Ultra Low Power 8-pin Microcontroller

EM6580 has a 8kB FLASH memory and EM6680 a 3kB mask ROM memory. They come in small 8-pin SO and TSSOP packages and have a high integration level for best use in battery-operated and cost sensitive applications.

Key Features
- **Small 8-pin package**
- **True Low Current**
- **4-bit ADC or 12 levels Voltage Level Detector**
- **High drive outputs**
- **No external component**

Additional features for flash device:
- **Unique serial ID code of 52bits + 16bits CRC**
- **CPU clock: can be selected from 32 to 800kHz on the fly**

  ### & BENEFITS
  - ✓ *Greater flexibility*
  - ✓ *Ideal for portable and battery-operated applications*
  - ✓ *Useful in simple analog sensing applications*
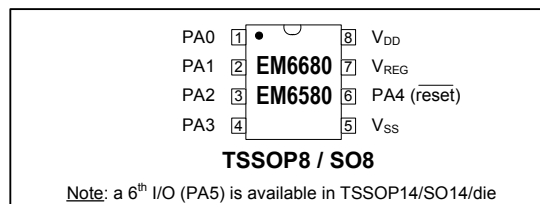 - ✓ *Save PCB space*
  - ✓ *Cost effective*

And more…
- Max 5/6* I/Os with 2 high drive outputs of 20mA
- Power-On-Reset with brownout control
- Original EM design: Sleep Counter Reset (automatic wake-up from sleep mode)
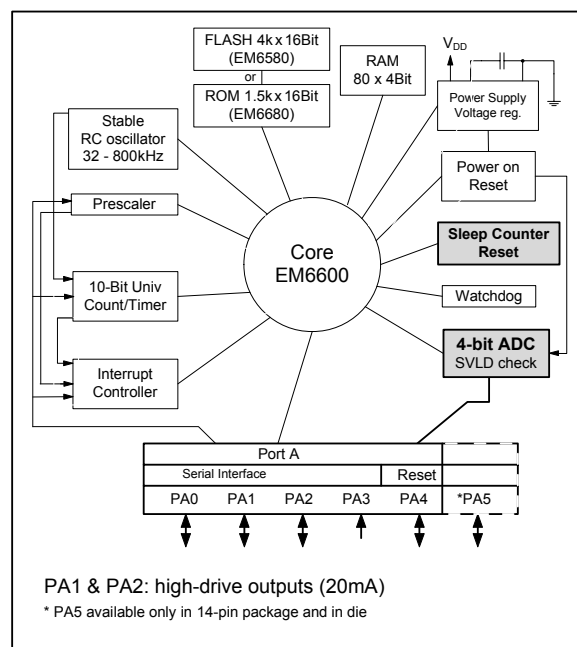- Internal RC oscillator 32 kHz – 800 kHz with outstanding stability
- 8-bit serial interface

	EM6580	**EM6680**
Memory	Flash 4k x 16 bit	ROM 1536 x 16 bit
Supply voltage	2.3 V to 5.5 V	1.2 V to 3.6 V
Current active	5.8 µA	4.0 µA
standby	3.3 µA	3.5 µA
sleep	0.32 µA	0.35 µA
Serial ID #	yes	no
Package	SO-8/14*	SO-8/14* TSSOP-8/14*

Tools & Services
- Easy to use, well-proven simulator and emulator
- Windows-based software programs
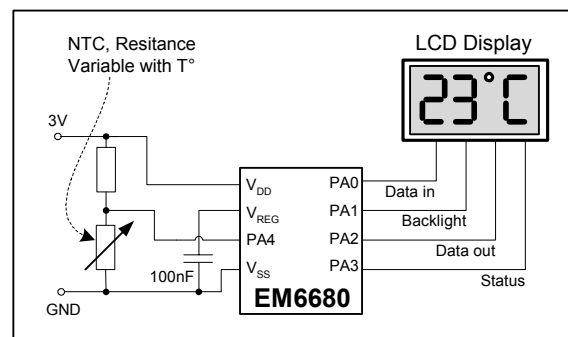- Programmer available from third party (EM6580)
- Demoboard

PA0 [1] **EM6680** [8] V_{DD}
PA1 [2] **EM6580** [7] V_{REG}
PA2 [3] [6] PA4 (reset)
PA3 [4] [5] V_{SS}

TSSOP8 / SO8

Note: a 6th I/O (PA5) is available in TSSOP14/SO14/die

Pin Configuration

PA1 & PA2: high-drive outputs (20mA)
* PA5 available only in 14-pin package and in die

Block Diagram

Example of Application

4-bit ADC in Temperature Sensing Application

Typical Applications
- Domestic Appliances & Toys
- Safety and security devices
- Automotive controls
- Communication
- Sensor interfaces
- Watchdog
- Intelligent ADC
- Driver (LED,triac)

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