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[MINI6045 PROCESSOR CARD](#)

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Embest Mini6045 Processor Card



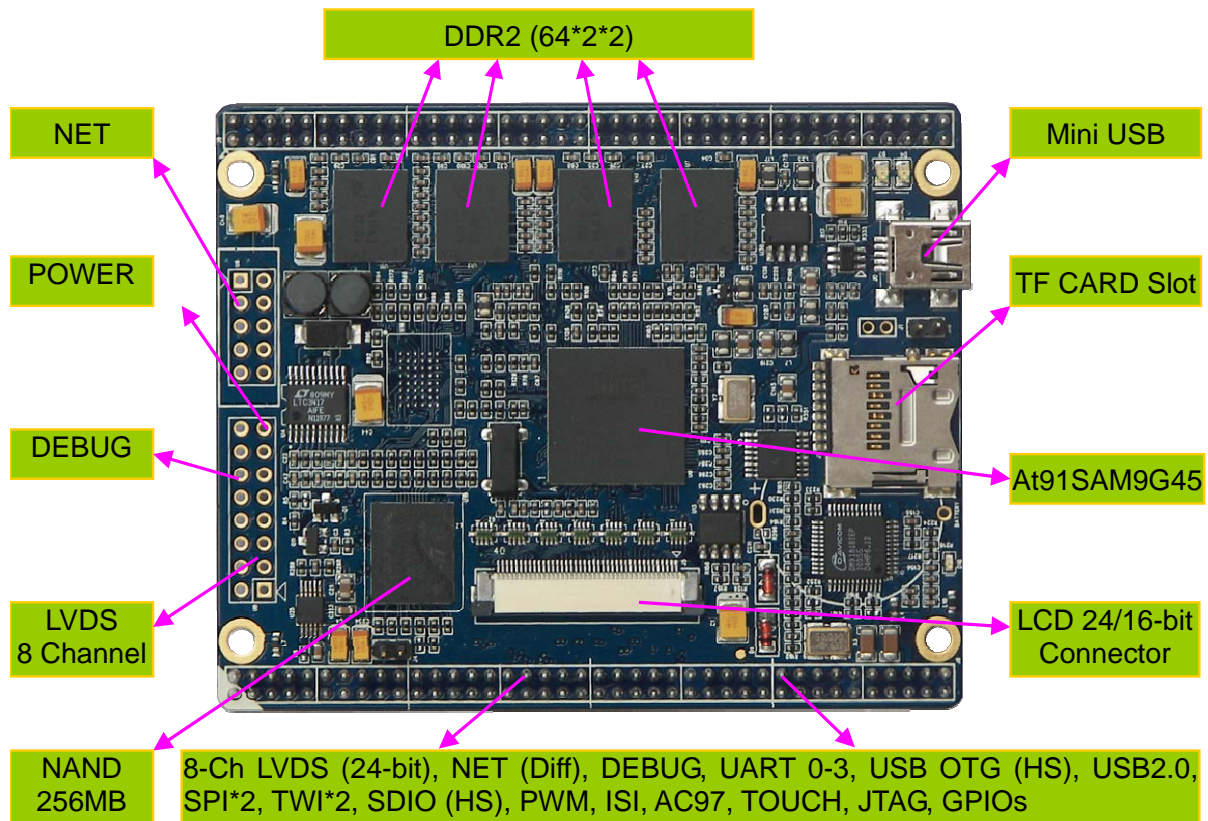
Mini6045 Top View



Mini6045 Bottom View

Features

- Dimension: 82mm x 67mm
- Working temperature: -10°C~+70°C
- Power supply: +5V (power can be also supplied by USB Device)
- Atmel AT91SAM9G45 ARM926EJ-S Core Microprocessor (compatible with AT91SAM9M10)
 - 32 KBytes Data Cache, 32 KBytes Instruction Cache, MMU
 - One 64-kbyte internal SRAM and One 64-kbyte internal ROM
 - Can work at up to 400MHz
- External Memory
 - 128MByte*2 DDR2 SDRAM
 - 256MByte NAND Flash
 - 4MByte Data Flash
 - 2Kbit EEPROM
- Precise RTC (extended through DS3231SN)
- Watchdog timer, supported with the microprocessor
- One 40-pin LCD interface with 4-wire resistive touch screen interface (24-bit color LCD)
