

图形点阵液晶显示模块使用手册

CM12232-7SLYA

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T E L : 0 2 0 - 8 8 4 0 3 2 6 8

F A X : 0 2 0 - 8 7 5 8 0 4 8 0

<http://www.rtlcd.com>

E - m a i l : x i e z h o n g 2 @ 1 6 3 . c o m

一. 基本特征

主要技术参数和性能：

- (1) 电源：+5V
- (2) STN 正视反射模式；
- (3) 显示模式：黄绿膜、灰膜、蓝膜、黑白膜
- (4) 显示角度：6 点钟直视；
- (5) 驱动方式：1/32 Duty, 1/6 Bias
- (6) 工作温度：-10°C~+55°C，存储温度：-20°C~+70°C
- (7) 背光特性：LED 背光（黄绿色、蓝色、白色、红色）
- (8) 模块封装方式：COB
- (9) 功耗：

2. 机械特性

- (1) 外观尺寸：见外观图；
- (2) 点阵：122×32 点；
- (3) 点尺寸：0.36(W)×0.41(H) (MM)；
- (4) 点间距：0.04(W)×0.04(H) (MM)

3. 引脚特性：

管脚号	管脚名称	LEVER	管脚功能描述
1	VDD	5V	电源电压
2	VSS	0V	电源地
3	VLCD	0~+5V OR 0~-5V	LCD 驱动电压 (当 VDD=+3V 时, VLCD 接 0~-5V 负电压)
4	RES	H/L	复位信号(低电平有效)
5	E1	H/L	读写使能信号
6	E2	H/L	读写使能信号)
7	R/W	H/L	读写选择信号
8	A0	H/L	D/I=“H”，表示 DB7~DB0 为显示数据 D/I=“L”，表示 DB7~DB0 为显示指令数据
9	DB0	H/L	数据线
10	DB1	H/L	数据线
11	DB2	H/L	数据线
12	DB3	H/L	数据线
13	DB4	H/L	数据线
14	DB5	H/L	数据线
15	DB6	H/L	数据线
16	DB7	H/L	数据线
17	LED+	--	LED(+5V)或 EL 背光源
18	LED-	--	LED(0V)或 EL 背光源

二. 限定参数:

Item	Symbol	Standard Value	Unit	Condition
Power supply voltage	VDD	0~+7.0	V	
LCD driving voltage	VDD~VLCD	0~+12.0		
Input voltage	VIN	$V_{ND} \leq V_{IN} \leq V_{DD}$		
Operating temperature range	Top	-10~+55	°C	No condition
Storage temperature range	Tst	-20~+70		

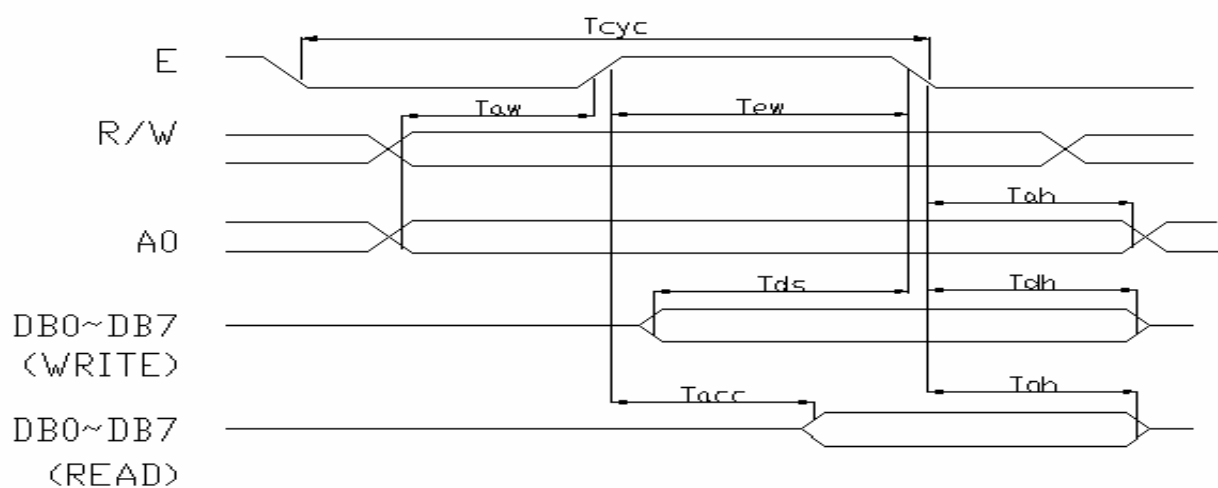
三. 直流特性:

(Ta=0~40°C, VDD=2.7~4.5V)

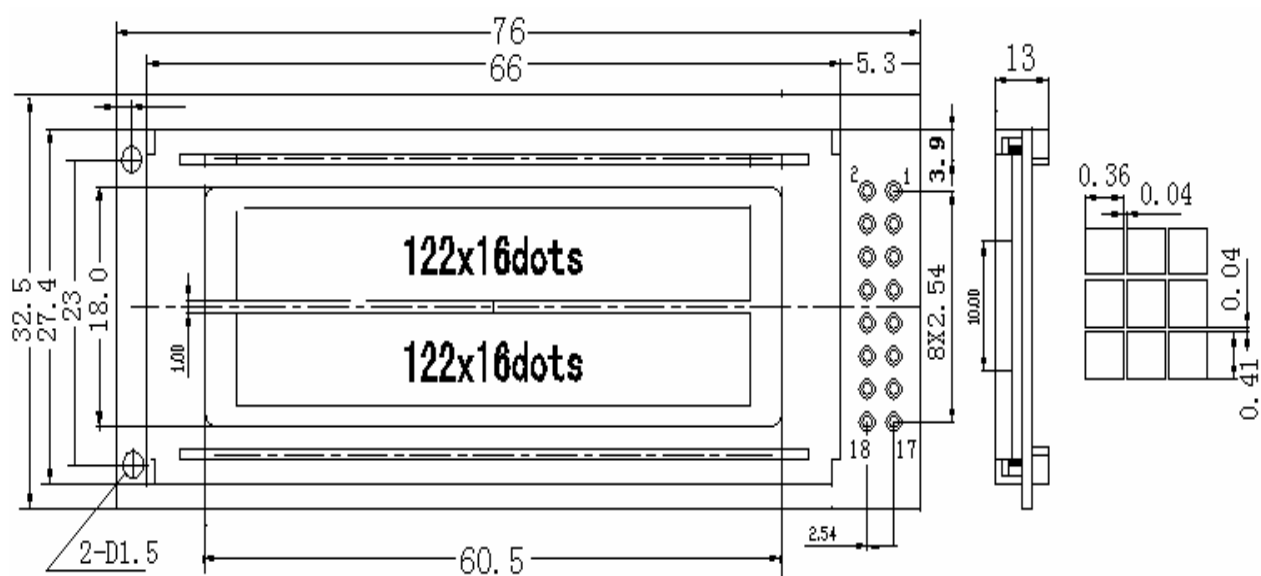
Item	Symbol	Standard Value			Unit
		MIN	TYP	MAX	
Power Supply	VDD	2.4	5.0	6.0	V
LCD Driving Voltage	VLCD	--	0	--	V
Input High Voltage	VIH	0.8VDD		VDD	V
Output High Voltage	VOH	0.5VDD			V
Input Low Voltage	VIL	GND		0.2VDD	V
Output Low Voltage	VOL			0.1VDD	V
Power Supply Current	IDD		--	240	uA
I/O Leak Current	IL	-3.0		3.0	uA
Stand-by Current	IDDQ		0.05	10.	uA

四. 交流特性:

