Ultra Low Power 8-pin Flash Microcontroller

Features

- **True Low Power:** 5.8 µA active mode
  3.3 µA standby mode
  0.32 µA sleep mode
- **Large Supply Voltage 2.3 V to 5.5 V**
- **No external component needed**
- **Available in SO-8/14 packages and die**
- **4-bit ADC or 12 levels Supply Voltage Level Detector (SVLD)**
- **Unique ID code of 52bits + 16bits CRC**

- Max 4 (5*) outputs with 2 high drive outputs of 10mA
- Max. 5 (6*) inputs
- Sleep Counter Reset (automatic wake-up from sleep mode (EM patent))
- Flash memory 4096 × 16 bits
- RAM 80 × 4 bits
- Internal RC oscillator 32kHz – 800kHz
- 2 clocks per instruction cycle
- 72 basic instructions
- External CPU clock source possible
- Watchdog timer (2 sec)
- Power-On-Reset with Power-Check on start-up
- 3 wire serial port , 8 bit, master and slave mode
- Universal 10-bit counter, PWM, event counter
- Prescaler down to 1 Hz (freq. = 32kHz)
- Frequency output 1Hz, 2048 Hz, CPUClk, PWM
- 6 internal interrupt sources (2×10-bit counter, 2× prescaler, SVLD, Serial Interface)
- 2 external interrupt sources (port A)

Description

The EM6580 is a low power Flash 4-bit microcontroller coming in a small 8-pin SO package and working up to 0.4 MIPS. It comes with an integrated 4-bit ADC and 2 high current drive outputs of 10mA and it requires no external component. It has a sleep counter reset allowing automatic wake-up from sleep mode. It is designed for use in battery-operated and field-powered applications requiring an extended lifetime. A high integration level make it an ideal choice for cost sensitive applications.

The EM6580 contains the equivalent of 8kB of Flash memory and a RC oscillator with frequencies between 32 to 800kHz. It also has a power-on reset, watchdog timer, 10 bit up/down counter, PWM and several clock functions.

Development tools include windows-based simulator program debugger, assembler and real time emulator.

Figure 1. Architecture

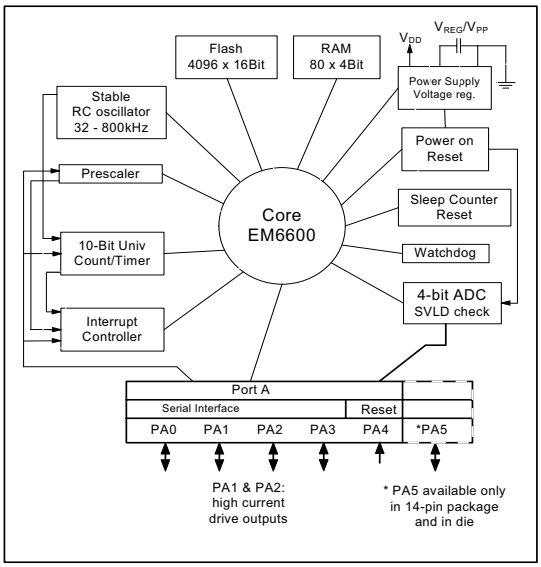
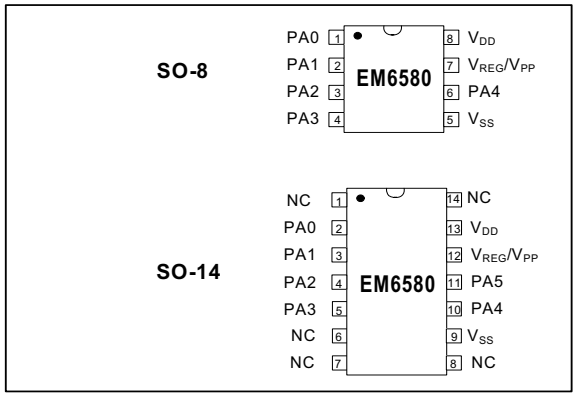


Figure 2. Pin Configuration



Typical Applications

- Household appliances
- Safety and security devices
- Automotive controls
- Sensor interfaces
- Watchdog
- Intelligent ADC
- Driver (LED, triac)

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