- One LVDS interface (Supports 8-bit LCD resolution up to 1280*860)
- One TF Card Slot
- One 10/100M Ethernet interface
- One High-speed USB OTG 2.0 port (480Mps)
- One power indicator
- One system working status indicator
- Two 2.0mm pitch 80-pin connectors (UART 0-3, Debug serial port, Ethernet, USB OTG, LVDS, 2 SPI, 2 TWI, SDIO, PWM, ISI, AC97, Touch Screen, JTAG and all IOs are led out via the two connectors.)
- Ready-to Run Linux 2.6.30 operating system



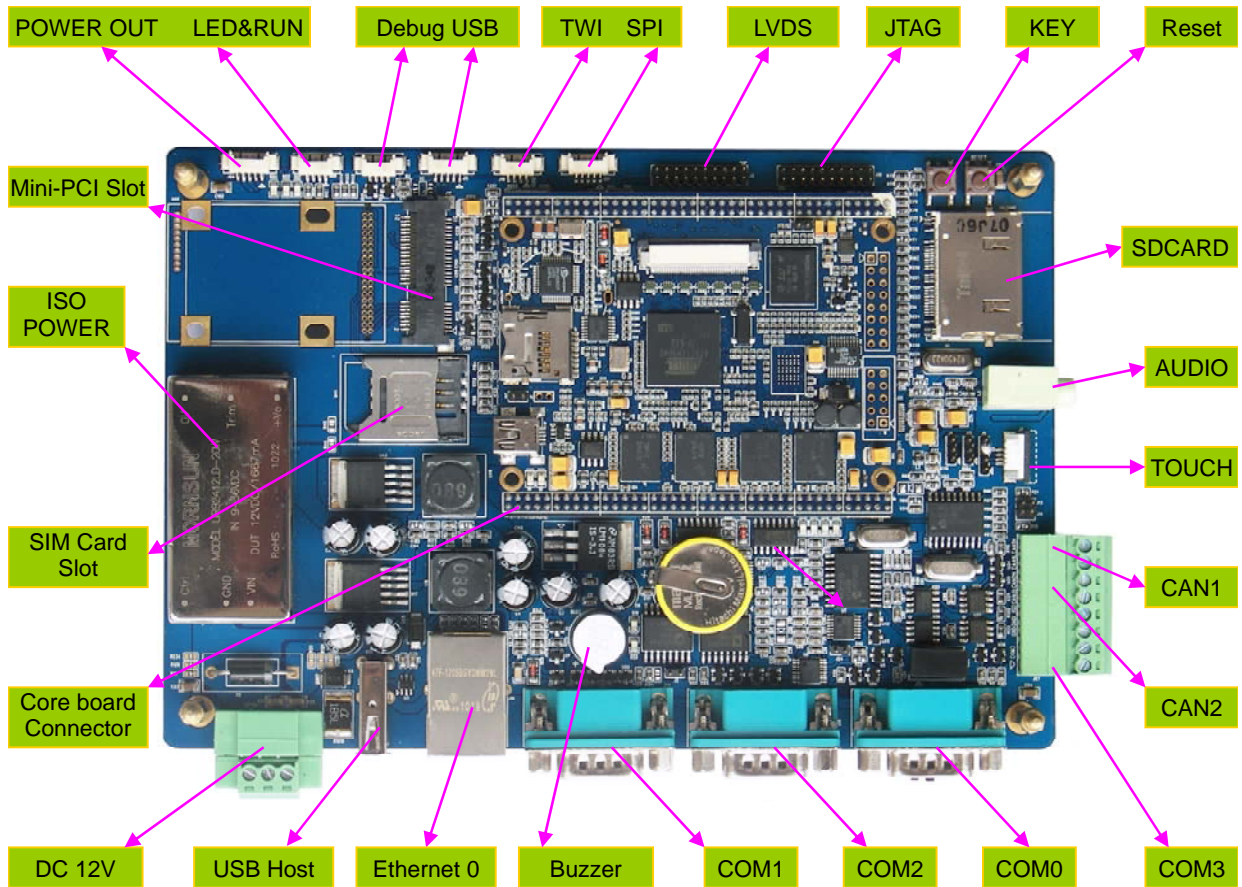
Mini6045 Processor Card

General Description

Embest Mini6045 processor card is a ready-to-use ARM embedded controller based on 400MHz Atmel AT91SAM9G45 ARM 926EJ-S microcontroller which is designed to provide a high performance processor solution with a high flexibility for general and multimedia oriented applications.

