GSAS introduces USB based microcontroller board, which is an advanced version (ver.2) of GSAS MCB 51. GSAS MCB 51 is a development board supports a wide variety of popular 8051 family devices in the stand alone mode of operation. The 8051 family of microcontrollers are extensively used for embedded and real-time applications. GSAS MCB 51 board is supplied with Atmel AT89C51ED2 MCU. The board communicates with Host PC through RS-232C or USB µc/os-II RTOS is ported on GSAS MCB 51.

**MAIN FEATURES**

- GSAS MCB 51 operates on both USB as well as +5V DC external power supply.
- Optional Power Supply is required if GSAS Interface modules are to be connected to the GSAS MCB 51 board.
- On-chip Flash Monitor supports Keil µVision Debugger, to download and debug the user application programs.
- The Flash Monitor assists the user with the debugging features like Source level debugging, Single step, Break points, Full speed execution etc., available in Keil µVision Debugger.
- On-board (16x2) LCD
- 24 port lines (i.e. P0,P1 and P2) are terminated on a 26-pin IDC header connector, which are compatible to GSAS Interface Modules.
- All the CPU Signals are terminated on a 44-pin IDC header connector (site) for system expansion.
- GSAS MCB 51 driver CD contains Keil evaluation software, sample programs for interface modules, Atmel's FLIP utility for ISP, FTDI USB drivers etc.,
- LED Indication for Transmitting(Txd(P3.1)) and Receiving(Rxd(P3.0))

**ACCESSORIES (Optional)**

- **Power Adaptor**: GSAS ADP DC5; SMPS +5V DC @ 3A
- **GSAS Interface modules for training purpose**: Calculator type Keyboard, Elevator, 7 Segment Display, Dual DAC, 12 bit 8 Channel ADC, Logic Controller, Traffic Lights, Tone Generator, Stepper Motor, Opto Isolated Output, Relay Output, DC Motor Interface, TXDR ADC etc.,
- **Power supply**: GSAS PS M2; +5V DC@3A, ±12V @ 250mA and +30V@100mA (required for some of the above interface).
- **Interface Extension**: The signals from 26 pin IDC header connector are brought out to four 26 pin IDC header connectors. Model: GSAS IF EXTN
- **RS-232-C cable**

www.gsasindia.com
SPECIFICATIONS

PROCESSOR
AT89C51ED2/RD2 operating at 11.0592 MHz

PROCESSOR FEATURES

ON-CHIP MEMORY
Program Memory : 64K Bytes of on-chip Flash
Data Memory : 256 Bytes of on-chip RAM
1792 Bytes of on-chip XRAM
2K Bytes of on-chip EEPROM.

ON-CHIP PERIPHERALS
★ Three 16-bit on-chip Timers/Counters
★ Watch Dog Timer
★ Programmable Counter Array (PCA) on Port 1 i.e. PWM, Capture & Compare
★ SPI (Serial Peripheral Interface) on Port 1
★ Full duplex enhanced UART.

INTERRUPTS
Nine Sources of interrupts (both external and internal)
Two external interrupts INT0 and INT1 are provided with tact switches; these can also be used as general-purpose switches.

INTERFACE SIGNALS

CPU : All CPU signals are available on a 44 pin IDC header connector
I/O (PORT) LINES : P0, P1 and P2 Port lines are available on a 26 pin IDC header connector compatible to GSAS Interface modules.

LCD
LCD compatible signals are available on a 16 pin flow strip connector.

SERIAL I/O
On-Chip UART signals are available on a 10-pin right angle FRC connector and USB port through level shifter MAX 232 and FT232R drivers.

GENERAL
Power supply requirement : +5V @200mA
Dimensions : 160mm x 100mm
Weight : 270gms Gross

SCOPE OF SUPPLY
1. GSAS MCB 51
2. GSAS MCB 51 driver CD
3. USB cable
5. GSAS MCB 51 Primer Manual
6. 8051 Family Instruction Reference card.

(Note : Specifications are subject to change without prior notice)

OUR PRODUCT RANGE : EDA Tools and FPGA development boards from ALTIUM, Zeroplus logic cum protocol analyzers, Portable Microscope, Testing & Measuring Equipment, Testing & Measuring Systems, Universal Device Programmers; ARM, PIC Trainer and Interface Modules, Incircuit test and Flash Systems; In-Circuit Emulators; ROM Emulators; Microcomputer Development Systems; Add-on Cards, AD/DA cards, DIO cards, Microprinters, Microprocessor Trainers for 8085, 8086/88; Microcontroller Trainers for 8031/51 etc.

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