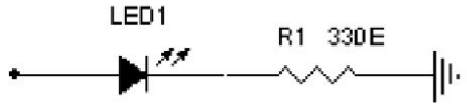
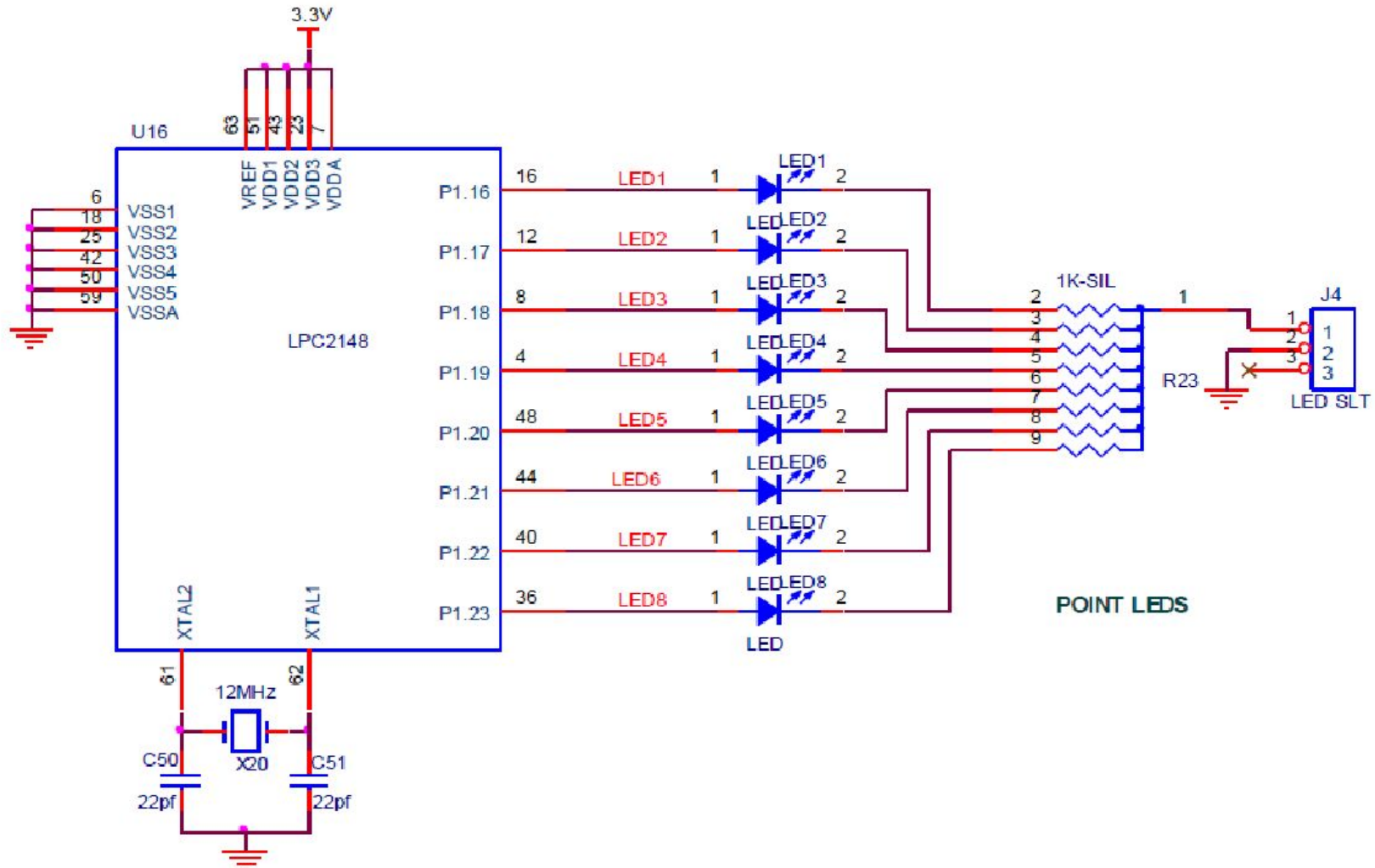
The ARM7 LPC2148 Primer board has eight numbers of point LEDs, connected with I/O Port lines (P1.16 – P1.23) to make port pins high.

