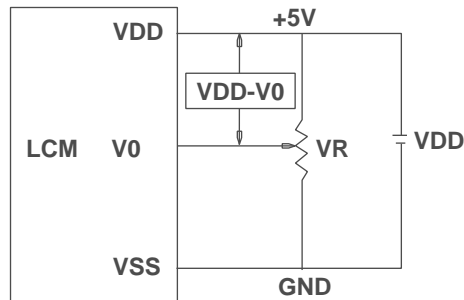


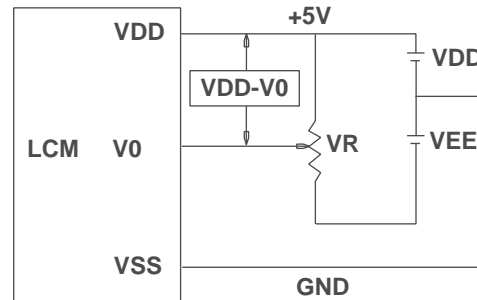
# POWER SUPPLY / INTERFACE TO MCU / INFORMATION ON CHARACTER IC AND LED BACKLIGHT

## POWER SUPPLY FOR LCD MODULE

### 1. SINGLE SUPPLY VOLTAGE TYPES (INTERNAL N.V.) 2. DUAL SUPPLY VOLTAGE TYPES



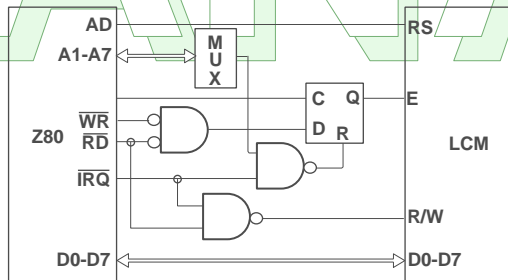
VDD-V0: LCD DRIVING VOLTAGE  
R: 10K - 20K



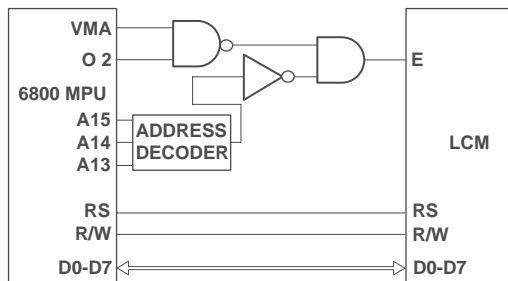
VDD-V0: LCD DRIVING VOLTAGE  
R: 10K - 20K

