



A. HE83750S Introduction

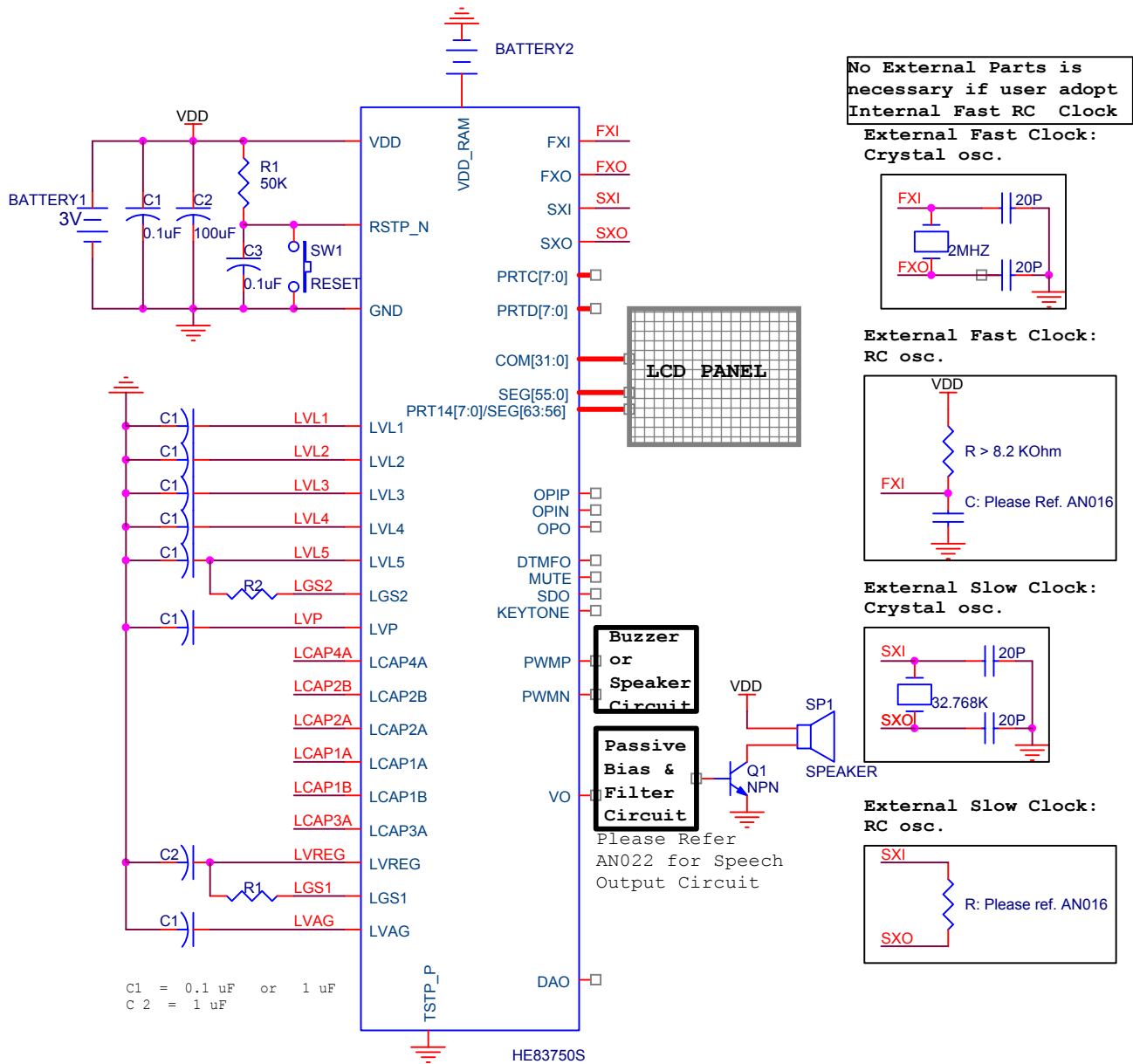
HE83750S is a member of 8-bit Micro-controller series developed by King Billion Electronics Ltd. Users can choose any one of combination among 【2048 dots LCD Driver + 16 Bit I/O Port】...【1792 dots LCD Driver + 24 Bit I/O Port】 etc. which is determined by mask options. The built-in OP comparator can be used with light, voice, temperature and humidity sensor or used to detect the battery low. The 7-bit current-type D/A converter and PWM drive output provide the complete speech output mechanism. The built-in DTMF generator can generate the PSTN dialing tone directly. The 512K bytes ROM size can be used in the storage of large speech data, image and text etc. It can be applicable to the medium systems such as small-scale dictionary, data bank, pocket dialer, automatic dialer machine, medium level educational toy, lower second voice recording system or used with external command mode SRAM or Flash RAM for higher second voice recording etc.

