SGS-THOMSON MICROELECTRONICS

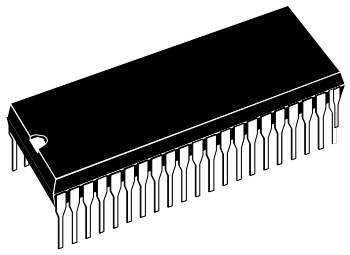
ST72752

8-BIT MCU FOR MONITORS WITH UP TO 32K ROM, 1K RAM, ADC, TIMER, SYNC, PWM/BRM, DDC/DMA & I^2C

BRIEF DATA

- User ROM/OTP/EPROM: up to 32 Kbytes
- Data RAM: up to 1 Kbytes (256 bytes stack)
- 8 MHz Maximum Internal Clock Frequency in fast mode, 4 MHz in normal mode
- Run, Wait and Halt CPU modes
- Sync Processor for Mode Recognition, power management and composite video blanking, clamping and free-running frequency generation.
  - Corrector mode
  - Analyzer mode
- Fast I^2C Multi Master Interface
- DDC Bus Interface fully compliant with DDC1, 2B, 2B+, 2AB, 2Bi standards
- 23 I/O lines
  - 1 high current I/O (10 mA)
  - Up to 5 high voltage outputs (9V)
- 16-bit timer with 2 input captures and 2 output compare functions (with 1 output pin)
- 8-bit Analog to Digital Converter with 4 channels on port B
- 8 10-bit PWM/BRM Digital to Analog outputs
- One 12-bit PWM/BRM Digital to Analog output
- Master Reset and Power on/off reset[1]
- Programmable Watchdog for system reliability
- 42-pin Shrink Dual In line Plastic package
- Fully static operation
- 0 to + 70 ^oC Operating Temperature Range
- 4.0V to 5.5V supply operating range
- 24 MHz Quartz Oscillator
- 63 basic instructions/17 main address modes
- 8x8 unsigned multiply instruction
- True bit manipulation
- Versatile Development Tools (DOS and Windows) including assembler, linker, C-compiler, archiver, source level debugger, programmer, and hardware emulator

Note 1: Power On/Off reset not implemented in this revision.



PSDIP42

See Ordering Information at the end of the Document

Device Summary

Features	ST72752J6	ST72752J5	ST72752J4
ROM (bytes)	32K	24K	16K
RAM (bytes)	1K	768	512
ADC	4 channels		
Timer	1		
I^2C Bus	one multimaster		
DDC/DMA	yes		
Sync	yes		
PWM	9		
I/O	23		
EPROM Device	ST72E752J6D1		
OTP Device	ST72T752J6B1		

This is preliminary information on a new product in development or undergoing evaluation. Details are subject to change without notice.