## INTERFACE TO MCU

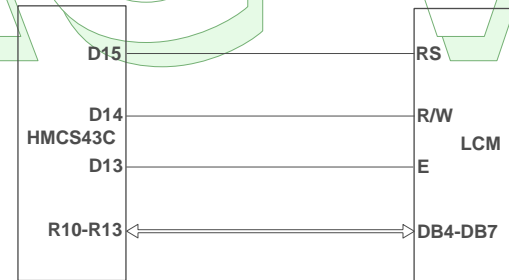
### 1. INTERFACE TO Z-80 MPU



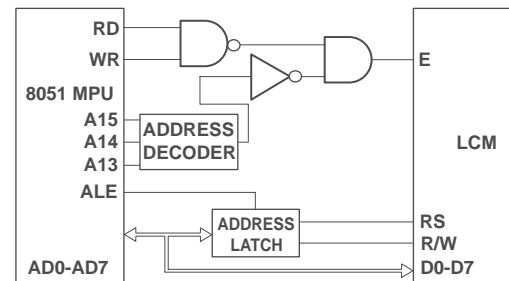
### 2. INTERFACE TO 6800 MCU



### 3. INTERFACE TO 4-BIT MPU (HMCS43C)

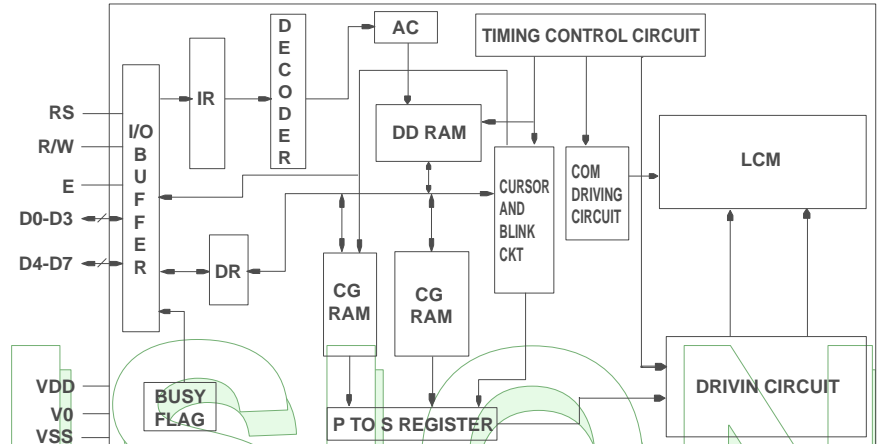


### 4. INTERFACE TO 8051 MCU



## CHARACTER BLOCK DIAGRAM AND LED BACKLIGHT

### CHARACTER BLOCK IC DIAGRAM



- DATA REGISTER (DR) IS REGULARLY USED FOR TEMPORARY STORAGE OF DATA READ/WRITE FROM/INTO DD RAM AND CG RAM.
- INSTRUCTION REGISTER (IR) IS USED FOR STORING INSTRUCTION CODES AND ADDRESS INFORMATION OF THE DISPLAY DATA (DD) RAM AND CHARACTER GENERATOR (CG) RAM.
- BUSY FLAG (BF) IS "1" WHEN THE LCM IS IN INTERNAL OPERATION AND CANNOT ACCEPT THE NEXT INSTRUCTION OR DATA.
- CHARACTER GENERATOR (CG) ROM GENERATES CHARACTER PATTERNS FROM 8-BIT CODE. THE CG ROM PROVIDES 192 CHARACTER PATTERNS.
- CHARACTER GENERATOR (CG) RAM ALLOWS THE USER TO DESIGN AND REWRITE CHARACTER PATTERNS ACCORDING TO THE PROGRAM.
- ADDRESS COUNTER (AC) IS USED TO GIVE THE ADDRESS INFORMATION OF THE DD RAM AND CG RAM.
- DISPLAY DATA (DD) RAM IS USED TO STORE THE DISPLAY DATA EXPRESSED BY 8-BIT CHARACTER CODE. THE CAPACITY IS 80 X 8 BITS AND 80 CHARACTERS CAN BE STORED.
- CURSOR AND BLINK CONTROL GENERATES THE CURSOR AND BLINK.

### USAGE OF LED BACKLIGHT

THERE ARE THREE POSSIBILITIES TO USE LED BACKLIGHT IN ANAG VISION CHARACTER MODULES.

- DRIVING THE LED THROUGH A CURRENT LIMITING RESISTANCE (RA) WHICH IS ALREADY INCLUDED IN THE LCM, BY EXTERNAL 5V TO J1 AND J2 BETWEEN PIN 1 AND PIN 2.
- PROVIDING 5V BY PIN 15 AND 16 OF THE INTERFACE TO DRIVE THE LED, J15 AND J16 MUST BE SHORTENED AND RA = 3-7 OHMS IN THIS CASE.
- PROVIDING 4.2V BY DIRECT CONNECTION TO THE LED THROUGH A CURRENT LIMITING RESISTANCE.

THIS DATA SHEET IS FOR REFERENCE ONLY.  
THE COLOR OF THE DISPLAY MAY VARY SLIGHTLY DEPENDING ON DIFFERENT PRODUCTION LOTS AND AMBIENT LIGHT. WE RESERVE THE RIGHT TO CHANGES AND IMPROVEMENTS WITHOUT PRIOR NOTICE.