



MSP430 Training Lab

MTS-54



*Notebook is excluded

MSP430 training lab is a training platform designed for learning of MSP430 microcontroller from Texas Instruments(TI). The microcontroller used in the system trainer is MSP430F5438A, which is featured with ultralow-power and is consist of several peripheral modules targeted for various analog and digital applications.

This trainer integrates various I/O devices and includes several application examples, ranging from basic I/O control to advanced topics, users will be able to learn the control of MSP430 chip in more efficient way.

► Features

- The system adopts classic MSP430F5438A from MSP430 family, very suitable for beginners to learn the control of TI MSP430 microcontrollers.
- Using DIP switch to control the power of each I/O sets, further reduce mass I/O connecting wires.
- Measurable system clocks, such as SMCLK, MCLK, ACLK.
- An acrylic cover is placed on the top of MCU area to protect the MCU being damaged from shorting pins or external force.
- Reserve three sets of expansion sockets to connect to external circuits or modules.

► Specifications

1. TI MSP430F5438A chip x 1
 - (1) 100-PIN LQFP
 - (2) 256KB Flash, 16KB SRAM
 - (3) Ultralow Power Consumption
 - (4) 12-Bit Analog-to-Digital (A/D) Converter
 - (5) Unified Clock System
2. Data switch x 8
3. Led x 8
4. 20 x 2 character LCD x 1
5. 4-digit 7-segment display x 1
6. 8 x 8 multicolor dot matrix LED display x 1
7. Buzzer and status LED x 1
8. Stepping motor and status LED, 7.5 degrees x 1
9. 4 x 4 matrix keypad x 1
10. UART to USB interface x 1
11. EEPROM 64Kbits x 1
12. 10 x 2 extend socket x 3
13. Built-in power supply

Input AC power : 100~240VAC, 50/60Hz, 0.65A
Output DC power : 12V/1.2A, 5V/2.1A, 3.3V/1A

► List of Experiments

1. LED Display control
2. Data switch control
3. Buzzer control
4. External interrupt
5. Frequency Locked Loop control

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6. Watchdog timer control
7. Timer & PWM control
8. Flash memory control
9. UART transmission with PC
10. SPI transmission (require two main units)
11. I2C transmission with EEPROM
12. Analog to digital conversion
13. ADC & external interrupt control
14. LCM display control
15. 4 x 4 keypad control
16. MCU temperature sensing control
17. 4-digit 7-segment display counter control
18. Dot matrix LED display control
19. Stepping motor control

► Accessories

1. AC power cord x 1
2. Experiment manual x 1
3. Software/source code/document CD x 1
4. USB A-B type cable, 150mm x 1
5. Flat bus cable, 10 x 2 pin, 200mm x 1
6. 2mm terminal x 4
7. Dupont Line 1P-1P, 150mm x 20

► Optional but Necessary

MSP430 USB debugging tool : MSP-FET430UIF x 1



MSP-FET430UIF



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