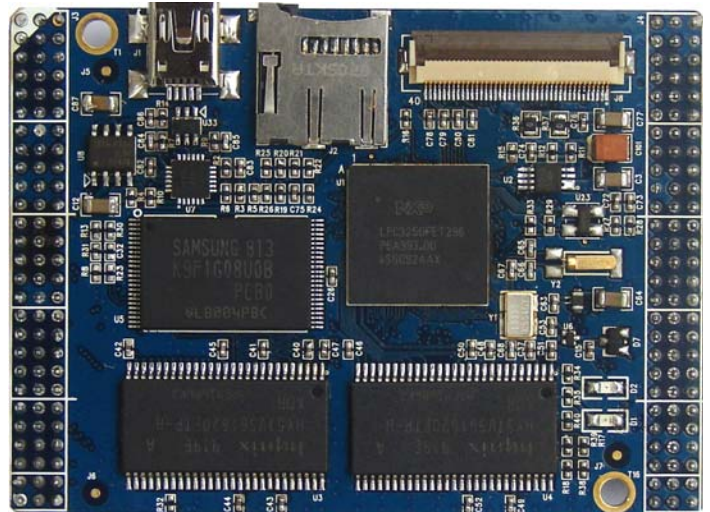


## Mini3250 Processor Card

### Features

- Dimension: 75mmx55mm
- Working temperature: -40°C~+80°C
- NXP LPC3250 ARM926EJ-S Core Microprocessor (compatible with LPC3220/LPC3230/LPC3240)
- With a 32KByte instruction cache and a 32KByte data cache on chip
- With up to 256 KB of internal SRAM
- Can work at up to 266MHz
- External Memory
- 64MByte SDRAM
- 128MByte NAND Flash
- 2MByte Nor Flash, on the rear of the Board
- 32.768KHz RTC
- Watchdog timer, supported with the microprocessor
- One 40-pin LCD interface
- TF Card Socket
- One USB OTG 2.0 connector, mini-B type, with ESD protection
- One power indicator
- One programmable LED
- One JTAG port on the rear of the board
- Two 2.0mm pitch 3-line 27-pin connectors (7 UARTs, Ethernet and all IOs are lead out via the two connectors.)



### General Description

Embest Mini3250 Processor Card is designed as a compact, stable, and reliable ARM-based controller board. It is ready to be the core of your new product. Measuring only 75mm by 55mm, however it has integrated one LCD connector, one TF card socket and one USB 2.0 OTG port on board, which helps to speed up your development sharply.

The Mini3250 Processor Card is based on NXP's LPC3250 32-bit ARM926EJ core microcontroller which amongst LPC3000 series, the only ARM9 microcontroller that provides a vector floating-point co-processor. The LPC3000 series is able to run in ultra-low-power mode even down to 0.9V, as well as the lowest power consumption. The LPC3000 series owns abundant peripheral resource; one of the most distinguishing features is to provide 7 UART controllers, which is rare in ARM microprocessors. With such outstanding performance, the Mini3250 Processor Card is perfect to be employed in Industrial field, Medical Equipment, Intelligent Instrument, Consumer

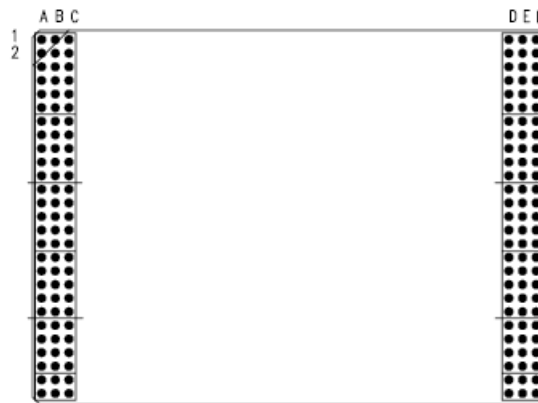
Electronics, Communication Product, and etc.

Due to the same footprint of LPC3000 series, Embest Mini3250 processor card CPU is able to compatible with LPC3220, LPC3230 and LPC3240. It enables customers to choose the most appropriate product on their demand.