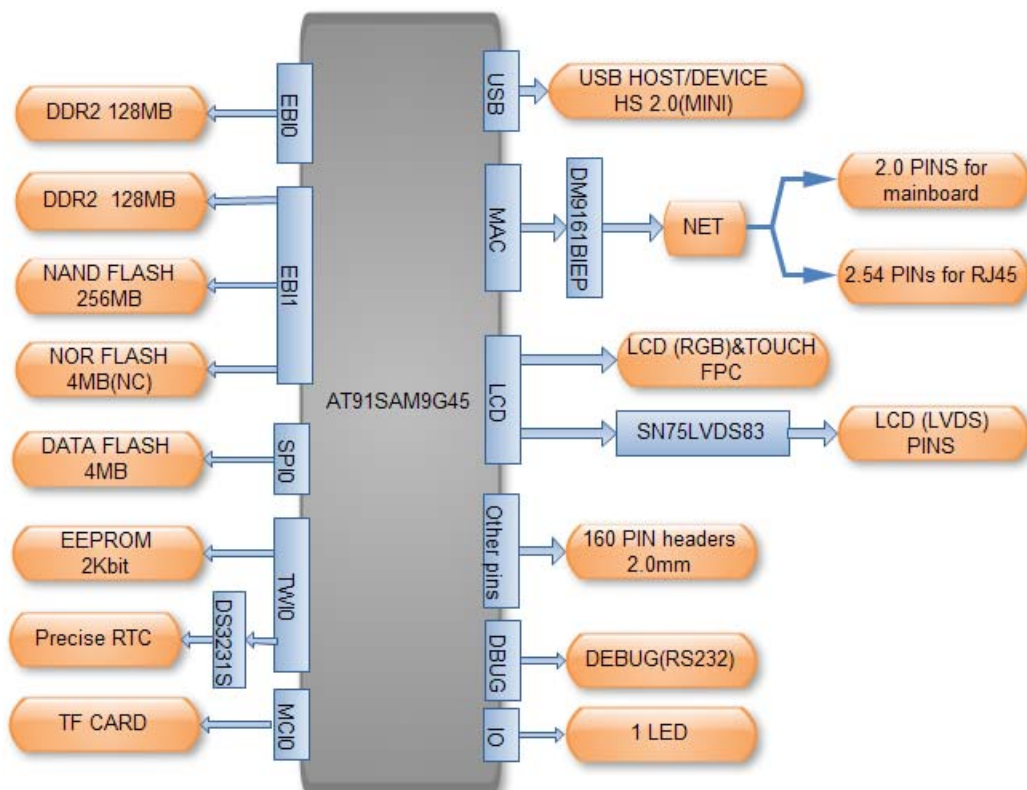
The Mini6045 processor card has external 256MB (2*128MByte) DDR2 SDRAM, 256MB Nand Flash, 4MB Data Flash, 2Kbit EEPROM on board and is capable of running Linux 2.6.30 open source operating system. Many peripherals like UART, Ethernet, USB OTG, LCD, Touch screen, RTC, TF card slot are brought out by connectors. The processor card can be plugged in your expansion board through two 2.00mm space 80-pin connectors which contain I/O and all hardware interfaces. The fully expansion can be used adapted to customer requirements.

Embest also designed an expansion board which can fully evaluate Mini6045. The whole system is called SBC6045 Single Board Computer which using Mini6045 as the core system and additionally exposed many other hardware features of AT91SAM9G45. Embest offers Linux 2.6.30 BSP for this board. This is a high-performance single board computer for industrial needs and also a solid reference board for evaluation and customers can leverage our experience to increase your own productivity.

