

TIGER581

USB 2.0 VoIP Processor with build in Flash Disk Controller, 16bits Audio Codec, Echo Canceller, Keypad scanning logic and programmable MCU for Low Cost / High Quality Internet Speaker phone solutions

Features

- **Built in functions:**
 - NAND Flash Disk Controller
 - Internal 16 bits PCM Audio CODEC with high drive capability
 - Echo Canceller
 - 8 bit MCU on-chip ROM/RAM
 - USB 2.0 High Speed interface
- **Support all OS including Vista and WinXP. No drivers required, all drivers are embedded in Windows. No hassle for installation or upgrade.**
- **NAND Flash Controller**
 - Flash memories from 32Mb to 8Gb with page size 512 / 2K bytes
 - Support two Flash memory modules
 - 8 bit data path
- **Support software for Skype, SIP, Eyebeam, and SJPhone.....:**
- **Programmable MCU 8051with internal 32K ROM and 64K RAM.**
- **USB HID implementation**
 - Microsoft USB HID
 - Windows USB Telephony
 - Keypad support
 - LCD interface
 - Phone ringer/buzzer
 - Serial number support
- **Audio functions**
 - Internal 16 bits codec with high drive capability
 - USB audio class device mode
 - Uses Microsoft audio USB driver
 - Internal 16 bits PCM Audio CODEC
 - Record volume control
 - Playback volume control
 - Automatic audio mute
- **USB interface**
 - High speed 480MBps USB mode
 - On chip USB transceiver
 - USB specification 2.0 compliant
 - On chip 3.3V regulator
- **SPI uP interface Bus**
 - 4-wire interface
 - Byte serial data transfer
- **USB descriptor tables**
 - USB Mass Storage
 - Audio device class
 - HID
- **Peripheral Interface Bus (PIB)**
 - Byte-wide data
 - 6 address lines
 - 22 general purpose control lines
 - Read/Write/Reset control signal
- **Device features**
 - Single 12MHz crystal oscillator
 - 3.3V operation
 - Onboard 3.3V regulator
 - 128 pin LQFP

General Description

VoIP (Internet Phone) applications are very popular as VoIP can provide free and/or low-cost calling worldwide. Early users of VoIP have attempted to use the existing PC sound card and have suffered poor call quality due to echoes and other problems.

The Tiger581 offers a complete plug and play Speaker phone solution for VoIP, integrating functions included 16 bits codec with high power drive capability, keypad scanning, hardware canceller, 8051 MCU and Flash disk controller. Build in Flash Disk Controller provides “Auto-Run”, plug and play feature to avoid software installation hassle.

The Tiger581 is compatible with the Microsoft USB Mass Storage, USB audio and Windows USB HID device driver. This enables the Tiger581 to use the Microsoft written and supported drivers directly.

Glue less support is included for NAND Flash memory for disk, keypad, buzzer and LCD these features can be implemented without the requirement for a driver as the embedded Windows drivers are used (no hassle for installation or upgrade).