## Software

OS	Item	Feature	Description
Linux	Bootloader (u-boot)	Boot	Start up system
		Tftp	Support tftp transmitting protocol
		File system	Support writting JFFS2 file system image into nand flash
		Kernel	Support writting kernel image into nand flash
		Kernel Parameter	Support kernel parameter setting
	Kernel	Version	Linux kernel 2.6.27
		File system	EXT2/FAT/NFS/JFFS2
		RTC	(Provide source code)
		USB OTG	(Provide source code)
		LEDs	(Provide source code)
		LCD	Support 480x272, 800x480
		Touch panel	(Provide source code)
	Embedded GUI	Qt/Embedded	(Provide source code and image)
	Network protocol & application	TCP/IP	TCP/IP protocol
		File transfer	(FTP Client/server)
		Remote login	Telnet protocol
		Web server	boa web server

## Interface Introduction



Mini3250 Expansion Interface

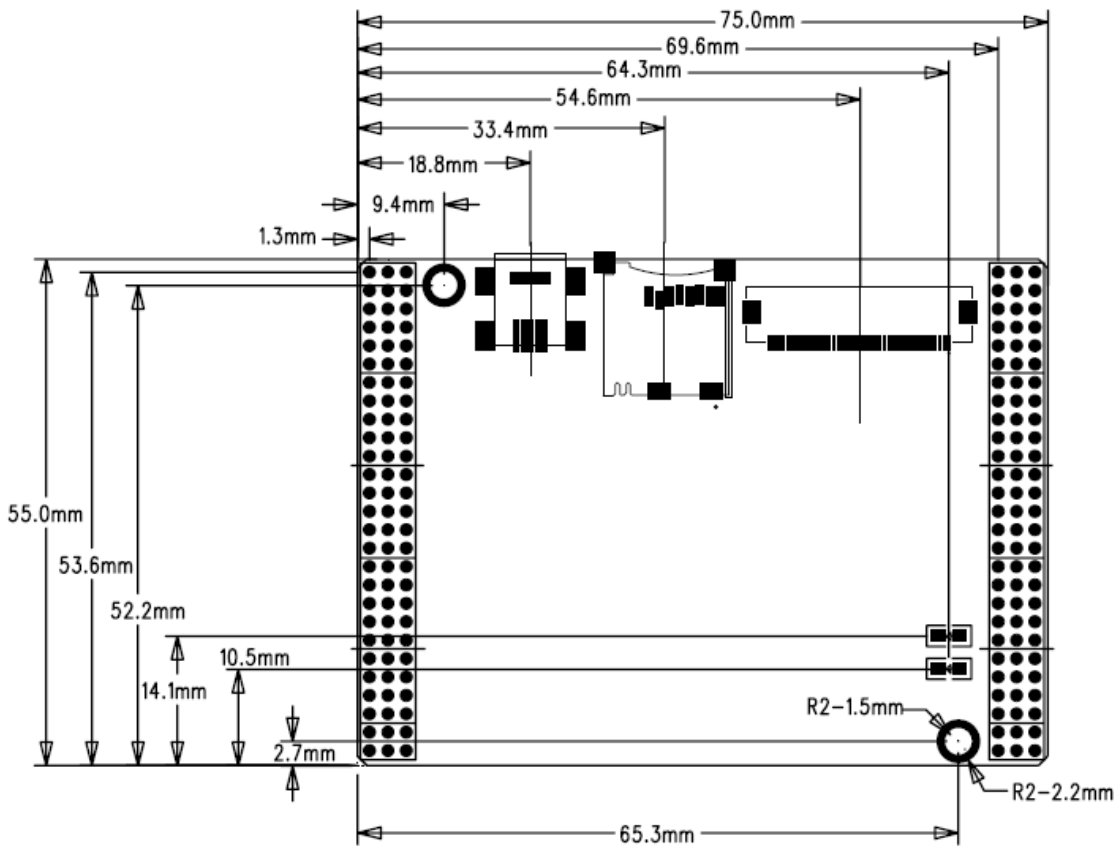
Pin Allocation Table:

