Product Preview

μ**T83SCD110**

ROM-less 8-Bit SmartCard MCU with 110KB Flash

The μT83SCD110 is a contact mode smart card MCU, which complies with ISO7816 standard and 3GPP ETSI TS 102 221 standard. It is targetting for high end GSM SIM and USIM applications. μT83SCD110 is a member of the D-series family, which is using latest embedded FLASH technology to meet users' need. The 110K bytes FLASH memory can be used for both data and code. The area configured for user program can be protected from accidental changes, making it similar to a typical mask ROM. The buit-in Memory Management Unit (MMU) together with firewall feature makes μT83SCD110 suitable for multi-application environment.

FEATURES

- High speed (average 3X to standard 8051) 8051 compatible CPU core
- On-chip FLASH Memory
  - 110k-bytes FLASH for data or code area
- 256 plus 2048-bytes user RAM
- Operating voltages: 3V ±10% or 5V ±10%
- 27MHz maximum internal bus frequency at 3V and 5V
- One bi-directional I/O with ISO 7816-3 compatibility, internal pull-up and external interrupt capability
- High speed serial communication interface (SCI) with T=0 error detection
- 16-bit programmable timer with selectable clock source
- Watchdog function
- Built-in Internal Oscillator for high speed operation
- Special instruction support data block move
- Hardware CRC per ISO 13239 standard
- CPU clock divider (divide by 1, 2,4,8) and clock source selection
- External Clock Frequency up to 12MHz
- Maximum standby current during stop: 100μA (no external clock)
- Support GSM mode with max. current:
  - 10mA @ 5.5V and 6mA @3.3V
- ESD protection at least 4KV (HBM)
- Operation temperature range: -25C to +85C

μT83SCD110/PR — rev. 1.0

1. SECURITY FEATURES

- Low Voltage Reset
- High Voltage Protect
- High Frequency Filter
- Low Frequency Reset
- Protection Features Against Security Attacks
- True Random number generator
- MMU with firewall for multi-application
- Unique identification code
-

2. SUPPORTED STANDARDS

- ISO/IEC 7816
- GSM 11.11, 11.12
- ETSI TS 102 221

3. GENERAL OVERVIEW

The μT83SCD110 is a contact mode smart card MCU for high end SIM/UIM/USIM Card applications and smart card applications require large memory NVM.

The block diagram of the μT83SCD110 is shown in Figure 1.

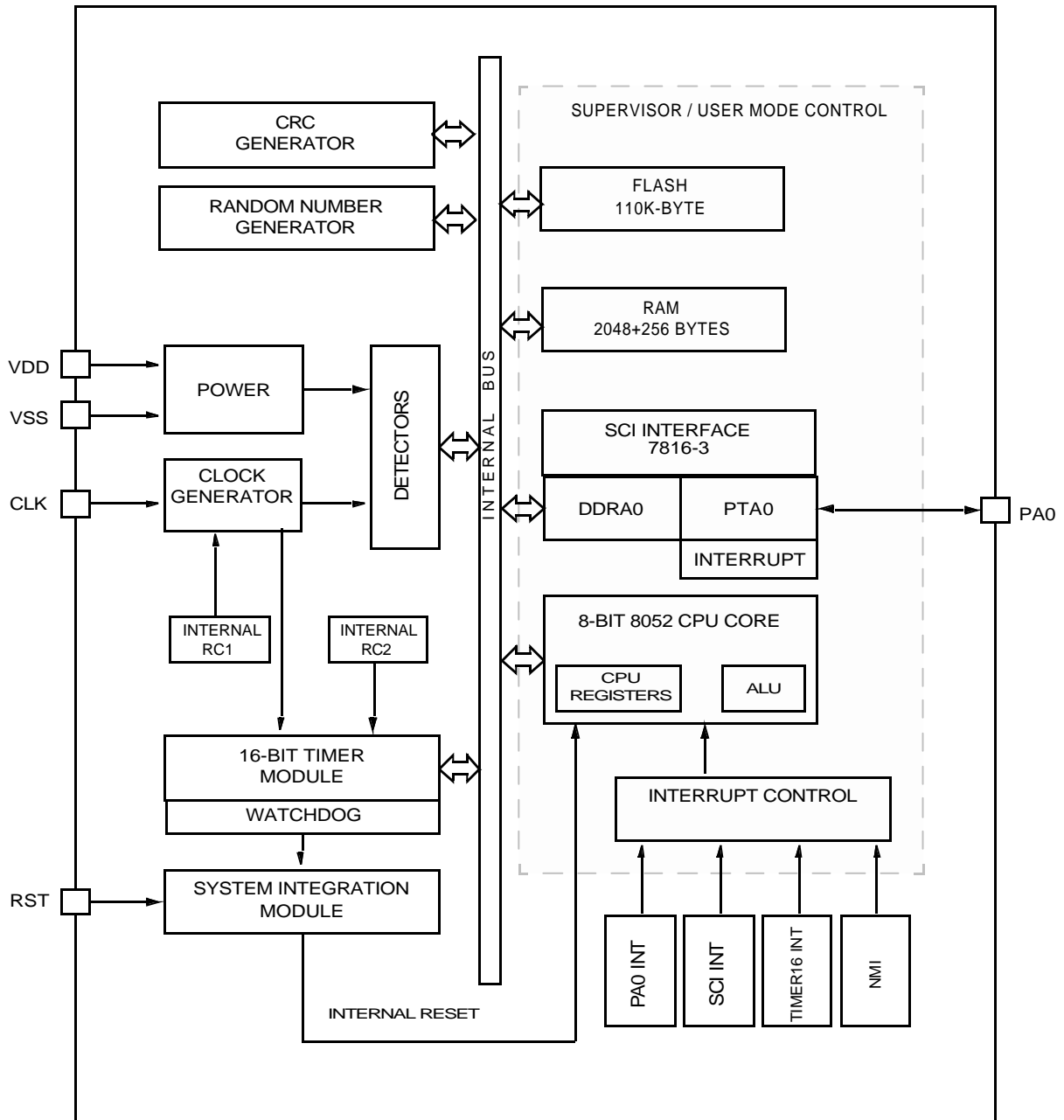**Figure 1.** μ**T83SCD110 MCU Block Diagram**