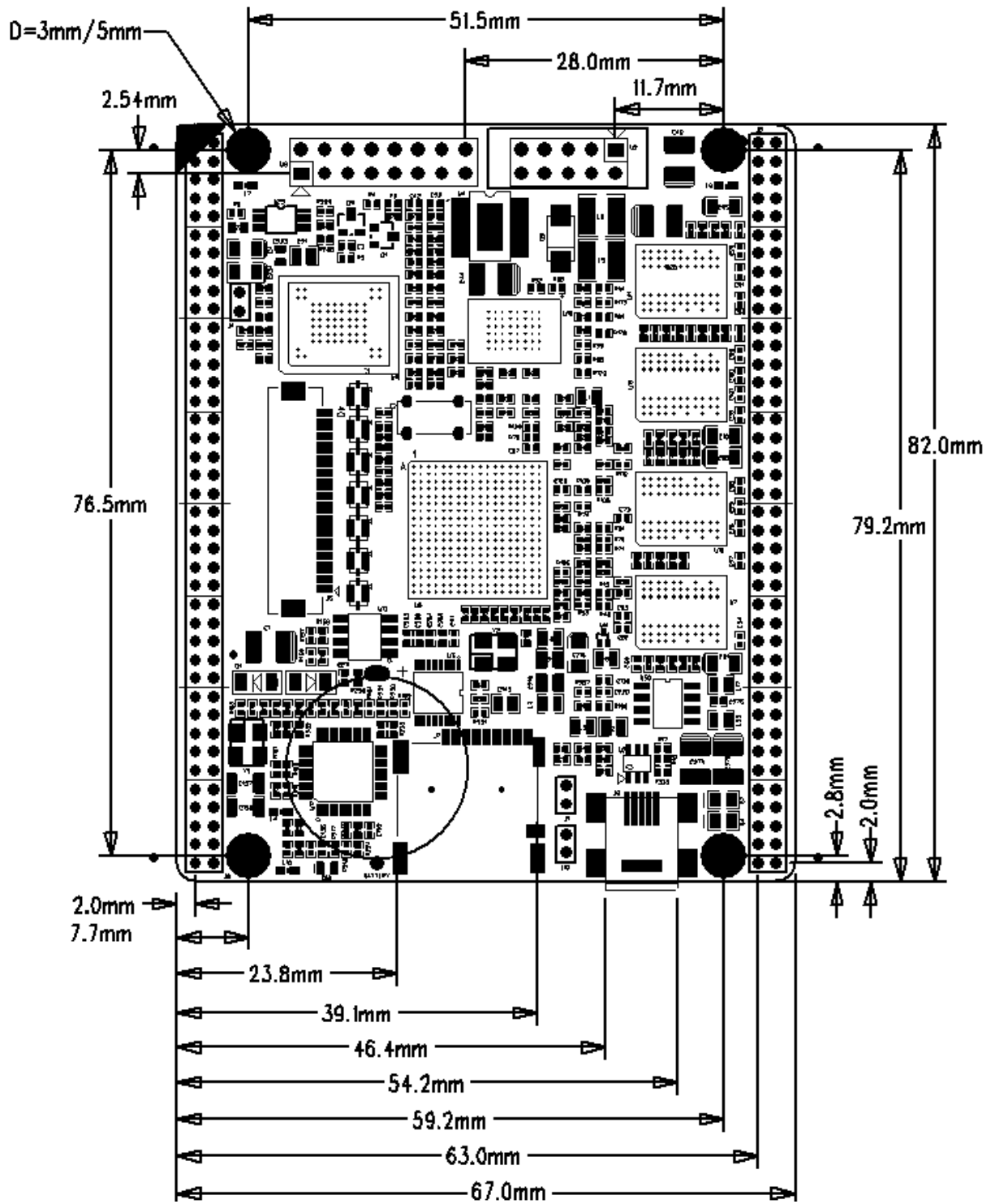


SBC6045 Single Board Computer

Function Block Diagram



Dimensions



160-pin connector

Embest Mini6045 processor card is connected to carrierboard via two 2.0mm space 80-pin connectors. Detailed pin explanation for the expansion connectors are as following:

