

Preliminary Information

High-Performance Microcontroller with 64K/128K/256K/512K bytes ISP Flash, USB and ADPCM Engine

Description

TG471 is a low-power 32bit microcontroller base on adchips' EISC embedded microprocessor architecture. TG471 is fully integrated analog/digital peripherals, MCU, memories, USB and ADPCM Engine. With on-chip Brown Out Detector, Voltage Regulator, Timer, UART, ADC, DAC and Comparator, TG471 is truly System on-a-Chip solution. The ESFP allows the program memory to be Re-programmed in-system through an SPI serial interface, by a conventional nonvolatile memory programmer, or by an on-chip boot program running on the MCU core. TG471 is a powerful microcontroller that provides a highly flexible and cost effective solution to many embedded control applications.

32-bit EISC Microcontroller

Features

High Performance Processor Core

- Based On EISC(SE3208A) Instruction Set Architecture.
- 3-Stage Pipelining
- 8 General Purpose Registers and 7 Special Purpose Registers
- 8 Break-Point Register
- 32bit ALU, 1 Cycle 32bit x 32bit Multiplier
- 1Kbytes Inst. Cache
- Up to 50MIPS throughput with 50MHz Clock

Memory

- 8Kbytes SRAM
- Up to 512Kbytes of In-System Programmable Flash Memory
- Endurance : 10,000 Write/Erase Cycles
- SPI interface for EISC Serial Flash Programmer(ESFP)

USB V 2.0 FS Device Compatible

- Supports Full-speed Data Rate 12Mbps
- 5 endpoints (Control, 2 Interrupt In/Out, 2 Bulk In/Out)
- 16 byte FIFO for Control / Interrupt, 64 bytes for Bulk
- 2.0 FS USB Phy

ADPCM Engine

- ADPCM Encoding / Decoding
- Supports 40, 32, 24, 16 and 8Kbps ADPCM Encoding / Decoding Mode
- Supports 8bit Mono PCM Data Output Mode

Peripheral Functions

- 8 Ch. 16bit Timer / PWM / Capture / Output Compare with 10bit pre-scaler
- 26bit Watch Dog Timer
- 4 Ch. UART Serial Interface
- Master/Slave SPI Serial Interface
- Two-wire Serial Interface
- Interrupt Controller
- 8 External Interrupt Sources
- I2S
- 1Ch DMA
- 4Ch 10bit ADC
- 12bit DAC
- PLL (x4 or x 8 Fixed)
- GPIO
- Power Management Unit

Process

- Low Power 0.25um Process

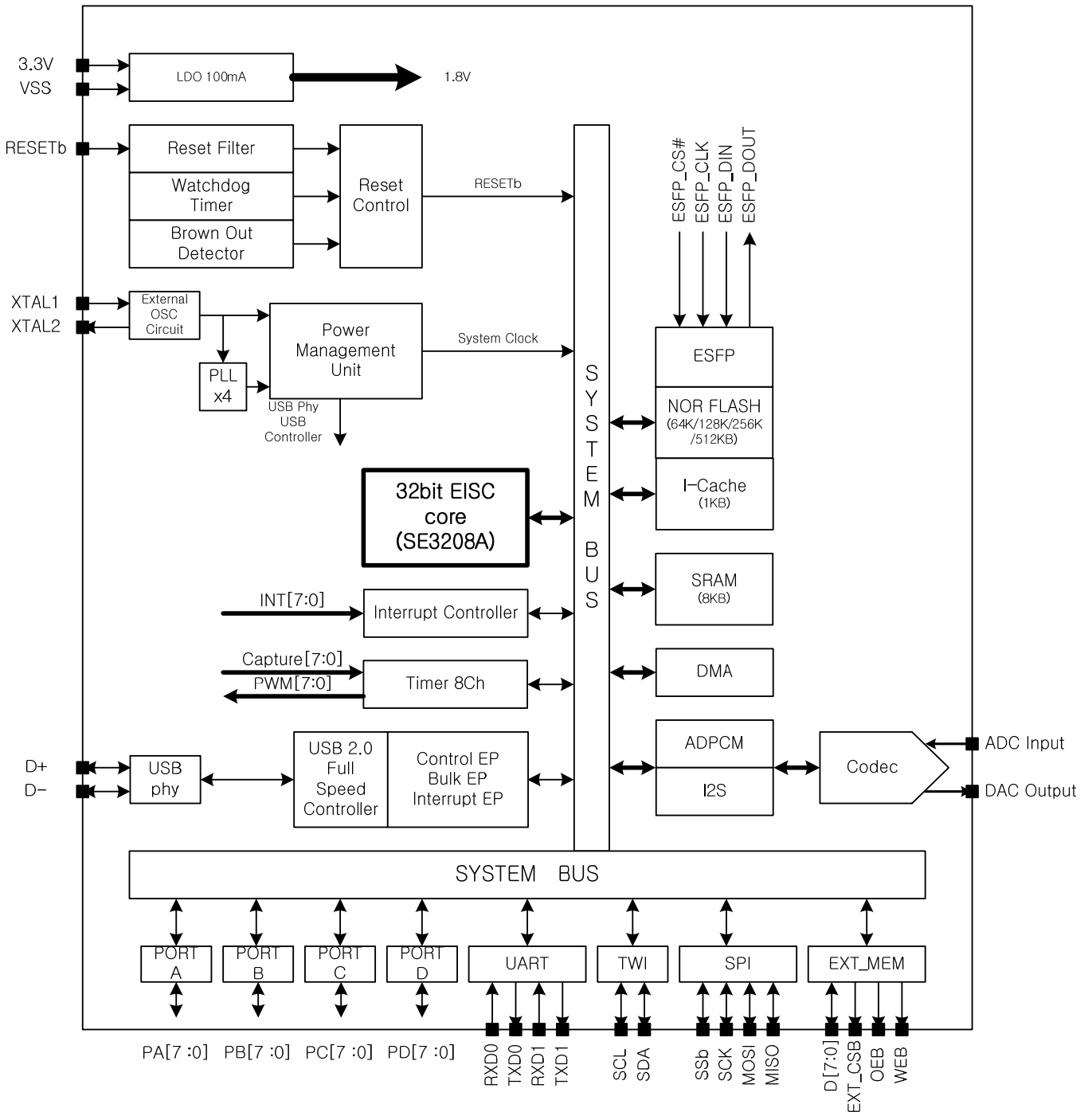
Package

- 64 LQFP / 64 BGA

Application

- GPS / Navigation
- Door lock / Security / Home Network Application
- Voice Recorder
- Sensor Application
- Home Appliance
- Toy
- Robot

Block Diagram 2



For more information

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