1 GENERAL DESCRIPTION

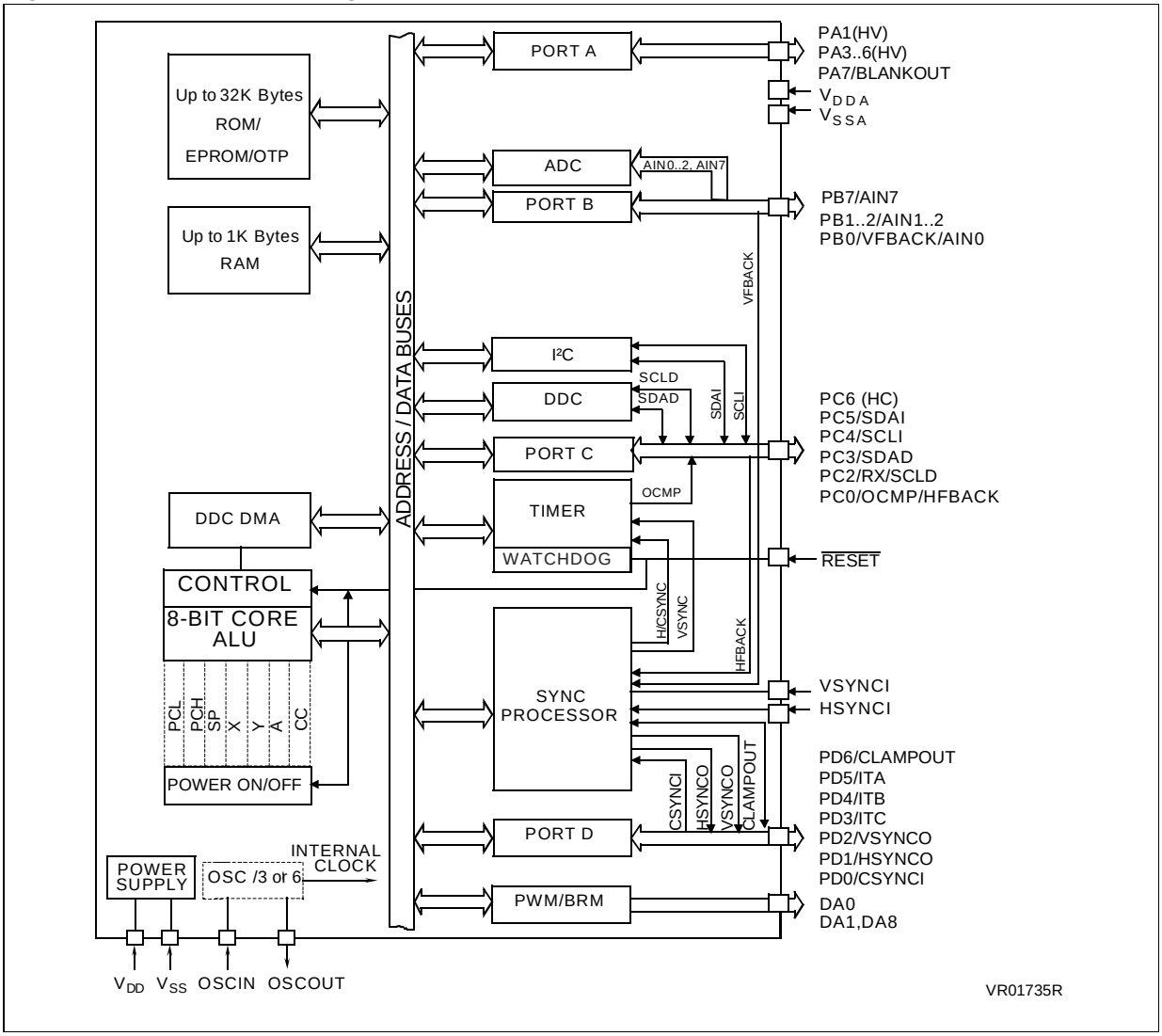
1.1 INTRODUCTION

The ST72752 is a HCMOS microcontroller unit (MCU) from the ST7 family with dedicated peripherals for Monitor applications.
It is based around an industry standard 8-bit core and offers an enhanced instruction set. The processor runs with an external clock at 24 MHz with a 5V supply. Due to the fully static design of this device, operation down to DC is possible. Under software control the ST72752 can be placed in WAIT or HALT mode thus reducing power consumption. The enhanced instruction set and addressing modes afford real programming potential.

In addition to standard 8-bit data management the ST7 features true bit manipulation, 8x8 unsigned multiplication and indirect addressing modes.

The device includes an on-chip oscillator, CPU, Sync Processor for video timing & Vfback analysis, up to 32K ROM, up to 1K RAM, I/O, a timer with 2 input captures and 2 output compares, a 4-channel Analog to Digital Converter, DDC/DMA, I^2C multi Master, Watchdog Reset, and one 12-bit and eight 10-bit PWM/BRM outputs for analog DC control of external functions.

Figure 1. .ST72752 Block Diagram



Notes:

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