| Pin (J8) | Signal | Pin (J8) | Signal | Pin (J6) | Signal | Pin (J6) | Signal |
|----------|--------|----------|--------|----------|----------|----------|----------|
| 1 | GND | 41 | GND | 1 | GND | 41 | SHDN |
| 2 | TA- | 42 | TA+ | 2 | 1V8 | 42 | PC1 |
| 3 | TB- | 43 | TB+ | 3 | PC0 | 43 | PC6 |
| 4 | TC- | 44 | TC+ | 4 | PC7 | 44 | PC9 |
| 5 | TD- | 45 | TD+ | 5 | PC10 | 45 | PC11 |
| 6 | TCLK- | 46 | TCLK+ | 6 | PC12 | 46 | PC13 |
| 7 | GND | 47 | VDD33 | 7 | PC15 | 47 | PC16 |
| 8 | PD24 | 48 | PD25 | 8 | PC17 | 48 | PC18 |
| 9 | PD26 | 49 | PD27 | 9 | PC19 | 49 | PC20 |
| 10 | PA6 | 50 | PE31 | 10 | DRRXD | 50 | DRTXD |
| 11 | PA8 | 51 | PA7 | 11 | PC21 | 51 | PC22 |
| 12 | PA20 | 52 | PA9 | 12 | PC23 | 52 | PC24 |
| 13 | PA22 | 53 | PA21 | 13 | PC25 | 53 | PC26 |
| 14 | PA24 | 54 | PA23 | 14 | PC27 | 54 | PC28 |
| 15 | PD20 | 55 | PD22 | 15 | PC29 | 55 | PC30 |
| 16 | PD21 | 56 | PD23 | 16 | PC31 | 56 | PD0 |
| 17 | PA28 | 57 | PA27 | 17 | PD6 | 57 | PD7 |
| 18 | PA30 | 58 | PA29 | 18 | PD8 | 58 | PD9 |
| 19 | PB0 | 59 | PA31 | 19 | GND | 59 | PD11 |
| 20 | PB2 | 60 | PB1 | 20 | GND | 60 | WKUP |
| 21 | PB5 | 61 | PB4 | 21 | PD12 | 61 | PD13 |
| 22 | PB7 | 62 | PB6 | 22 | PD14 | 62 | PD15 |
| 23 | PB9 | 63 | PB8 | 23 | PD16 | 63 | PD17 |
| 24 | PB11 | 64 | PB10 | 24 | PD18 | 64 | PD19 |
| 25 | PA26 | 65 | PA25 | 25 | PD29 | 65 | PD28 |
| 26 | | 66 | GND | 26 | PD31 | 66 | PD30 |
| 27 | PB15 | 67 | PB14 | 27 | PB20 | 67 | PB21 |
| 28 | PB17 | 68 | PB16 | 28 | PB22 | 68 | PB23 |
| 29 | PB19 | 69 | PB18 | 29 | PB24 | 69 | PB25 |
| 30 | NRST | 70 | VDD5V | 30 | PB26 | 70 | PB27 |
| 31 | PD10 | 71 | VSBAT | 31 | PB28 | 71 | PB29 |
| 32 | PA5 | 72 | PA4 | 32 | PB30 | 72 | NTRST |
| 33 | PA2 | 73 | PA1 | 33 | PB31 | 73 | TDI |
| 34 | PA3 | 74 | PA0 | 34 | RTCK | 74 | TDO |
| 35 | GND | 75 | PB3 | 35 | TCK | 75 | TMS |
| 36 | LED4 | 76 | LED5 | 36 | USB_B_VB | 76 | USB_A_VB |
| 37 | RX2- | 77 | RX2+ | 37 | HDP A | 77 | HDMA |
| 38 | VDD33 | 78 | AVDDT | 38 | VDD5V | 78 | |

| | | | | | | | |
|----|------|----|-------|----|------|----|------|
| 39 | TX2- | 79 | TX2+ | 39 | HDPB | 79 | HDMB |
| 40 | GND | 80 | VDD5V | 40 | GND | 80 | GND |

Order Information

| | |
|-----------|--------------------------------|
| Order No. | T400211 |
| Item | Embest Mini6045 Processor Card |
| Price | Please contact us. |



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