

```

//-----
/*hotdisplay CO,.LTD.*/
// Module      : HTM12864-19C
// Language    : C51 Code
// Create      :
// Version: 1.0
// Date       : OCT-21-2016
// LCM Drive IC : ST7567
// INTERFACE   : 4_Wire-SPI
// MCU        : STC89C53RC
// VDD        : 3.3V
//*****
#include<reg51.h>
sbit    R_S=                P3^5;
sbit    RES=                P3^4;
sbit    SCK=                P1^6;
sbit    SDA=                P1^7;
sbit    CS1=                P3^7;

#define Page 0xb0
//#####//
void Comwrite(unsigned char com); //D'??á?3ìDò//
void Datawrite(unsigned char dat);

void Delay(unsigned int time); //?óê±×ó3ìDò//
char code Hanzi[]={
0xFF,0x01,0x01,0x09,0xF9,0x09,0x01,0x01,0x09,0xF9,0x09,0xE1,0x11,0x09,0x09,0x09,
0x11,0xE1,0x01,0x19,0x09,0x09,0xF9,0x09,0x09,0x19,0x01,0x01,0x01,0x01,0x01,0x01
,
0x01,0x01,0x01,0x09,0xF9,0x09,0x09,0x09,0x11,0xE1,0x01,0x01,0x09,0x09,0xF9,0x09
,
0x09,0x01,0x01,0x01,0x71,0x89,0x09,0x09,0x09,0x39,0x01,0x09,0xF9,0x09,0x09,0x09
,
0x09,0xF1,0x01,0x01,0x01,0xC1,0x39,0xE1,0x01,0x01,0x01,0x09,0xF9,0x09,0x01,0x01
,
0x01,0x01,0x01,0x09,0x39,0xC9,0x01,0xC9,0x39,0x09,0x01,0x01,0x01,0x01,0x01,0x0
1,
0x01,0x01,0x01,0x09,0xF9,0x09,0x01,0x01,0x01,0x01,0x01,0xC1,0x31,0x09,0x09,0x09
,
0x09,0x39,0x01,0x09,0xF9,0x09,0x09,0x09,0x11,0xE1,0x01,0x01,0x01,0x01,0x01,0xFF,
0xFF,0x00,0x00,0x20,0x3F,0x21,0x01,0x01,0x21,0x3F,0x20,0x0F,0x10,0x20,0x20,0x20,
0x10,0x0F,0x00,0x00,0x00,0x20,0x3F,0x20,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x20,0x3F,0x20,0x20,0x20,0x10,0x0F,0x00,0x00,0x20,0x20,0x3F,0x20,

```

0x20,0x00,0x00,0x00,0x38,0x20,0x21,0x21,0x22,0x1C,0x00,0x20,0x3F,0x21,0x01,0x01
,
0x01,0x00,0x00,0x20,0x3C,0x23,0x02,0x02,0x27,0x38,0x20,0x20,0x3F,0x20,0x20,0x20
,
0x20,0x30,0x00,0x00,0x00,0x20,0x3F,0x20,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x20,0x3F,0x20,0x20,0x20,0x20,0x30,0x00,0x07,0x18,0x20,0x20,0x20
,
0x10,0x08,0x00,0x20,0x3F,0x20,0x20,0x20,0x10,0x0F,0x00,0x00,0x00,0x00,0x00,0xFF,
0xFF,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x08,0xF8,0x08,0x00,0x00,0x08,0xF8,0x08
,
0x18,0x08,0x08,0xF8,0x08,0x08,0x18,0x00,0x08,0xF8,0xF8,0x00,0xF8,0xF8,0x08,0x00,
0x00,0x10,0x10,0xF8,0x00,0x00,0x00,0x00,0x00,0x70,0x08,0x08,0x08,0x88,0x70,0x00
,
0x00,0x70,0x88,0x08,0x08,0x88,0x70,0x00,0x00,0xE0,0x10,0x88,0x88,0x18,0x00,0x00
,
0x00,0x00,0xC0,0x20,0x10,0xF8,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xFF
,
0xFF,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x20,0x3F,0x21,0x01,0x01,0x21,0x3F,0x20
,
0x00,0x00,0x20,0x3F,0x20,0x00,0x00,0x00,0x20,0x3F,0x00,0x3F,0x00,0x3F,0x20,0x00,
0x00,0x20,0x20,0x3F,0x20,0x20,0x00,0x00,0x00,0x30,0x28,0x24,0x22,0x21,0x30,0x00
,
0x00,0x1C,0x22,0x21,0x21,0x22,0x1C,0x00,0x00,0x0F,0x11,0x20,0x20,0x11,0x0E,0x00
,
0x00,0x07,0x04,0x24,0x24,0x3F,0x24,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xFF
,
0xFF,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x08,0xF8,0x08,0x08,0x08,0x10,0xE0,0x00,0xE0,0x10,0x08,0x08,0x08,0x10,0xE0,0x00,
0x18,0x08,0x08,0xF8,0x08,0x08,0x18,0x00,0x00,0x70,0x88,0x08,0x08,0x08,0x38,0x00
,