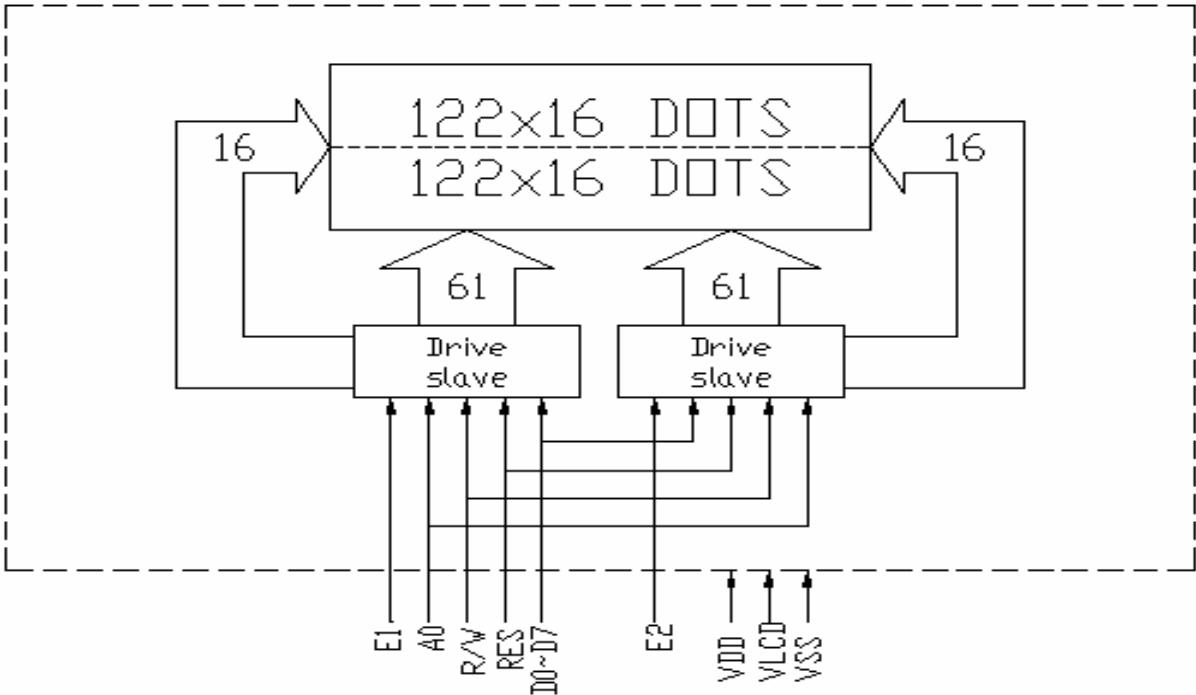
Signal	Parameter	Symbol	MIN	MAX	Unit	Condition
A0,/RW	System cycle time	Tcyc	2000	--	ns	CL=100p F
	Address setup time	Taw	40	--	ns	
	Address hold time	Tah	20	--	ns	
D0~D7	Data setup time	Tds	160	--	ns	
	Data hold time	Tdh	20	--	ns	
	Output disable time	Tch	20	120	ns	
	Access time	Tacc	--	180	ns	
E	Enable pulse width(Read)	Tew	200	--		
	Enable pulse width(Write)		160	--	ns	
Input wave width rise time		Tr	--	15	ns	



五. 机械尺寸图:



六. 原理图:



七. DDRAM 地址表

Page	Data	Com No		Drive
2	D0	0		Slave
	D7			
3	D0	15		Slave
	D7			
0	D0	16		Master
	D7			
1	D0	31		Master
	D7			
Column Addr		ADC=0	00H ···· 3C	00H ···· 3C
		Seg No	0 ···· 60	0 ···· 60
		Drive	Slave	Master

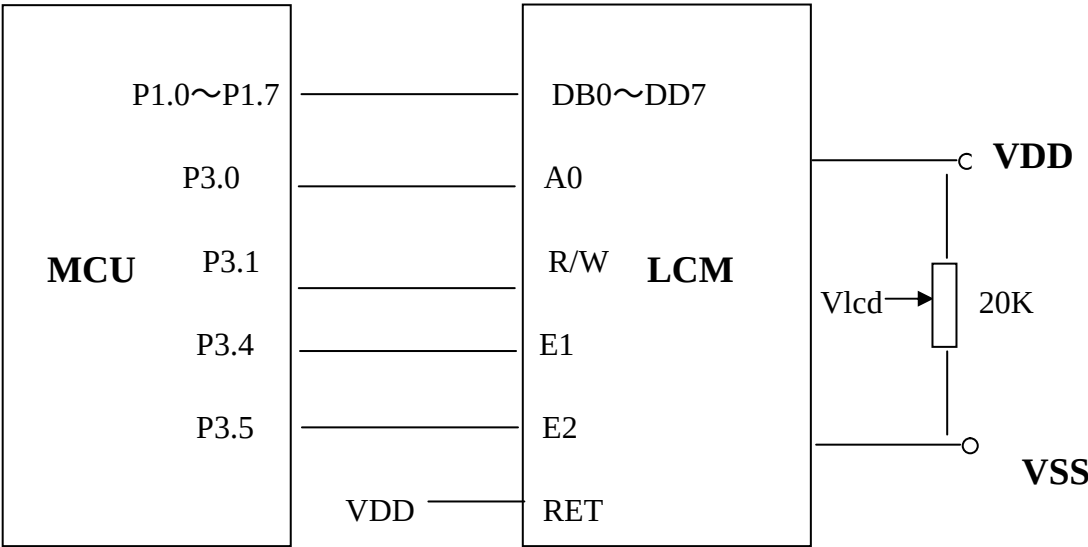
八. 指令表:

INSTRCTI ON	CODE										FUNCTION
	R/W	D/I	D7	D6	D5	D4	D3	D2	D1	D0	
DISPLAY ON/OFF	0	0	1	0	1	0	1	1	1	1/0	Switch the entire display ON or OFF, regardless of the display RAM's Data or the internal status. 1: ON 0: OFF
Display Start Line	0	0	1	1	0	Display start Line (0 ···· 31)					Determines the line of RAM data to be displayed at the display's top line (COM0)
Page Address set	0	0	1	0	1	1	1	0	PAGE: (0~3)		Sets the page of the Display in the Address register(X address)
Column (seg) Address set	0	0	0	Column address(0~79)							Sets the column of the Display in the column address register(Y address)
Status Read	1	0	B u s y	A D C	ON / OFF	R S T	0	0	0	0	Read status Busy 1:internal operation 0:Ready ADC 1:Rightward output 0:Leftward RST 1:Reseting 0:Normal ON/OFF 1:Display off 0:Display on
Write Display Data	0	1	Write data								Writes the data on the Data bus to RAM
Read Display Data	1	1	Read data								Reads data from the Display RAM onto the Data BUS
ADC Select	0	0	1	0	1	0	0	0	0	0/1	Determine the clockwise or Counterclockwise reading of the display Data RAM 0: Clockwise 1: Counterclockwise
Static Drive ON/OFF	0	0	1	0	1	0	0	1	0	0/1	Select the dynamic or static Driving. 1:Static driving 0: Dynamic driving
Duty Ratio Select	0	0	1	0	1	0	1	0	0	0/1	Select the duty ratio 1:1/32 duty 0:1/16 duty
Read Modify Write	0	0	1	1	1	0	0	0	0	0	Increment the column Address register when writing. But no-change when reading.
End	0	0	1	1	1	0	1	1	1	0	Release from the Read Modify Write Mode.

Reset	0	0	1	1	1	0	0	0	1	0	Set the Display Start Line Register to 1 st line, column Address count to 0 and Page Add. Resister to 0.
Power Save(dual command)	0 0	0 0	0 0	1 1	0 0	1 1	0 0	1 1	1 0	0 1	Set the power save mode by selecting display off and static driving on

九. 应用举例

CM12232-7 与单片机 8031 的一种接口如图 5 所示：(VDD=+5V)



```

ORG      0000H
LJMP     MAIN
ORG      0003H
LJMP     INT
ORG      0100H
A0       EQU      P3.0
RW       EQU      P3.1
E1       EQU      P3.4
E2       EQU      P3.5
COMMAND  EQU      20H
DATA1    EQU      21H
;*****
INT:
    PUSH  07H
    PUSH  06H
    PUSH  05H

```

```

    SJMP    $
    POP     05H
    POP     06H
    POP     07H
    RETI

,*****
,*****读 BF 和 AC 值*****
PR:
    PUSH    ACC
    MOV     P1,#0FFH
    CLR     A0
    SETB    RW
    SETB    E1
    MOV     COMMAND,P1
    CLR     E1
    POP     ACC
    RET

,*****写指令代码 E1*****
PR0:
    CLR     A0
    SETB    RW
PR01:
    MOV     P1,#0FFH
    SETB    E1
    MOV     A,P1
    CLR     E1
    JB      ACC.7,PR01
    CLR     RW
    MOV     P1,COMMAND
    SETB    E1
    CLR     E1
    RET

,*****写显示数据 E1*****
PR1:
    CLR     A0
    SETB    RW
PR11:
    MOV     P1,#0FFH
    SETB    E1
    MOV     A,P1
    CLR     E1
    JB      ACC.7,PR11

```

```

        SETB    A0
        CLR     RW
        MOV     P1,DATA1
        SETB    E1
        CLR     E1
        RET
,*****读显示数据 E1*****
PR2:
        CLR     A0
        SETB    RW
PR21:
        MOV     P1,#0FFH
        SETB    E1
        MOV     A,P1
        CLR     E1
        JB      ACC.7,PR21
        SETB    A0
        MOV     P1,#0FFH
        SETB    E1
        MOV     DATA1,P1
        CLR     E1
        RET
,*****写指令代码 E2*****
PR3:
        CLR     A0
        SETB    RW
PR31:
        MOV     P1,#0FFH
        SETB    E2
        MOV     A,P1
        CLR     E2
        JB      ACC.7,PR31
        CLR     RW
        MOV     P1,COMMAND
        SETB    E2
        CLR     E2
        RET
,*****写显示数据 E2*****
PR4:
        CLR     A0
        SETB    RW
PR41:
        MOV     P1,#0FFH
        SETB    E2

