

## Embest Mini6045 Processor Card



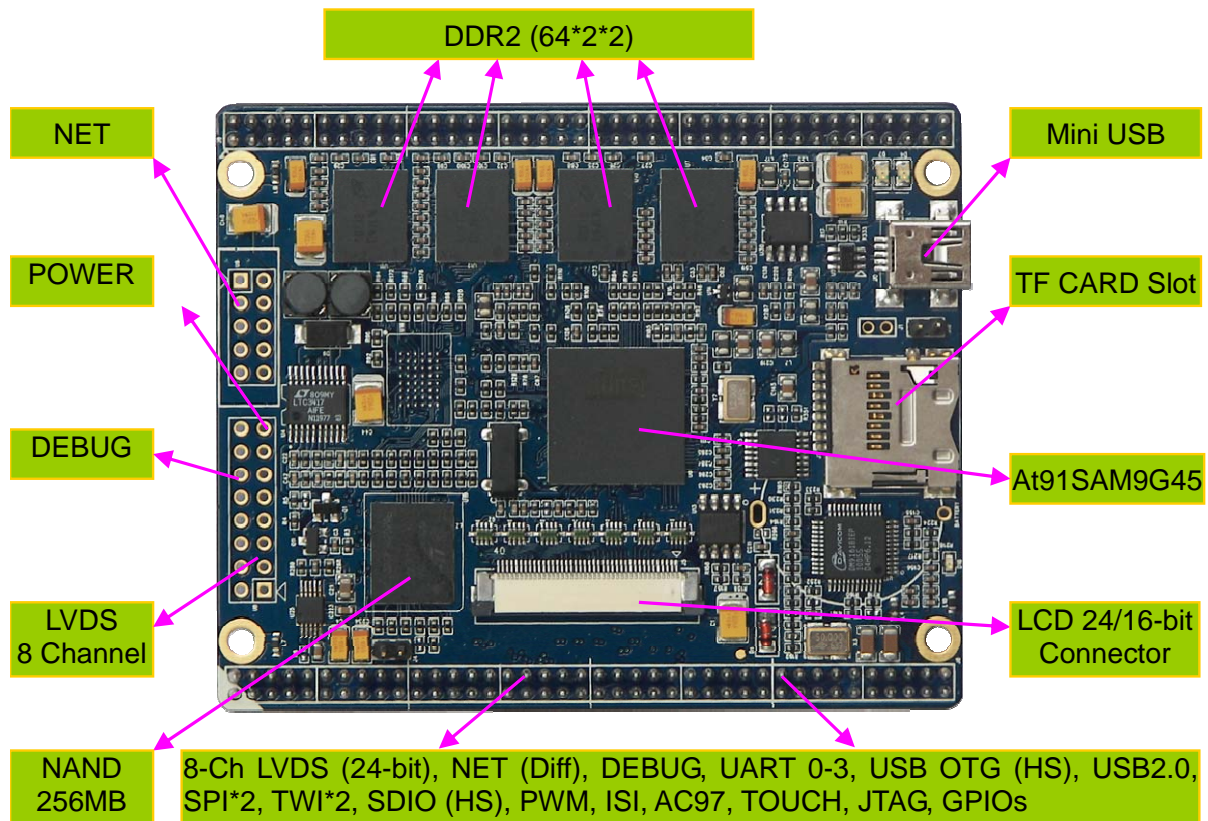
**Mini6045 Top View**



**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 (480Mbps)
- 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