	A	B	C
1	GND	USB_D+	USB_D-
2	GPIO_05 / SSEL0 / MCFB0	SPI1_DATIO / MOSIO / MCFB2	SPI1_DATIN / MISO0 / GPI_25
3	SPI1_CLK / SCK0	GPO_11	GND
4	I2C1_SDA	I2C1_SCL	I2C2_SDA
5	I2C2_SCL	MS_DIO3 / MAT0.3	MS_DIO2 / MAT0.2
6	MS_SCLK	MS_DIO1 / MAT0.1	MS_DIO0 / MAT0.0
7	MS_BS	GND	I2S1TX_WS / CAP3.0
8	I2S1TX_SDA	I2S1TX_CLK / MAT3.0	GPI_00 / I2S1RX_SDA
9	I2S1RX_WS	P0.0 / I2S1RX_CLK	GPO_20
10	GND	GPO_14	GPO_05
11	GPO_04	GPO_00 / TST_CLK1	VCC5
12	EMC_CS1_N	RESERVED	EMC_OE_N
13	EMC_WR_N	EMC_CS2_N	ADDR16
14	ADDR23	ADDR22	ADDR21
15	ADDR20	ADDR19	ADDR18
16	ADDR17	GND	ADDR15
17	ADDR14	ADDR13	ADDR12
18	ADDR11	ADDR10	ADDR9
19	ADDR8	ADDR7	ADDR6
20	ADDR5	ADDR4	ADDR3
21	ADDR2	ADDR1	ADDR0
22	DATA15	DATA14	DATA13
23	DATA12	DATA11	DATA10
24	DATA9	DATA8	DATA7
25	DATA6	DATA5	DATA4
26	DATA3	DATA2	DATA1
27	GND	DATA0	VDD33

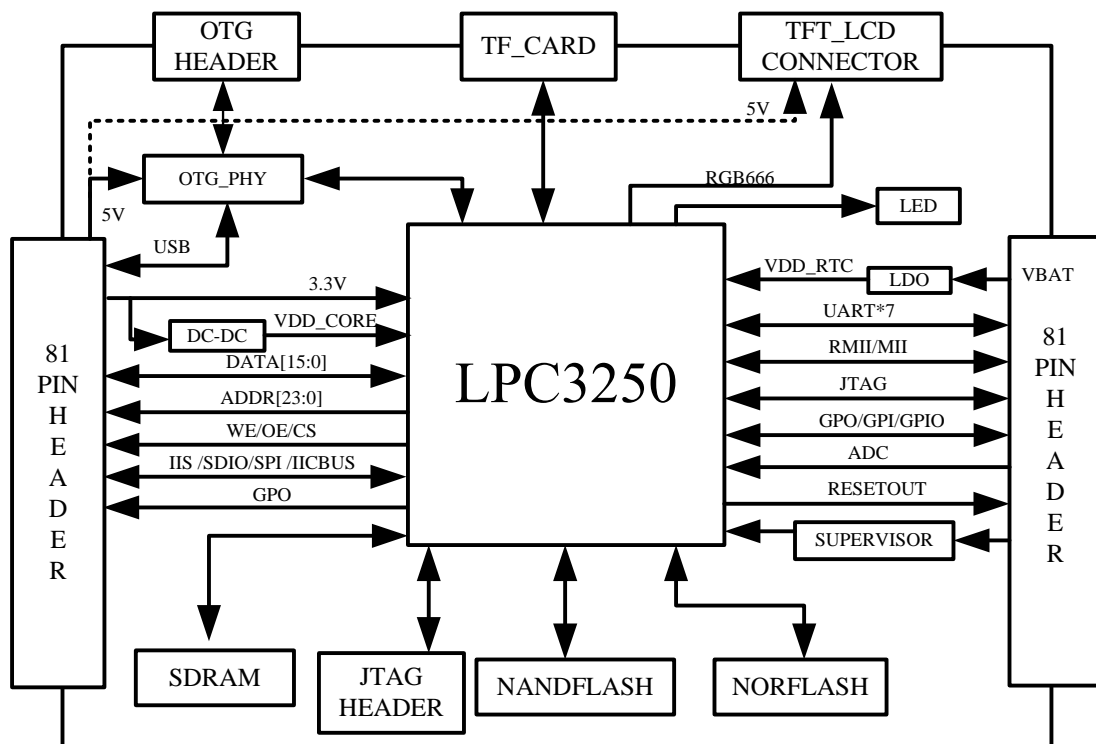
	D	E	F
1	ADIN0/TS_XM	GND	GND
2	ADIN1/TS_YM	RESOUT_N	GND

