



The TC10GP is the industry's first single-core 32-bit microcontroller-DSP based around the Infineon TriCore-1 architecture. The TC10GP implements the computational capabilities of DSPs alongside the most optimized price/performance implementation of a RISC load/store architecture. It is well-suited for a wide variety of real-time oriented embedded control systems.

Other on-chip features of the TC10GP include a configurable memory SRAM/cache for both instruction and data, synchronous and asynchronous serial communication interfaces, a Peripheral Control Processor (PCP) for data transfers and peripheral control, general-purpose timers, and sophisticated on-chip debug and emulation capabilities.

KEY FEATURES

- Unified 32-bit MCU-DSP core
 - Load/Store architecture
 - Dual 16x16 MACs
 - DSP addressing modes
 - Fast context switching
 - Superscalar design with three pipelines
 - 4-GByte address range
 - 66 MHz (80 MHz planned)
- Memory
 - 8/0-KByte instruction SRAM
 - 8/16-KByte instruction cache
 - 32/16-KByte data SRAM
 - 0/16-KByte data cache
- Serial Interfaces
 - Two asynchronous serial interfaces (UARTs)
 - One synchronous serial interface (SSC)
- On-chip Power Management
- Internal Flexible Peripheral Interconnect (FPI) Bus
- External Bus Interface (EBU)
 - Demultiplexed address and data buses
 - 32-bit data bus
 - 24-bit address bus
 - Little-endian operation
 - Four decoded chip selects
 - Emulation memory support
 - Memory controller (SDRAM, ROM, SRAM)
- Timers
 - Two General-Purpose Timer Units with three configurable 32-bit timers
 - Watchdog Timer
 - System Timer
- Parallel Ports
 - Three 8-bit parallel ports
- Peripheral Control Processor (PCP)
 - programmable for data transfers and peripheral control
 - Includes instructions for DMA control and bit handling
 - 2-KByte parameter SRAM
 - 1-KByte code SRAM
 - 4G Bytes address range
 - Conditional execution of arithmetic, logical, jump
- I/O Supply: 3.3V ± 10%
Core Logic: 2.5V ± 10%
- 208-pin P-FQFP package
- Temperature range: Standard 0°C to 70°C

This is preliminary information on a product under development. The information describes the type of component and shall not be considered as assured characteristics. Terms of deliver and rights to change design reserved.

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TriCore – TC10GP

General-Purpose
Unified 32-bit Microcontroller-DSP