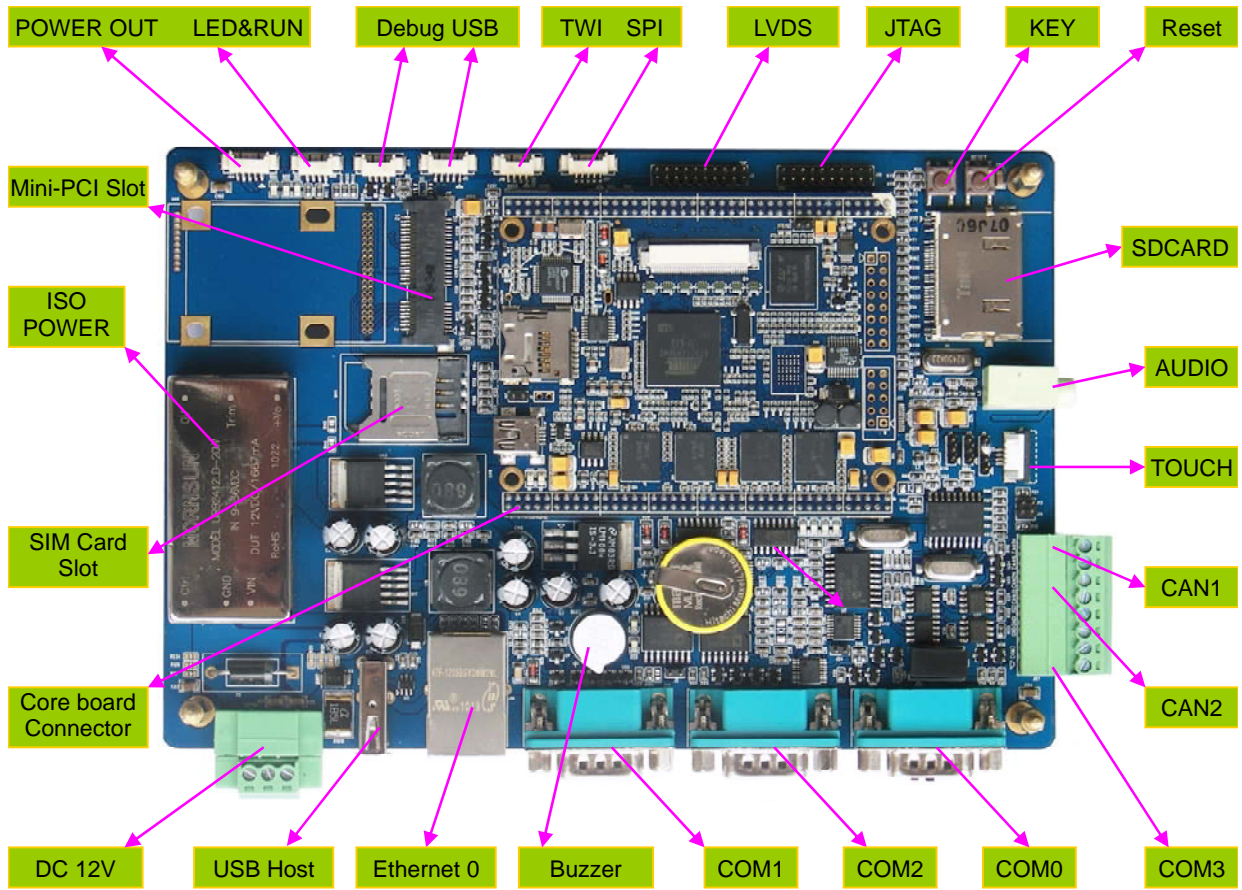
**Mini6045 Processor Card**

## 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.

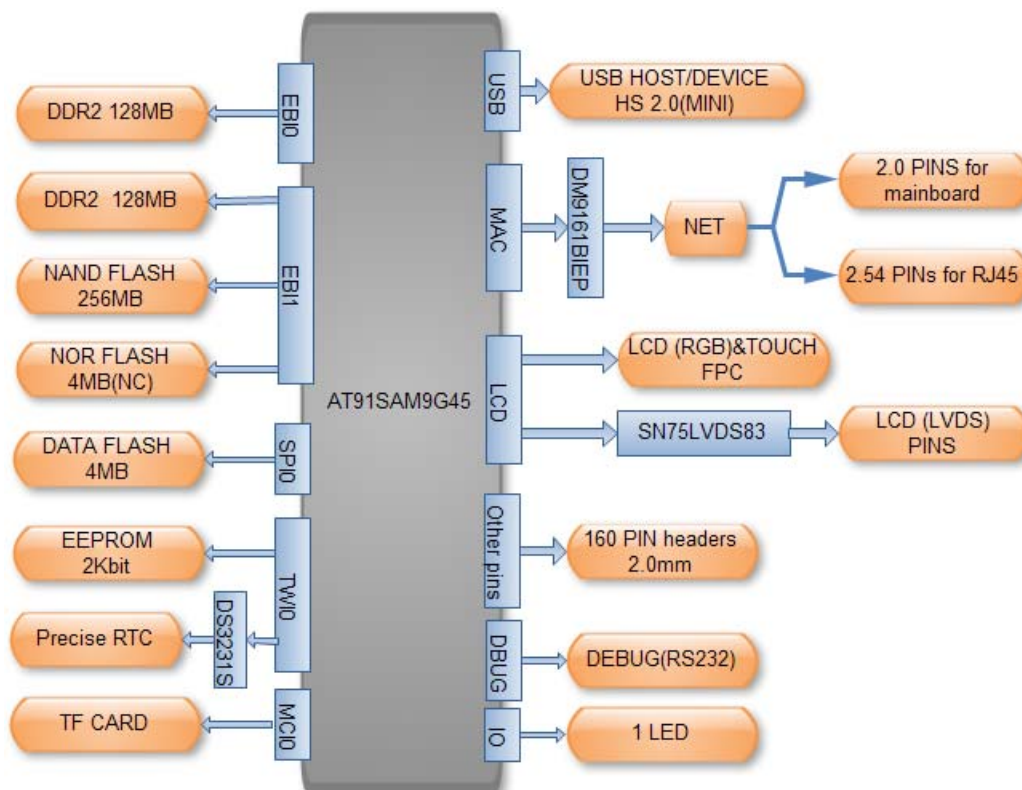
The Mini6045 processor card has external 256MB (2\*128MByte) DDR2 SDRAM, 256MB Nand Flash, 4MB Data Flash, 2Kbit EEPROM on board and is capable of running Linux 2.6.30 open source operating system. Many peripherals like UART, Ethernet, USB OTG, LCD, Touch screen, RTC, TF card slot are brought out by 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.