0x00,0x00,0x00,0xC0,0xC0,0x00,0x00,0x00,0x00,0x10,0x10,0xF8,0x00,0x00,0x00,0x0
0,
0x00,0x70,0x08,0x08,0x08,0x88,0x70,0x00,0x00,0x70,0x88,0x08,0x08,0x88,0x70,0x00
,
0x00,0x80,0x80,0x00,0x80,0x80,0x80,0x00,0x00,0xE0,0x10,0x88,0x88,0x18,0x00,0x00
,
0x00,0x00,0xC0,0x20,0x10,0xF8,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xFF
,
0xFF,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x20,0x3F,0x20,0x20,0x20,0x10,0x0F,0x00,0x0F,0x10,0x20,0x20,0x20,0x10,0x0F,0x00,
0x00,0x00,0x20,0x3F,0x20,0x00,0x00,0x00,0x00,0x38,0x20,0x21,0x21,0x22,0x1C,0x00
,
0x00,0x00,0x00,0x30,0x30,0x00,0x00,0x00,0x00,0x20,0x20,0x3F,0x20,0x20,0x00,0x00
,
0x00,0x30,0x28,0x24,0x22,0x21,0x30,0x00,0x00,0x1C,0x22,0x21,0x21,0x22,0x1C,0x0
0,
0x00,0x20,0x31,0x2E,0x0E,0x31,0x20,0x00,0x00,0x0F,0x11,0x20,0x20,0x11,0x0E,0x00,
0x00,0x07,0x04,0x24,0x24,0x3F,0x24,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00
,
0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0x00,0xFF
,
0xFF,0xE0,0x10,0x08,0x08,0x10,0xE0,0x00,0x00,0x10,0x10,0xF8,0x00,0x00,0x00,0x00,
0x00,0x70,0x08,0x08,0x08,0x88,0x70,0x00,0x00,0x30,0x08,0x88,0x88,0x48,0x30,0x00
,
0x00,0x00,0xC0,0x20,0x10,0xF8,0x00,0x00,0x00,0xF8,0x08,0x88,0x88,0x08,0x08,0x00
,
0x00,0xE0,0x10,0x88,0x88,0x18,0x00,0x00,0x00,0x38,0x08,0x08,0xC8,0x38,0x08,0x00
,
0x00,0x70,0x88,0x08,0x08,0x88,0x70,0x00,0x00,0xE0,0x10,0x08,0x08,0x10,0xE0,0x00
,
0x00,0xE0,0x10,0x08,0x08,0x10,0xE0,0x00,0x00,0x10,0x10,0xF8,0x00,0x00,0x00,0x00
,
0x00,0x70,0x08,0x08,0x08,0x88,0x70,0x00,0x00,0x30,0x08,0x88,0x88,0x48,0x30,0x00
,
0x00,0x00,0xC0,0x20,0x10,0xF8,0x00,0x00,0x00,0xF8,0x08,0x88,0x88,0x08,0x08,0xFF
,
0xFF,0x8F,0x90,0xA0,0xA0,0x90,0x8F,0x80,0x80,0xA0,0xA0,0xBF,0xA0,0xA0,0x80,0x8
0,
0x80,0xB0,0xA8,0xA4,0xA2,0xA1,0xB0,0x80,0x80,0x98,0xA0,0xA0,0xA0,0x91,0x8E,0x
80,
0x80,0x87,0x84,0xA4,0xA4,0xBF,0xA4,0x80,0x80,0x99,0xA1,0xA0,0xA0,0x91,0x8E,0x8

```

0,
0x80,0x8F,0x91,0xA0,0xA0,0x91,0x8E,0x80,0x80,0x80,0x80,0xBF,0x80,0x80,0x80,0x8
0,
0x80,0x9C,0xA2,0xA1,0xA1,0xA2,0x9C,0x80,0x80,0x80,0xB1,0xA2,0xA2,0x91,0x8F,0x
80,
0x80,0x8F,0x90,0xA0,0xA0,0x90,0x8F,0x80,0x80,0xA0,0xA0,0xBF,0xA0,0xA0,0x80,0x8
0,
0x80,0xB0,0xA8,0xA4,0xA2,0xA1,0xB0,0x80,0x80,0x98,0xA0,0xA0,0xA0,0x91,0x8E,0x
80,
0x80,0x87,0x84,0xA4,0xA4,0xBF,0xA4,0x80,0x80,0x99,0xA1,0xA0,0xA0,0x91,0x8E,0xF
F
};