```

```

MOV    A,P1
CLR    E2
JB     ACC.7,PR41
SETB   A0
CLR    RW
MOV    P1,DATA1
SETB   E2
CLR    E2
RET

```

```

;*****读显示数据 E2*****

```

```

PR5:

```

```

CLR    A0
SETB   RW

```

```

PR51:

```

```

MOV    P1,#0FFH
SETB   E2
MOV    A,P1
CLR    E2
JB     ACC.7,PR51
SETB   A0
MOV    P1,#0FFH
SETB   E2
MOV    DATA1,P1
CLR    E2
RET

```

```

;*****清显示 RAM 区子程序(清屏)*****

```

```

L:

```

```

MOV    R4,#00H
L1:MOV  A,R4
ORL    A,#0B8H
MOV    COMMAND,A
LCALL  PR0
LCALL  PR3
MOV    COMMAND,#00H
LCALL  PR0
LCALL  PR3
MOV    R3,#50H
L2:MOV  DATA1,R5
LCALL  PR1
LCALL  PR4
DJNZ   R3,L2
INC    R4

```

```

    CJNE    R4,#04H,L1
    RET

;*****延时程序*****
DELAY:
    MOV     R6,#00H
    MOV     R7,#00H
DELAY1:
    NOP
    DJNZ    R7,DELAY1
    DJNZ    R6,DELAY1
    RET

;*****
MAIN:
    MOV     SP,#70H
    MOV     P2,#00H
    SETB    EA
    SETB    EX0
    SETB    IT0

CHUSHI:
    MOV     COMMAND,#0E2H    ;设置复位
    LCALL   PR0
    LCALL   PR3
    MOV     COMMAND,#0A4H    ;设置退出休闲状态
    LCALL   PR0
    LCALL   PR3
    MOV     COMMAND,#0A9H    ;设置占空比 1/32
    LCALL   PR0
    LCALL   PR3
    MOV     COMMAND,#0A0H    ;设置 ADC 选择指令
    LCALL   PR0
    LCALL   PR3
    MOV     COMMAND,#0C0H    ;设置起始行
    LCALL   PR0
    LCALL   PR3
    MOV     COMMAND,#0AFH    ;设置开显示
    LCALL   PR0
    LCALL   PR3

    LCALL   PHIC

    MOV     COMMAND,#0E2H    ;设置复位

```

```

    LCALL    PR0
    MOV      COMMAND,#0C0H      ;设置起始行
    LCALL    PR0
    LCALL    PR3
    MOV      COMMAND,#0AFH      ;设置开显示
    LCALL    PR0
    LCALL    PR3

    MOV      R5,#0FFH
    LCALL    L
    LCALL    DELAY
    LCALL    DELAY
    LCALL    DELAY
    LCALL    DELAY

    MOV      R5,#0AAH
    LCALL    L
    LCALL    DELAY
    LCALL    DELAY
    LCALL    DELAY
    LCALL    DELAY

    MOV      R5,#55H
    LCALL    L
    LCALL    DELAY
    LCALL    DELAY
    LCALL    DELAY
    LCALL    DELAY

    LL:
    MOV      R4,#00H
LL1:MOV      A,R4
    ORL      A,#0B8H
    MOV      COMMAND,A
    LCALL    PR0
    LCALL    PR3
    MOV      COMMAND,#00H
    LCALL    PR0
; LCALL    PR3
    MOV      R3,#28H
LL2:MOV      DATA1,#0FFH
    LCALL    PR1
; LCALL    PR4
    MOV      DATA1,#00H

```

```

    LCALL PR1
; LCALL PR4
    DJNZ R3,LL2
    MOV    COMMAND,#00H
    LCALL PR3
    MOV    R3,#28H
R_1:MOV    DATA1,#00H
    LCALL PR4
    MOV    DATA1,#0FFH
    LCALL PR4
    DJNZ R3,R_1
    INC    R4
    CJNE R4,#04H,LL1
    LCALL DELAY
    LCALL DELAY
    LCALL DELAY
    LCALL DELAY

LLL:
    MOV    R4,#00H
LLL1:MOV    A,R4
    ORL    A,#0B8H
    MOV    COMMAND,A
    LCALL PR0
    LCALL PR3
    MOV    COMMAND,#00H
    LCALL PR0
; LCALL PR3
    MOV    R3,#28H
LLL2:MOV    DATA1,#00H
    LCALL PR1
; LCALL PR4
    MOV    DATA1,#0FFH
    LCALL PR1
; LCALL PR4
    DJNZ R3,LLL2
    MOV    R3,#28H
    MOV    COMMAND,#00H
    LCALL PR3
R_2:MOV    DATA1,#0FFH
    LCALL PR4
    MOV    DATA1,#00H
    LCALL PR4
    DJNZ R3,R_2