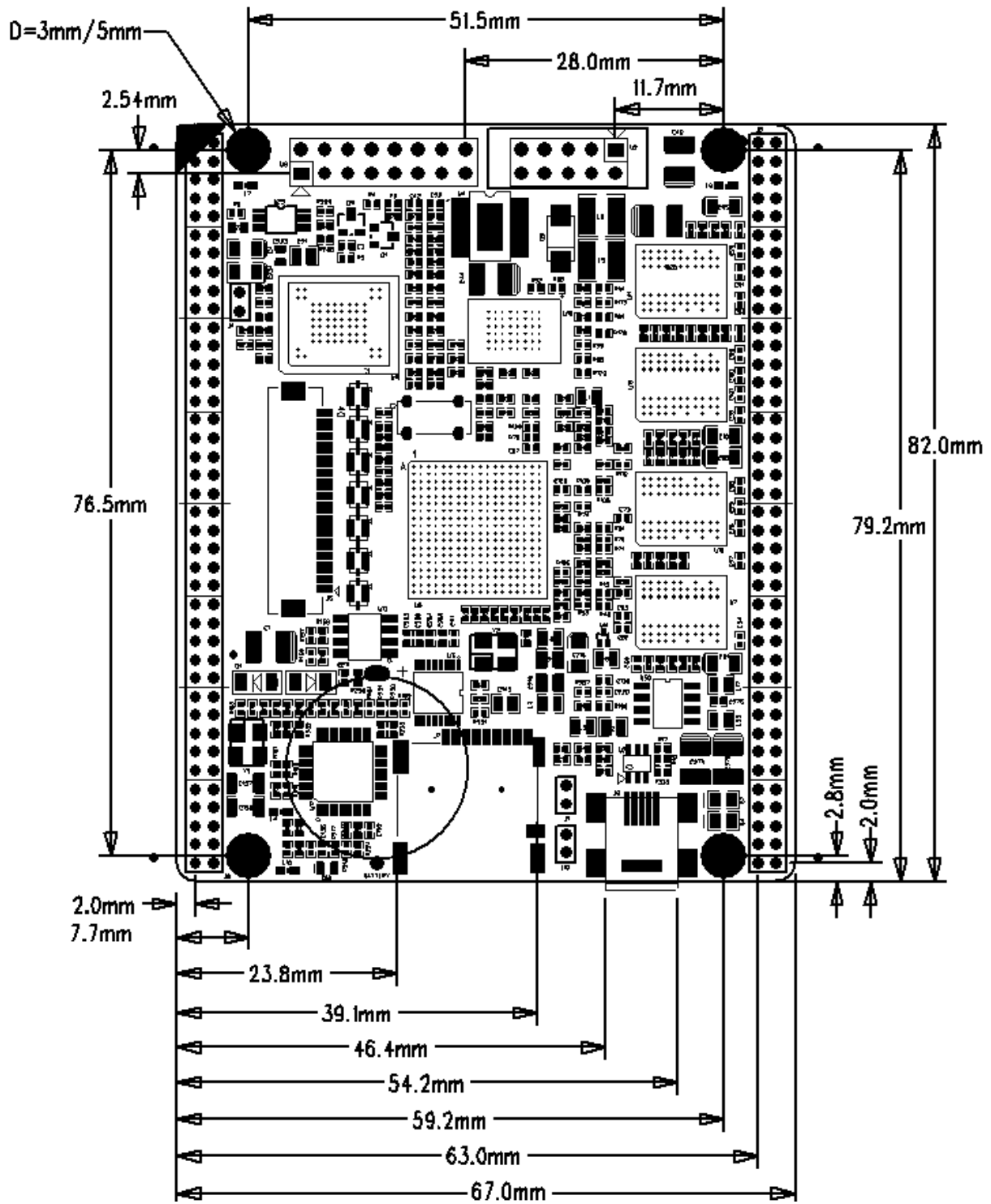


**SBC6045 Single Board Computer**

**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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