```

```

void Delay(unsigned int time)
{
    unsigned char j;
    while(time--)
    {
        for(j=0;j<=200;j++) //?é20us=0.02ms//
        {}
    }
}

```

```

/*****/
void Display(unsigned char sda,unsigned char sda1)
{
    unsigned char i,j,k=0;
    Comwrite(0x60);
    for(i=0;i<8;i++)
    {
        Comwrite(Page+k);
        Comwrite(0x10);
        Comwrite(0x00);
        for(j=0;j<66;j++)
        {Datawrite(sda);
        Datawrite(sda1);
        }
        k++;
    }
}

```

```
}
```

```
/******
```

```
void Hanzi_Disp(void)
```

```
{
```

```
  unsigned char  i,j,k=0;
```

```
  Comwrite(0x60);
```

```
  for(i=0;i<8;i++)
```

```
  {
```

```
    Comwrite(Page+k);
```

```
    Comwrite(0x10);
```

```
    Comwrite(0x01);
```

```
  for(j=0;j<128;j++)
```

```
    {Datawrite(Hanzi[i*128+j]);}
```

```
    k++;
```

```
  }
```

```
          Delay(5000);
```

```
}
```

```
#####
```

```
void Intial(void)
```

```
{
```

```
  Delay(100);
```

```
  Comwrite(0xe3);
```

```
  Comwrite(0xA2); //1010001/BS duty:1/65,BS-1:1/7,0:1/9
```

```
  Comwrite(0xA0); //Sets the display RAM address SEG output
```

```
correspondence 0: normal, 1: reverse
```

```
  Comwrite(0xc8); //com direction Normal direction
```

```
  Comwrite(0x2c);
```

```
  Comwrite(0x2e);
```

```
  Comwrite(0x2F);//power on :00101/Booster circuit/Voltage regulator  
circuit/Voltage follower circuit
```

```
  Comwrite(0xf8);//Booster Ratio Select Mode Set
```

```
  Comwrite(0x00);
```

```
  Comwrite(0x81); //SET EV :10000001
```

```

        Comwrite(0x15); //Setting V0 Voltage:(0x00~0x3f) Contrast settings
        Comwrite(0x26); //regulation ration: (0x21~0x27) Contrast settings
        Comwrite(0xAF); //Display ON/OFF :1010111/D on:1
        Comwrite(0x40); //Set Start Line
        Delay(20);
    }

```

```

/*****/

```

```

int main()

```

```

{

```

```

    /*PINSEL0=0x00000000; //è??òy??á??óGPIO

```

```

    IO0DIR=SPIIOCON; //è??SPI????ú?aê?3?*/

```

```

    RES=0;

```

```

        Delay(20);

```

```

        RES=1;

```

```

        Delay(20);

```

```

while(1)

```

```

{

```

```

    Intial();

```

```

    Delay(20);

```

```

    Display(0xFF,0xFF);

```

```

        Delay(1000);

```

```

    Display(0x00,0x00);

```

```

        Delay(1000);

```

```

    Display(0xFF,0x00);

```

```

        Delay(1000);

```

```

    Display(0x00,0xff);

```

```

        Delay(1000);

```

```

    Display(0x55,0xAA);

```

```

        Delay(1000);

```

```

    Display(0xAA,0x55);

```

```

        Delay(1000);

```

```

        Hanzi_Disp(); Delay(5000);

```

```

        Delay(1000);

```

```

    }

```

```

}

```

```
void Comwrite(char com)
```

```
{
    unsigned char data i,j;
        CS1=0;
        R_S=0;
    SCK=0;
        for(i=0;i<8;i++)
            {
                j=com;
                SCK=0;
                SDA=com&0x80;

    SCK=1;
                com=j<<1;
            }
        CS1=1;
        R_S=1;
}
```

```
#####
```

```
void Datawrite(char dat)
```

```
{
    unsigned char data i,j;
        CS1=0;
        R_S=1;
    SCK=0;
        for(i=0;i<8;i++)
            {
                j=dat;
                SCK=0;
                SDA=dat&0x80;

    SCK=1;
                dat=j<<1;
            }
        CS1=1;
        R_S=0;
}
```