



"ALWAYS COMPLETE"

## Cogent Computer Systems, Inc.

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17 Industrial Drive, Smithfield RI 02917

tel: 401-349-3999, fax: 401-349-3998, web: [www.cogcomp.com](http://www.cogcomp.com)

### CSB781 - 400Mhz MPC5121e SODIMM SOM

The CSB781, designed, developed and manufactured by Cogent Computer Systems, Inc., is a highly integrated PowerPC SODIMM System On a Module (SOM). The CSB781 provides a small, powerful, flexible engine for embedded control systems of all kinds.

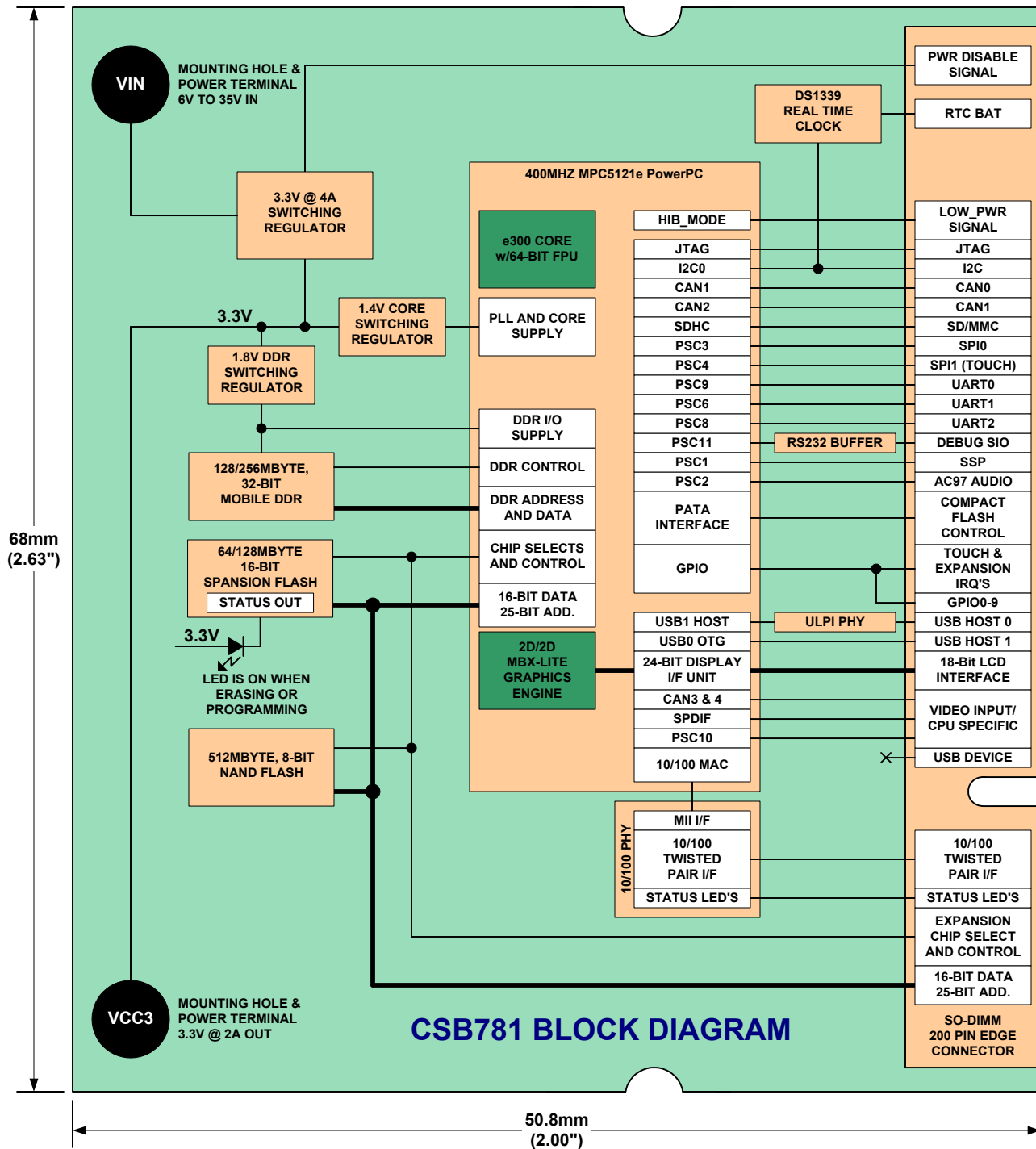
### Specifications

- 400Mhz MPC5121e PowerPC CPU with 32K I-Cache/32K D-Cache and 64-Bit FPU
- 200Mhz AXE RISC Coprocessor for Audio Encode/Decode
- 128/256Mbyte Low Power Mobile DDR Memory (<2mw Self-Refresh Mode)
- 64/128Mbyte Spansion FLASH, with Secure 256 Byte Sector and 128-Bit Unique ID
- 512MByte 8-Bit NAND Flash for On-Board OS and Applications Storage
- On-Chip MBX-Lite 2D/3D Graphics Accelerator and 18-Bit Display Interface Unit
- 480Mbit USB 2.0 OTG Port via On-Chip PHY
- 480Mbit USB 2.0 Host Port via On-Board ULPI PHY
- Four Channel CAN2.0B Compliant Controller
- On-Chip 10/100 Ethernet Controller with Low Power LAN8700 10/100 PHY
- DS1339 Real Time Clock with dedicated Battery Backup Input
- RS-232 Buffer for 2-Wire Debug Serial Port (PSC11)
- Four 4-Wire TTL UARTS (PSC6, 8, 9 and 10)
- Dual SPI (PSC3 and 4), AC97 (PSC2), SSP (PSC1) and I2C for Serial I/O Expansion
- SD/MMC Interface (4-Bit, SDIO Compliant)
- 25-Bit Add./16-Bit Data for Compact Flash (True IDE Mode only) and Generic Expansion
- 10 Dedicated GPIO lines (many peripherals can also be defined as GPIO)
- On-Board, Wide Input (6V to 35V) 3.3V Regulator provides 2A back to the Target Board
- Very Low Power (estimated): <1W typical, 2W maximum, <20mw sleep to RAM

