C51 MICROCONTROLLERS

Ready-to-use Smart Card Interface ICs for Serial, USB and PCMCIA Links

OPTIMIZED AND FULLY COMPLIANT WITH MAJOR INDUSTRY STANDARDS (EMV2000, PC/SC, WHQL)

Atmel® offers a family of products dedicated to advanced smart card readers.

Designed in partnership with key-players in the smart card reader market, these one-chip solutions address any application using a serial, USB or PMCIA smart card reader, including keyboards, set top boxes, PDAs, POS, mobile phones and energy meters.

ATMEL EXPERIENCE

With the fast development of e-commerce, access control, and secure transactions, the integration of smart card readers is a must in many electronic applications.

Smart card-based applications offer unrivaled security in electronic transactions. Thus, they are perfect for e-commerce, internet shopping, mobile commerce and TV access control.

Today and in the future, the most active domains for the smart card reader technology include: keyboards, set top boxes, PDAs, POS, mobile phones, energy meters, Web TV, PCs and all Internet appliances.

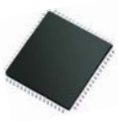
Based on experience gained on its Flash and ROM leading edge technologies, Atmel has developed a full range of smart card reader ICs.

Designed in partnership with key-players in the smart card reader market, the Atmel products provide the optimum combination of features for a single-chip smart card reader.

AT83C24

T8xC5121

AT8xC5123



AT8xC5122

TURN-KEY SOLUTIONS FOR SERIAL, USB & PCMCIA

To help customers reduce time-to-market, Atmel and its partners have developed ready-to-use solutions for serial, USB and PCMCIA applications.

Including specific software, they are pre-certified by major industry standards (EMV2000, PC/SC, WHQL).

For more information, contact: cardreader@nto.atmel.com

USB

EMV2000 Compliant
One-chip Solution

Personal Digital Assistant

Energy Metering

EXTENDED KEY BENEFITS

Set Top Box – TV – Game Console

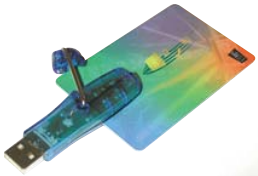
Communication Interfaces

- Serial
- USB
- PCMCIA

Point-of-Sales Terminal

Higher Flexibility

- Flash-RAM Version for Pre-production
- ROM Version for Mass-production



PC Link Smart Card Reader

Integrated ISO7816 Interface

- Card Clock up to 8 MHz
- Easy and Fast Data Transfer

Keyboard

Integrated DC/DC

- High Efficiency: 80 to 98%
- Drives 5V, 3V, 1.8V Cards
- Card Power Supervisor

Dual Slot Capability

- Manages One User Smart Card Plus One SIM/SAM Card

Small Packages

- SSOP24, TSSOP20
- VQFP32, VQFP44

Optimized Consumption

- Power Down: 20 µA
- Power On Reset
- Power Fail Detect

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		Serial MCU	USB MCUs		Level Shifter	PCMCIA Controller
		T8xC5121	AT8xC5122	AT8xC5123	AT83C24	AT83C25
Memory	Size (KB)	16	32	16	–	–
	Flash RAM*	T89C5121	AT89C5122	–	–	–
	CRAM**	T85C5121	AT85C5122	–	–	–
	ROM	T83C5121	AT83C5122	AT83C5123 (256 Bytes EEPROM)	–	–
Serial Interfaces	USB Endpoints	–	7	5	–	–
	UART	Yes	Yes	Yes	–	–
	SPI	–	Yes	–	–	–
Card Interfaces	Smart Card Interface	Yes	Yes	Yes	–	Yes
	ESD Protection	4 kV	4 kV	4 kV	4 kV	4 kV
	ISO Max. Frequency	16 MHz	16 MHz	16 MHz	16 MHz	16 MHz
	Synchronous Card	Yes	Yes	Yes	–	Yes
	Alternate Card	Yes	Yes	Yes	–	Yes
DC/DC Converter	3V & 5V Modes	60 mA	60 mA	60 mA	60 mA	60 mA
	1.8V Mode	20 mA	20 mA	20 mA	20 mA	20 mA
	Voltage Supervisor	Yes	Yes	Yes	Yes	Yes
Other Features	Core Frequency	16 MHz	32 MHz/PLL	32 MHz/PLL	–	–
	I/O Ports (LED)	14/30 (2)	13/46 (7)	13/17 (4)	–	–
	Power Supply (V)	2.85 - 5.5	3.6 - 5.5	3.6 - 5.5	2.85 - 5.5	3.6 - 5.5
	Temperature (°C)	-40/+85	-40/+85	-40/+85	-40/+85	-40/+85
	Packages	SSOP24 PLCC52	VQFP64 PLCC28	PLCC28 VQFP32	TSSOP20	VQFP64
	Availability	Now	4Q2002	4Q2002	4Q2002	4Q2002
	Main Applications	POS, Mobile Set Top Box	Keyboard	PC Link Card Reader	POS Set Top Box	PMCIA Card Reader

**Flash RAM: combination of CRAM version & Flash memory.*
***CRAM: executable Code RAM, loaded after reset.*

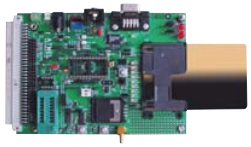
Development Tools

Compilers: Keil™, Raisonance
Emulators: Hitex, Signum

Starter Kits: Include a development board, demonstration software and software drivers.

AT8xC5122/23 Development Board

T8xC5121 Development Board



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