```

```

        INC    R4
        CJNE   R4,#04H,LLL1
        LCALL  DELAY
        LCALL  DELAY
        LCALL  DELAY
        LCALL  DELAY

LLL:
        MOV    R4,#00H
LLL11:MOV    A,R4
        ORL    A,#0B8H
        MOV    COMMAND,A
        LCALL  PR0
        LCALL  PR3
        MOV    COMMAND,#00H
        LCALL  PR0
        ; LCALL PR3
        MOV    R3,#28H
LLL11:MOV    DATA1,#0AAH
        LCALL  PR1
        ; LCALL PR4
        MOV    DATA1,#55H
        LCALL  PR1
        ; LCALL PR4
        DJNZ   R3,LLL11
        MOV    COMMAND,#00H
        LCALL  PR3
        MOV    R3,#28H
R_3:MOV    DATA1,#55H
        LCALL  PR4
        MOV    DATA1,#0AAH
        LCALL  PR4
        DJNZ   R3,R_3
        INC    R4
        CJNE   R4,#04H,LLLL11
        LCALL  DELAY
        LCALL  DELAY
        LCALL  DELAY
        LCALL  DELAY

LLLL:
        MOV    R4,#00H
LLLL22:MOV    A,R4
        ORL    A,#0B8H

```

```

MOV    COMMAND,A
LCALL  PR0
LCALL  PR3
MOV    COMMAND,#00H
LCALL  PR0
;LCALL PR3
MOV    R3,#28H
LLL22:MOV DATA1,#55H
LCALL  PR1
;LCALL PR4
MOV    DATA1,#0AAH
LCALL  PR1
;LCALL PR4
DJNZ   R3,LLL22
MOV    COMMAND,#00H
LCALL  PR3
MOV    R3,#28H
R_4:MOV DATA1,#0AAH
LCALL  PR4
MOV    DATA1,#55H
LCALL  PR4
DJNZ   R3,R_4
INC    R4
CJNE   R4,#04H,LLLL22
LCALL  DELAY
LCALL  DELAY
LCALL  DELAY
LCALL  DELAY

```

,*****中文汉字*****

```

TU_L:
MOV    R4,#00H
MOV    DPTR,#ZHONG
TU1:MOV A,R4
ORL    A,#0B8H
MOV    COMMAND,A
LCALL  PR0
; LCALL PR3
MOV    COMMAND,#00H
LCALL  PR0
;LCALL PR3
MOV    R3,#50H
TU2:CLR A
MOVC   A,@A+DPTR

```

```

MOV    DATA1,A
LCALL  PR1
;LCALL PR4
INC    DPTR
DJNZ   R3,TU2
INC    R4
CJNE   R4,#04H,TU1

    TU_R:
MOV     R4,#00H
MOV     DPTR,#WEI
TU3:MOV   A,R4
    ORL   A,#0B8H
    MOV   COMMAND,A
    LCALL PR3
    MOV   COMMAND,#00H
    LCALL PR3
    MOV   R3,#50H
TU4:CLR   A
    MOVC  A,@A+DPTR
    MOV   DATA1,A
    LCALL PR4
    INC   DPTR
    DJNZ  R3,TU4
    INC   R4
    CJNE  R4,#04H,TU3
    LCALL DELAY
    LCALL DELAY
    LCALL DELAY
    LCALL DELAY
    LJMP  MAIN
;*****
PHIC:
    MOV   R5,#00H
    LCALL L
    MOV   R4,#00H
    MOV   DPTR,#TABL
PHIC0:
    MOV   A,R4
    ORL   A,#0B8H
    MOV   COMMAND,A
    LCALL PR0
    MOV   COMMAND,#00H