### Introduction and Overview

All GPIO and peripherals are available via the low cost 200-pin SODIMM Edge Connector. Small size, powerful 400Mhz PowerPC Core, 64-Bit Floating Point Unit (FPU), multiple serial interfaces, generous memory, 10/100 Ethernet and on-board 3.3V Regulator all combine to make the CSB781 the ideal engine for any size restricted, low power embedded system. In addition, the On-Chip MBX-Lite Graphics Coprocessor, along with the Four Channel CAN2.0B controller, allows the CSB781 to target Industrial Human Interface and sophisticated Machine Control applications.

The CSB781 is constructed using state of the art PCB packaging technology such as fine pitch BGA's, micro-vias and fine line geometry. The CSB781 gives you access to this technology without the risk. You can integrate the CSB781 using a low cost, 4 layer PCB in just weeks, not months! We can even do it for you through our custom design services group.



## Low Cost LCD Development Kit and I/O Expansion

The CSB781 is fully compatible with the CSB703 Base Development Platform providing 4.3" LCD w/ Touch, SD/MMC, Compact Flash, Dual SJA1000 CAN and Audio I/O. The CSB703 provides three I/O Sites allowing access to the complete line of CSB908 I/O modules including: Two-Cell Lithium-ION Battery Charger; Dual RS-232; Dual Isolated RS-485; S-Video/Composite Video Input; 24Watt Power over Ethernet; I2S Audio with Touch and more. Additionally, the CSB703 interfaces the CSB781 to the CSB909 series of Display Adapters. Currently these include: 6.5" 640x480 VGA; 7" 800x480 WVGA; DVI Interface for PC monitors up to 1280x1024; and LVDS up to 1024x768 XGA. Contact us today for more information regarding the CSB781, CSB703, CSB908 I/O Modules and CSB909 LCD Displays.