecture and the Instruction Set of TriCore™
- › Provides:
 - Volume1:
 - Description of the TC1.6P and TC1.6E Core Architecture and system interaction
 - Volume 2:
 - TriCore™ Instruction Set description
 - Description of Floating Point Unit
 - Description of Memory Management Unit (MMU) extensions



User Manual (Volume 1)
V1.0 2012-02

Microcontrollers

Errata Sheet

- › This document refers to a dedicated AURIX™ device and describes its deviations from the current user documentation like
 - › User's Manual
 - › Data Sheet
 - › TriCore™ Core Architecture
- › Provides
 - › Functional deviations
 - › Deviations from Electrical- and Timing Specification
 - › Application Hints



Errata Sheet

Rel. 1.3, 2018-06-11

Device TC23x
 Marking/Step ES-AC, AC
 Package see Data Sheet

No. 063/18

This Errata Sheet describes the deviations from the current user documentation.

Table 1 Current Documentation¹⁾

TC21x/TC22x/TC23x User's Manual	V1.1	2014-12
TC233/TC234/TC237 AC-Step Data Sheet	V1.0	2017-03
TriCore TC1.6P & TC1.6E Core Architecture, Instruction Set	V1.0D10, V1.0D15	2012-02, 2013-07

1) Newer versions replace older versions, unless specifically noted otherwise.

Make sure you always use the corresponding documentation for this device (User's Manual, Data Sheet, Documentation Addendum (if applicable), TriCore Architecture Manual, Errata Sheet) available in category 'Documents' at www.infineon.com/AURIX and www.myInfineon.com.

Conventions used in this document

Each erratum identifier follows the pattern **Module_Arch.TypeNumber**:

- **Module**: subsystem, peripheral, or function affected by the erratum
- **Arch**: microcontroller architecture where the erratum was initially detected
 - **AI**: Architecture Independent
 - **TC**: TriCore
- **Type**: category of deviation
 - **[none]**: Functional Deviation
 - **P**: Parametric Deviation

TC23x, ES-AC, AC

1/201

Rel. 1.3, 2018-06-11



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