

Energy-Efficient High-Voltage, Low-Power 32-Bit RISC-V CPU

FEATURES

- RISC-V Core
 - 32-bit, RISC-V microcontroller
 - Maximum Operating Frequency: 33MHz
 - RISC-V ISA (RV32EC)
 - Debug & Interface Port: By JTAG
 - Integrated Programmable Interrupt controller
- Memory [1]
 - 64KB SRAM for program memory
 - 8KB SRAM for data memory
 - 64KB ROM (Optional)
 - 1Kb Flash/OTP (Optional)
- Analog
 - 11-bit A/D Converter x 1
 - 8-bit D/A Converter x 2
 - Temperature Sensor
 - Internal CC-CV control for VIN regulation
 - Integrated VDD regulator
- Timers
 - Programmable Watchdog Timer
 - 16-bit PWM Timer x 4
 - 32-bit Interval Timer x 3
- 14 pins for general I/O Ports
 - Open drain
 - Programmable internal pull-up
 - Interrupt input
- Operating Voltage
 - VIN: 5 to 28V
 - Max Input Voltage (VIN_max) = 28V
- Package
 - 48 -pin WQFN (7mm x 7mm, 0.75 mm pitch)

APPLICATIONS

- General purpose MCU core
- USB-C PD controller
- CC-CV controller
- IoT and Smart Devices

GENERAL DESCRIPTION

HT5580T is a general-purpose microcontroller designed based on the RISC-V core, which supports the main frequency of 33MHz system, and has the characteristics of wide input voltage range (VIN_max = 28V), low power consumption, and with JTAG port for debugging system. HT5580T built-in 11-bit analog-to-digital conversion ADC, internal temperature sensor and integrated CC-CV control scheme for high voltage application, such as used in USB-C PD 3.1/3.2 applications

Remarks

[1] The HT5580 is available in various versions with different memory capacities. Version 1 features 64KB SRAM for program memory and 8KB for data memory. Version 2 provides options like 1Kb Flash/OTP, 64KB ROM, and 2KB SRAM. Additional memory configurations can be discussed upon further requested.

BLOCK DIAGRAM

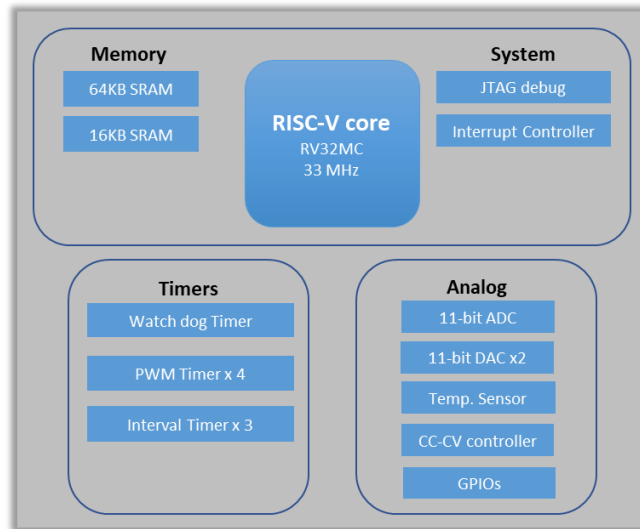


Figure 1. Block diagram of the MCU superset



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