```

```

        LCALL  PR0
        MOV    R3,#61
PHIC1:
        CLR   A
        MOVC  A,@A+DPTR
        MOV   DATA1,A
        LCALL PR1
        INC   DPTR
        DJNZ  R3,PHIC1
        INC   R4
        CJNE  R4,#04H,PHIC0
PHIC2:
        MOV   R4,#00H
        MOV   DPTR,#TABR
PHIC20:
        MOV   A,R4
        ORL   A,#0B8H
        MOV   COMMAND,A
        LCALL PR3
        MOV   COMMAND,#00H
        LCALL PR3
        MOV   R3,#61
PHIC21:
        CLR   A
        MOVC  A,@A+DPTR
        MOV   DATA1,A
        LCALL PR4
        INC   DPTR
        DJNZ  R3,PHIC21
        INC   R4
        CJNE  R4,#04H,PHIC20
        LCALL DELAY
        LCALL DELAY
        LCALL DELAY
        LCALL DELAY
        RET
,*****
ZHONG:
DB  082H,08AH,0B2H,086H,0DBH,0A1H,091H,08DH,088H,020H,010H,008H,086H,064H,040H,000H
DB  000H,000H,000H,000H,07EH,02AH,02AH,02AH,02AH,02AH,02AH,07EH,000H,000H,000H,000H
DB  010H,012H,092H,072H,0FEH,051H,091H,000H,022H,0CCH,000H,000H,0FFH,000H,000H,000H
DB  008H,008H,088H,0FFH,048H,028H,000H,0C8H,048H,048H,07FH,048H,0C8H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  020H,010H,008H,006H,0FFH,002H,004H,058H,048H,020H,022H,011H,008H,007H,002H,000H

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DB  000H,07FH,025H,025H,025H,025H,07FH,000H,000H,07FH,025H,025H,025H,025H,07FH,000H
DB  004H,002H,001H,000H,0FFH,000H,004H,004H,004H,002H,002H,002H,0FFH,001H,001H,000H
DB  001H,041H,080H,07FH,000H,040H,040H,020H,013H,00CH,00CH,012H,021H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,082H,08AH,0B2H,086H,0DBH
DB  0A1H,091H,08DH,088H,020H,010H,008H,086H,064H,040H,000H,000H,000H,000H,000H,07EH
DB  02AH,02AH,02AH,02AH,02AH,02AH,07EH,000H,000H,000H,000H,014H,024H,044H,084H,064H
DB  01CH,020H,018H,00FH,0E8H,008H,008H,028H,018H,008H,000H,040H,041H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,020H,010H,008H,006H,0FFH
DB  002H,004H,058H,048H,020H,022H,011H,008H,007H,002H,000H,000H,07FH,025H,025H,025H
DB  025H,07FH,000H,000H,07FH,025H,025H,025H,025H,07FH,000H,020H,010H,04CH,043H,043H
DB  02CH,020H,010H,00CH,003H,006H,018H,030H,060H,020H,000H,040H,020H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H