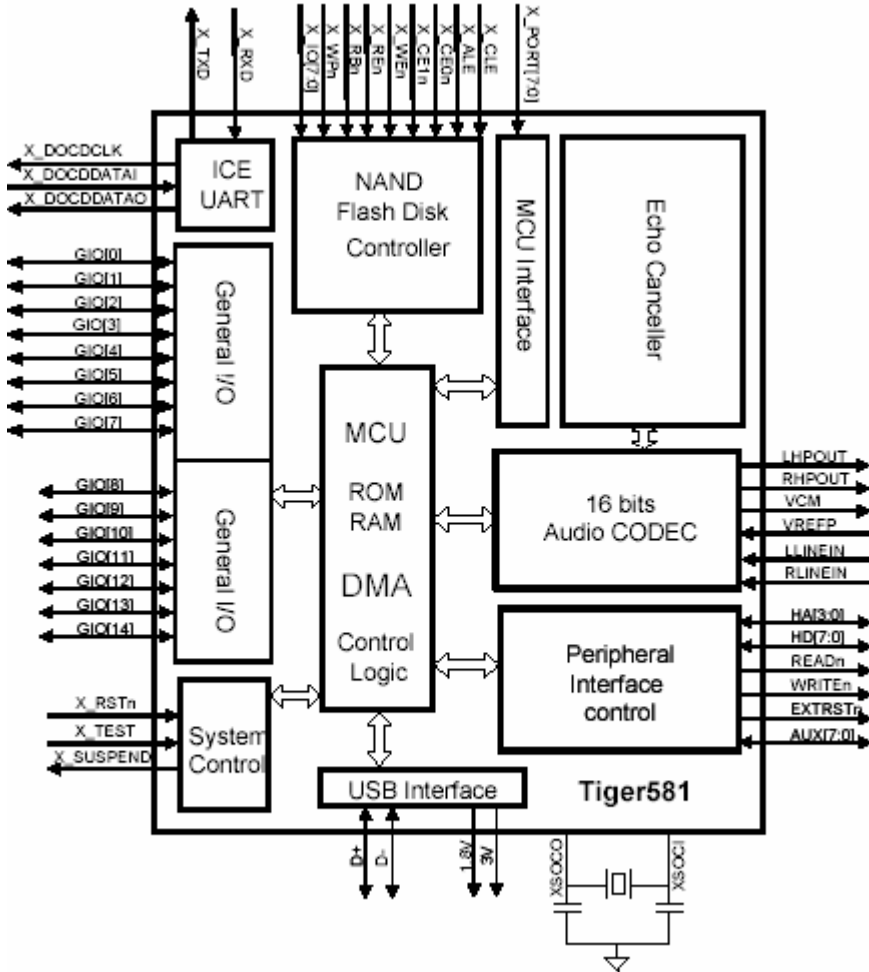
A low cost 4x4 or 4x8 matrix keypad can be directly connected to the Tiger581. Key presses are passed to the Internet telephony application. To enable the phone to ring a low cost buzzer is supported. For applications that call for an LCD to display called number and phone status an LCD can be directly connected.

The world leading IP Phone Center telephony application is available to bundle with VoIP products that are based on the Tiger581 chip.

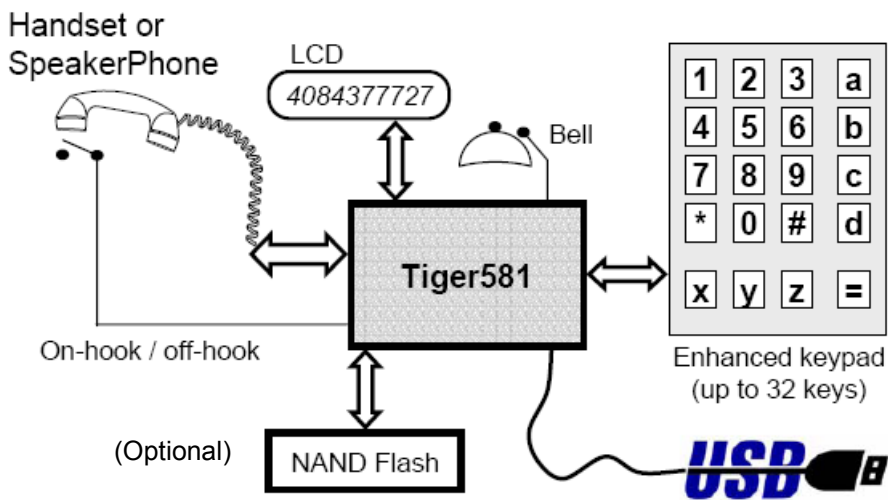
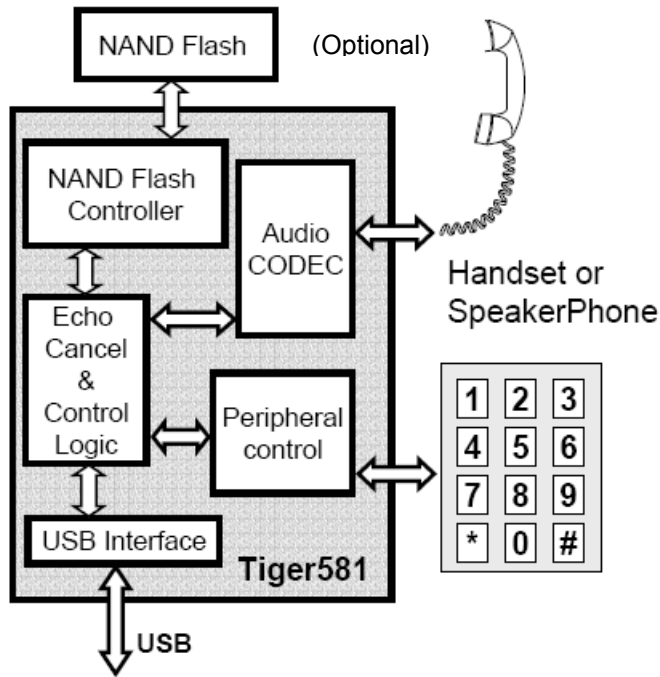
Ordering information