The instruction sets of HE80000 series are quite easy to learn and simple to use. Only about thirty instructions with four-type addressing mode are provided. Most of instructions take only 3 oscillator clocks (machine cycles). The performance of HE83750S is enough for most of battery operation system.

B. HE83750S Features

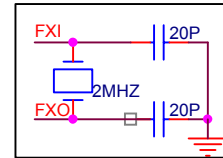
- Operation Voltage: 2.4V ~ 3.6V
- System Clock 4MHz ~ 8MHz
- Clock Source: Internal/External Fast clock, Internal/External slow clock
- Dual Clock System : Normal (Fast) clock 32.768KHz ~ 8MHz
Slow clock 32.768 KHz
- Operation Mode : DUAL、FAST、SLOW、IDLE、SLEEP Mode.
- Internal ROM: 512K Bytes (64K Program ROM, 448K Data ROM)
- Internal RAM: 16K Bytes.
- Watch dog timer.
- 16~24 Bi-directional I/O ports.
- 2048~1792 dots LCD driver with built-in regulator for LCD display.
- LCD COM X SEG : 32 X 64
- LCD Bias : 1/7
- LCD Charge Pump: 3, 4, and 5 times of LVREG
- One 7-bits current-type DAC output.
- One built-in OP comparator.
- PWM device.
- Built-in DTMF Generator.
- Recording function
- Speech recognition function
- Two external interrupts and three internal timer interrupts.
- Two 16-bit timers and one time-base timer.
- Instruction set : 32 instructions, 4 addressing mode. 14-bit DATA POINTER for RAM and 19-bit TABLE POINTER for ROM.

C. Application Circuit

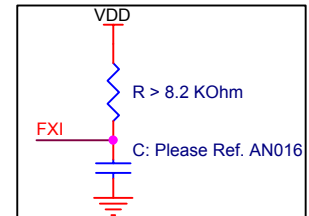


No External Parts is necessary if user adopt Internal Fast RC Clock

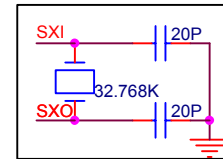
External Fast Clock: Crystal osc.



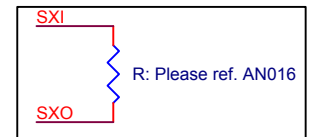
External Fast Clock: RC osc.



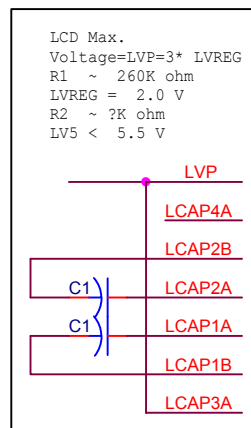
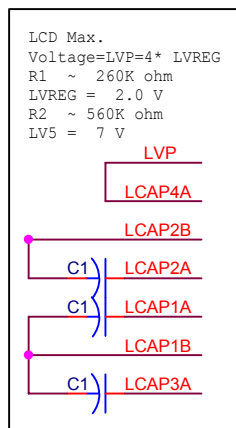
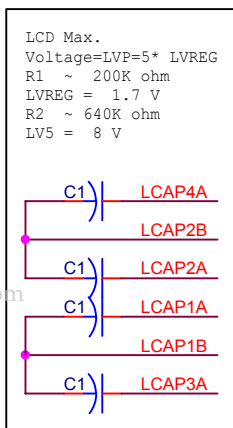
External Slow Clock: Crystal osc.



External Slow Clock: RC osc.



C1 = 0.1 uF or 1 uF
 C2 = 1 uF



Please Refer AN025 LCD with Regulator