A Premier Farnell Company

Embedded System Specialist

MINI1857 Core Board

Order#: T400456

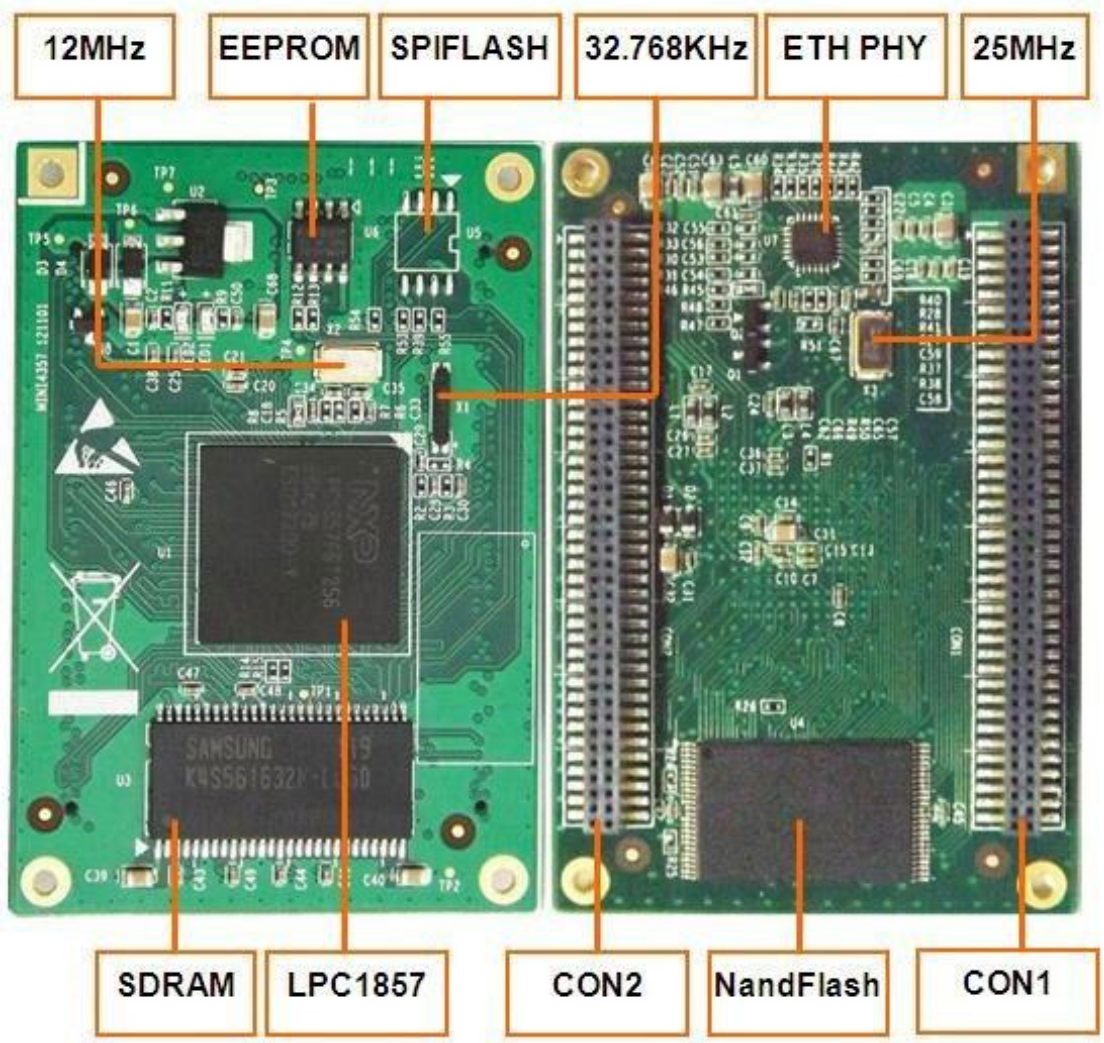


Figure-1 Interfaces and components

Hardware

Processor

- NXP LPC1857FET256 microcontroller based on 32-bit ARM Cortex-M3, operating at up to 180MHz
- Integrating hardware a floating-point unit
- Integrating a 1024KB Flash, a136 KB SRAM and a 16KB EEPROM
- Integrating a LCD controller with support of 24bpp true-color mode and a resolution of up to 1024×768
- An USB 2.0 high-speed Host/Device/OTG interface with on-chip PHY and support of DMA transmission
- An USB 2.0 high-speed Host/Device interface with on-chip PHY and ULPI which support external high-speed PHY
- A 10/100 Mbps Ethernet MAC MII/RMII interface
- A four-wire SPI flash interface (SPIFI) with data transfer rate of up to 40Mbps per channel
- Two CAN 2.0B, four UART, two I2S, two I2C, two SSP, one SPI buses

- Four 32-bit general purpose timer, two standard PWM, one motor control PWM with Quadrature encoder interface
- 400KHz的Two 10-bit ADCs operating at up to 400KHz, one 10-bit DAC operating at up to 400KHz
- 164 general-purpose I/O interfaces
- Internal two watchdog timers

On-Board Memories

- 128MBNandFlash
- 32MB SDRAM
- 2Kb EEPROM
- 4Mb SPI Flash (spare solder pads)

Communication Interface

- Two SPI interfaces
- Three 3-wire UART interfaces
- One touch-screen interface (16-bit 256RGB)
- One I2C interface
- One I2S interface
- Two USB interfaces
- Two CAN interfaces
- One SDIO interface
- One 10/100Mbps Ethernet interface

Electrical Features

- Operating Temperature: 0 ℃ ~ 70 ℃
- Storage Temperature: -40 ℃ ~ 85 ℃
- Operating Humidity: 0% ~ 90% (Non-condensing)
- Power Supply: DC5V/0.8A
- PCB Layers: 6-layer PCB