The order code for the Tiger581 is Tiger581.

Functional Block Diagram

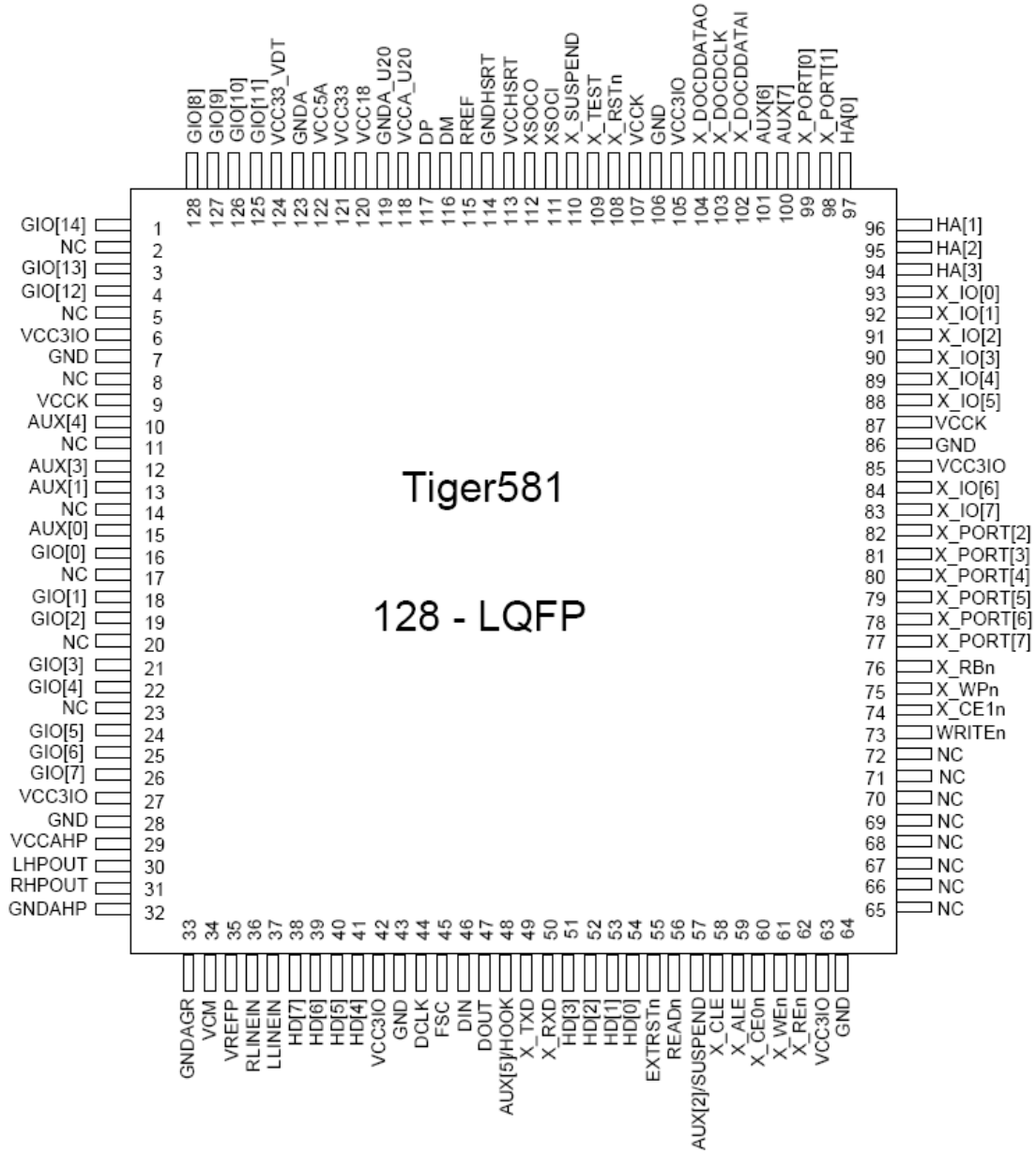


Typical Implementation



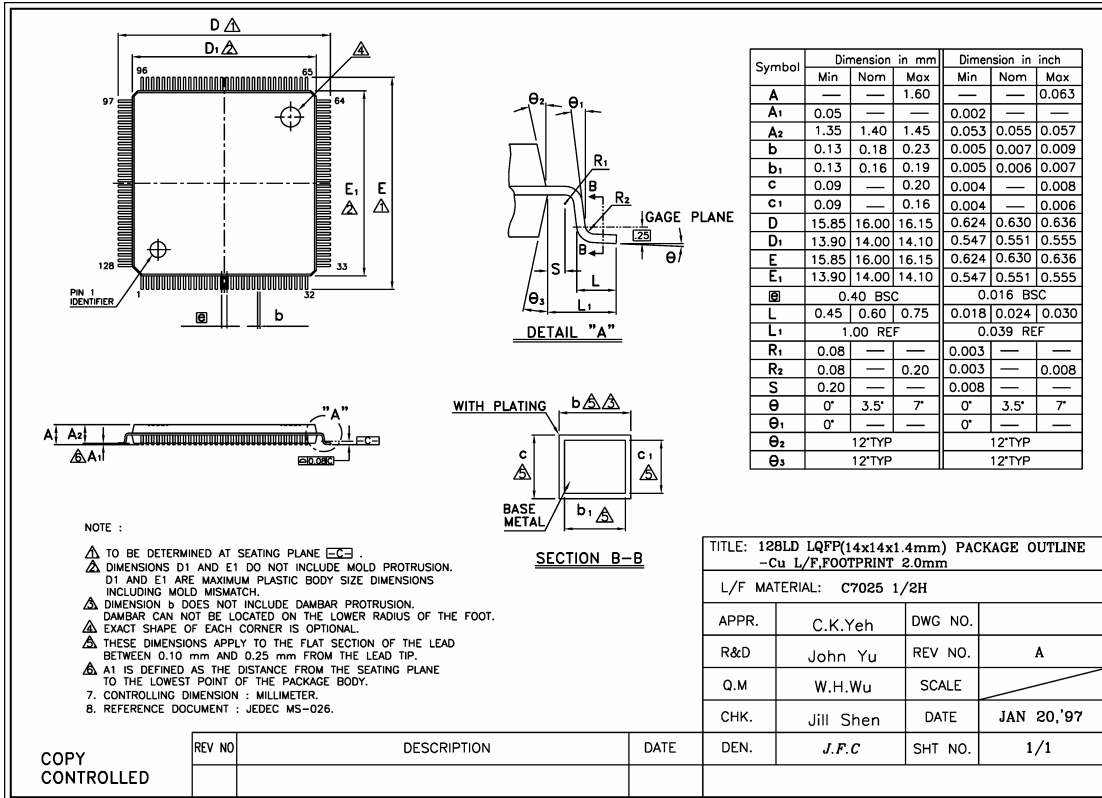
Pin-out

120-Pin-out diagram



Physical Dimensions

128-LQPF Physical Drawing



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AMENDMENT HISTORY:

Ver.	Date	Description
1.0	4/27/2007	First Draft.
1.1	9/10/2007	Keypad + Flash function