

Preliminary Information

CANTUS

High-Performance Microcontroller With USB and ADPCM Engine

Description

CANTUS is a low-power 32bit microcontroller base on EISC embedded microprocessor architecture. CANTUS is fully integrated analog/digital peripherals, MCU, memories, USB and Audio Interface. With on-chip Power On Reset, Timer, UART, and Voice Codec. CANTUS is truly System on-a-Chip solution. The ISP allows the program memory to be Re-programmed in-system through an SPI/JTAG interface, by a conventional nonvolatile memory programmer, or by an on-chip boot program running on the MCU core. CANTUS is a powerful microcontroller that provides a highly flexible and cost effective solution to many embedded control applications. Refer to table for specific product feature selection.

32-bit EISC Microcontroller

Features

High Performance Processor Core

- 32bit EISC Core MCU
- 5-Stage Pipelining
- 16 General Purpose Registers
- 8 Special Purpose Registers
- 1 Cycle 32bit Multiplier
- 8KBytes I-Cache, 4KBytes D-Cache
- JTAG Debugger
- Up to 96MIPS throughput with 96MHz Clock

Memory

- 128Kbytes/512Kbytes internal Flash Memory
 - √ Endurance : 10,000 Write/Erase Cycles
 - √ SPI interface for ISP/JTAG
- 80KBytes Internal SRAM
- External SRAM Interface (supports 4bank, 512KB/bank)
- NAND Flash Interface (support SLC NAND booting)
 - Supports SLC and MLC type

USB V 1.1 FS Device Compatible

- Supports Full-speed Data Rate 12Mbps
- 5 endpoints (Control, 2 Interrupt In/Out, 2 Bulk In/Out)
 - 16 Bytes for Control / Interrupt
 - 64 Bytes for Bulk

MP3 software decoder and Hardware IMA-ADPCM

- MP3/OGG Software Decoding
- IMA-ADPCM Encoding / Decoding
- Supports 8/16-bit Stereo PCM Data
- I2S Interface and Embedded 14-bit Voice Codec

Peripheral Functions

- 8 ch. 32bit Timer with 10bit pre-scaler
Timer/Counter, PWM
Capture, Output Compare
- 32bit Watchdog Timer
- 8 ch. UART
- 1 ch. Master/Slave SPI
- 1 ch. Two-wire Serial Interface
- 2 ch. GDMA
- 14-bit Voice Codec with Analog mux
- 48 Port I/O
- 4x4 Key Scan
- LDO 100mA
- LDO 50mA
- Power management unit
- RTC
- POR
- PLL

Process

- Low Power 0.18um Process

Package

- 100 pin TQFP

Application

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

For more information

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Block Diagram

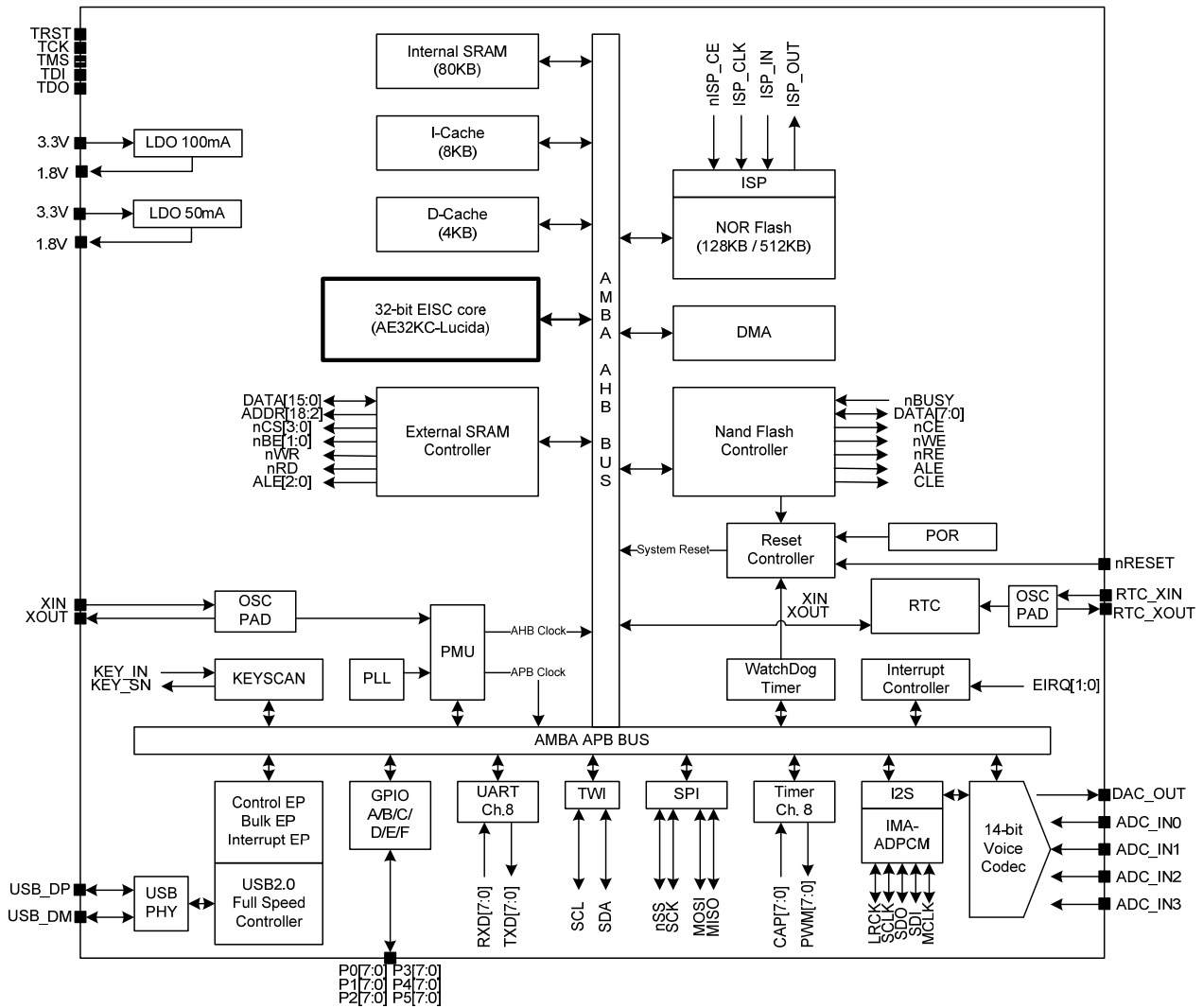


Table. Product Selection Guide

	CPU Speed (MHz)	Flash Memory	Internal SRAM (KB)	External SRAM	Nand Flash Controller	ADPCM	SDCard	USB 1.1 Device	UART	TWI	SPI	WatchDog Timer	TIMER / PWM	RTC	ADC / DAC (CODEC)	GPIO	Package
TG471	33	○	8	×	△	○	×	○	Ch.4	○	○	○	Ch.8	×	○	35	64LQFP
CANTUS	96	○	80	○	○	○	○	○	Ch.8	○	○	○	Ch.8	○	○	48	100LQFP

Notice : △ Available by software

For more information

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