3	GPO_02 / MAT1.0 / LCDVD[0]	GPO_03 / LCDVD[1]	GPO_07 / LCDVD[2]
4	GPO_10 / MC2B / LCDPWR	GPO_06 / LCDVD[18]	GPO_09 / LCDVD[9]
5	PWM_OUT2 / LCDVD[19]	SPI2_DATIO / MOSI1 / LCDVD[20]	SPI2_DATIN / MISO1 / LCDVD[21] / GPI_27
6	GPIO_04 / SSEL1 / LCDVD[22]	SPI2_CLK / SCK1 / LCDVD[23]	GPO_08 / LCDVD[8]
7	GPO_22 / U7_HRTS / LCDVD[14]	U7_RX / CAP0.0 / LCDVD[10] / GPI_23	U7_TX / MAT1.1 / LCDVD[11]
8	U7_HCTS / CAP0.1 / LCDCLKIN / GPI_22	GPO_21 / U4_TX / LCDVD[3]	GPI_01 / SERVICE_N
9	GPI_04 / SPI1_BUSY	GPI_07 / CAP4.0 / MCABORT	GPIO_00
10	GND	KEY_COL4 / ENET_RXD0	KEY_COL5 / ENET_RXD1
11	KEY_COL3 / ENET_CRS	KEY_COL2 / ENET_RX_ER	KEY_COL1 / ENET_RX_CLK / ENET_REF_CLK
12	KEY_ROW4 / ENET_TXD0	KEY_ROW5 / ENET_TXD1	KEY_ROW3 / ENET_TX_EN
13	KEY_COL0 / ENET_TX_CLK	GPI_02 / CAP2.0 / ENET_RXD3	GPI_06 / HSTIM_CAP / ENET_RXD2
14	GPI_08 / KEY_COL6 / SPI2_BUSY / ENET_RX_DV	GPI_09 / KEY_COL7 / ENET_COL	KEY_ROW2 / ENET_TXD3
15	KEY_ROW1 / ENET_TXD2	KEY_ROW0 / ENET_TX_ER	GPIO_02 / KEY_ROW6 / ENET_MDC
16	GPIO_03 / KEY_ROW7 / ENET_MDIO	DBGEN	MR_RESET
17	RESET_N	TMS	RTCK
18	TDO	TDI	TCK
19	NTRST	U6_IRTX	U6_IRRX / GPI_21
20	U5_TX	U5_RX / GPI_20	GPO_12 / MC2A / LCDLE
21	GPI_19 / U4_RX	GPI_28 / U3_RI	GPI_05 / U3_DCD
22	U3_TX	U3_RX / GPI_18	U2_TX/U3_DTR
23	GPO_23 / U2_HRTS / U3_RTS	U2_RX / U3_DSR / GPI_17	U2_HCTS / U3_CTS / GPI_16
24	U1_TX	U1_RX / CAP1.0 / GPI_15	GND
25	ADIN2 / TS_AUX_IN	ONSW	GPO_17
26	EMC_BLS1	EMC_BLS0	EMC_CS3_N
27	VDD33	VSBAT	GND

## Dimensions



## Function Block Diagram



## NXP LPC3000 Series Microcontroller Comparison

The LPC3000 series microprocessors possess almost same features except a few items as below:

Model	LPC3220	LPC3230	LPC3240	LPC3250
On-chip RAM	128KB	256KB	256KB	256KB
Ethernet	N/A	N/A	1	1
LCD controller	N/A	1	N/A	1

Note: N/A = Not available

## Order Information

Order No.	T6016101
Item	Embest Mini3250 Processor Card
Price	Please contact us.
Remark	The processor card is soldered with default CPU chip LPC3250, if customer has other requirements on LPC3220, LPC3230 and LPC3240; please inform us earlier before ordering.



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