System Block Diagram

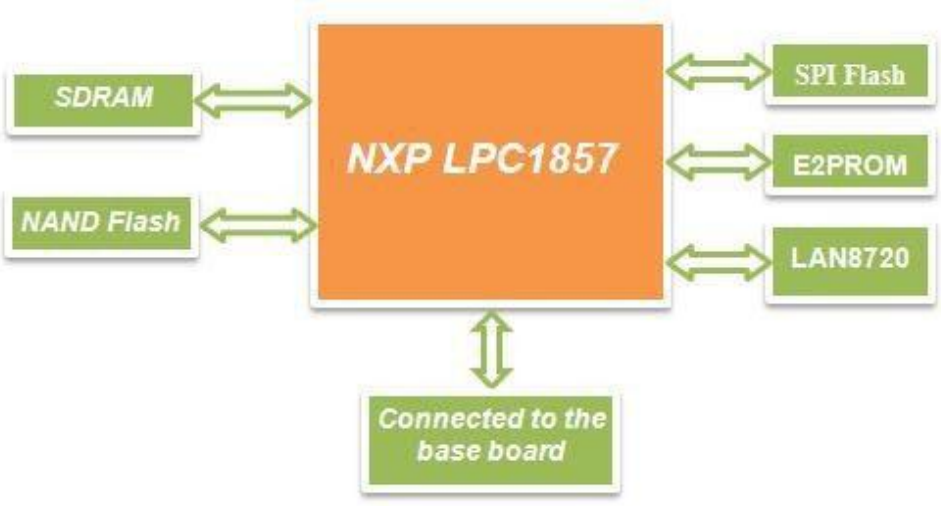
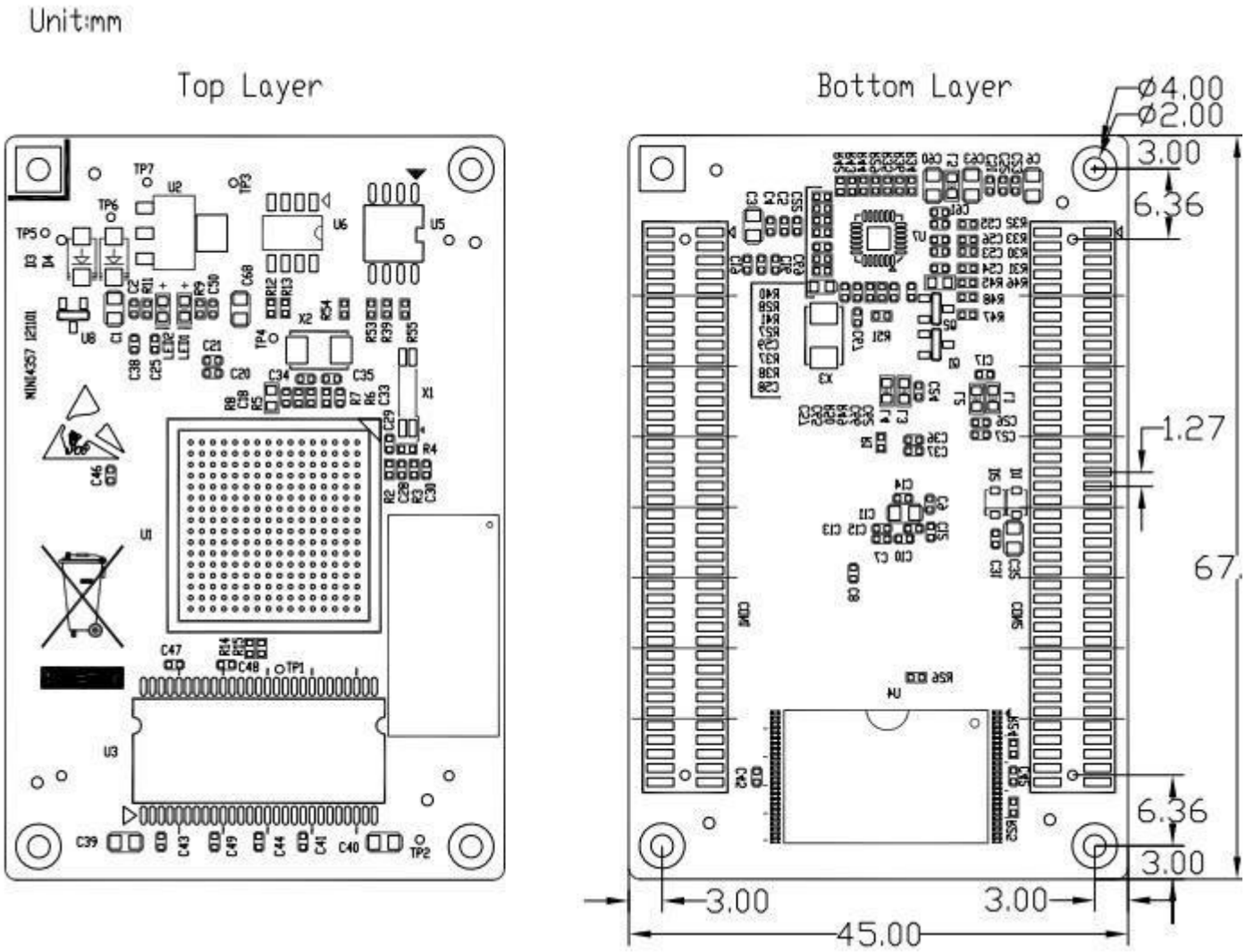


Figure-2 System block diagram

Hardware Dimensions (mm)



Hardware dimensions

System Features

- Supporting uC/OS-II_v2.91 operating system
- Supporting emWin5.18 graphic interface
- Supporting FatFs_vR0.08afilesystem
- Supporting LWIP _v1.4.0 protocol stack

Development Environments

- IAR EWARM Integrated Development Environment
  - All the drivers can work with IAR EWARM V6.40 or higher;
- Keil MDK-ARM Integrated Development Environment
  - All the drivers and applications can work with Keil MDK-ARM V4.60 or higher.

Debugging Tools

- ULINK2
  - ULINK2 is recommended to be used under Keil MDK-ARM for best debugging performance;
- JLINK-V9.1
  - JLINK-V9.1 is recommended to be used under IAR EWARM for best debugging performance