```

WEI:

```

DB  048H,008H,000H,000H,004H,084H,044H,0E4H,034H,02CH,027H,024H,024H,024H,0E4H,004H
DB  004H,004H,000H,0FEH,002H,032H,04EH,082H,000H,0FEH,04AH,0CAH,04AH,04AH,04AH,07EH
DB  000H,000H,000H,080H,040H,030H,00EH,084H,000H,000H,00EH,010H,060H,0C0H,080H,080H
DB  020H,024H,024H,024H,024H,024H,024H,024H,024H,004H,004H,0FCH,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  060H,020H,000H,002H,001H,000H,000H,0FFH,009H,009H,009H,029H,049H,0C9H,07FH,000H
DB  000H,000H,000H,0FFH,000H,002H,004H,003H,000H,0FFH,040H,020H,003H,00CH,012H,021H
DB  060H,020H,001H,020H,070H,028H,024H,023H,031H,010H,010H,014H,078H,030H,001H,000H
DB  000H,03FH,009H,009H,009H,009H,009H,009H,01FH,000H,040H,080H,07FH,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  0CEH,004H,000H,0FCH,004H,002H,002H,0FCH,004H,004H,004H,0FCH,000H,000H,080H,040H
DB  030H,0FCH,003H,090H,068H,006H,004H,0F4H,004H,024H,044H,08CH,004H,000H,000H,000H
DB  000H,0F8H,0F8H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  01FH,020H,040H,047H,042H,041H,040H,05FH,040H,042H,044H,043H,040H,000H,000H,020H
DB  038H,003H,038H,040H,040H,049H,052H,041H,040H,070H,000H,009H,030H,000H,000H,000H
DB  000H,033H,033H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H
DB  000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H,000H

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TABL:

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; 宽×高(像素): 61×32
; 字模格式/大小: 单色点阵液晶字模, 纵向取模, 字节倒序/244 字节
; 数据转换日期: 2006-7-3 15:11:15
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;DB 03DH,020H,008H,;宽的像素数,高的像素数,宽的字节数,参数设置可选

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DB 0FFH,001H,001H,001H,001H,001H,001H,001H,031H,051H,011H,0E9H,009H,069H,001H
DB 041H,021H,091H,081H,001H,001H,001H,001H,079H,0A9H,0A9H,0A9H,0A9H,0A9H,079H,001H
DB 001H,001H,001H,091H,091H,0F9H,089H,091H,091H,031H,021H,0F9H,001H,001H,001H,001H
DB 001H,041H,0F9H,041H,081H,0A1H,0A1H,0F9H,0A1H,0A1H,001H,001H,001H,0FFH,000H,000H
DB 000H,000H,000H,000H,000H,000H,011H,009H,007H,03FH,005H,009H,02CH,032H,013H,009H
DB 004H,000H,000H,03FH,025H,025H,025H,03FH,000H,03FH,025H,025H,025H,03FH,000H,000H
DB 00CH,003H,03FH,006H,00AH,008H,005H,004H,03FH,004H,004H,000H,000H,002H,022H,01FH
DB 021H,020H,033H,01CH,018H,016H,021H,020H,000H,000H,0FFH,000H,000H,000H,000H,000H
DB 000H,000H,010H,010H,0F0H,010H,010H,000H,0F0H,090H,090H,090H,010H,000H,0F0H,000H
DB 000H,000H,000H,000H,000H,000H,080H,000H,000H,000H,0E0H,010H,010H,010H,0E0H,000H
DB 010H,010H,010H,090H,070H,000H,0F0H,050H,050H,050H,090H,000H,0F0H,050H,050H,050H
DB 090H,000H,080H,080H,080H,080H,080H,080H,0FFH,080H,080H,080H,080H,080H,080H,080H
DB 080H,08FH,080H,080H,080H,08FH,088H,088H,088H,088H,080H,08FH,088H,088H,088H,088H
DB 080H,080H,080H,088H,080H,080H,080H,087H,088H,088H,087H,080H,080H,080H,08CH
DB 083H,080H,080H,084H,088H,088H,088H,087H,080H,084H,088H,088H,088H,087H,080H,080H
DB 080H,080H,080H,080H

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TABR:

; 宽×高（像素）： 61×32

; 字模格式/大小： 单色点阵液晶字模，纵向取模，字节倒序/244 字节

; 数据转换日期： 2006-7-3 16:46:42

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;DB 03DH,020H,008H,;宽的像素数,高的像素数, 宽的字节数, 参数设置可选

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DB 011H,091H,0F1H,079H,051H,051H,051H,0D1H,051H,011H,001H,001H,0F9H,009H,0E9H,019H
DB 001H,0F9H,0A9H,0A9H,0A9H,0F9H,001H,001H,001H,001H,081H,061H,039H,001H,081H,009H
DB 039H,061H,081H,001H,001H,001H,041H,049H,049H,049H,049H,049H,049H,009H,0F9H
DB 001H,001H,001H,001H,001H,001H,001H,001H,001H,001H,001H,001H,0FFH,003H,001H,03FH
DB 00AH,00AH,00AH,02AH,03FH,000H,000H,000H,000H,03FH,000H,008H,007H,000H,03FH,010H
DB 013H,00CH,013H,030H,000H,000H,001H,010H,018H,01CH,013H,011H,010H,014H,018H,000H
DB 001H,000H,000H,000H,01FH,009H,009H,009H,009H,00FH,000H,020H,03FH,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,000H,000H,000H,0FFH,000H,060H,010H,010H,010H,0E0H
DB 000H,0C0H,0A0H,090H,090H,020H,000H,000H,020H,0F0H,000H,000H,000H,020H,010H,090H
DB 090H,060H,000H,010H,010H,010H,090H,070H,000H,000H,020H,0F0H,000H,000H,000H,0C0H
DB 0A0H,090H,090H,020H,000H,0E0H,010H,010H,010H,0E0H,000H,000H,000H,000H,000H,000H
DB 000H,000H,000H,000H,000H,000H,0FFH,080H,08CH,08AH,089H,089H,088H,080H,087H,088H
DB 088H,088H,087H,080H,080H,080H,08FH,080H,080H,080H,086H,088H,088H,087H,080H
DB 080H,080H,08CH,083H,080H,080H,080H,080H,08FH,080H,080H,080H,087H,088H,088H
DB 087H,080H,084H,089H,089H,085H,083H,080H,080H,080H,080H,080H,080H,080H,080H,080H
DB 080H,080H,080H,0FFH

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END