Pin Assignment with LPC2148

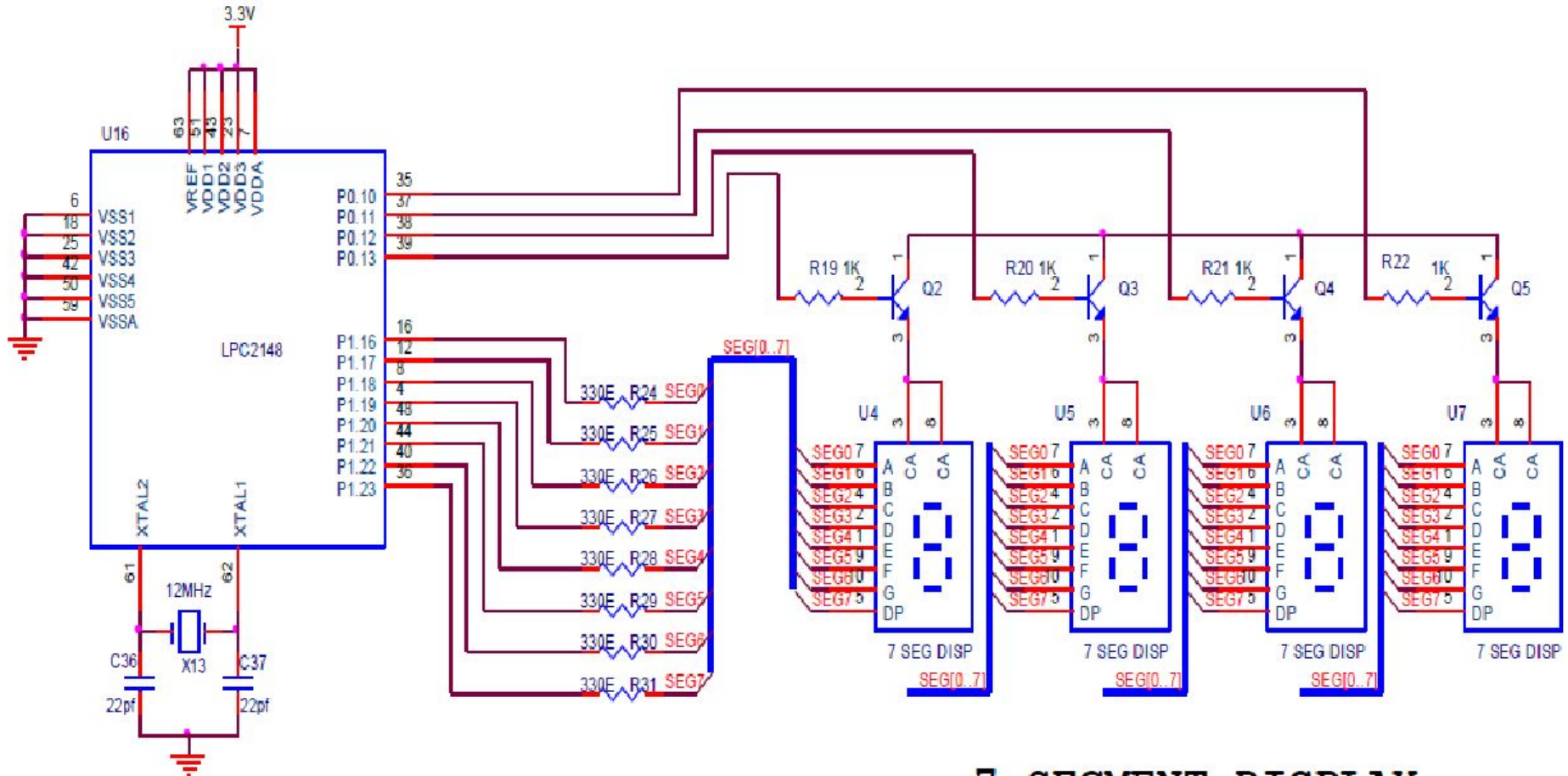
	Point LEDs	LPC2148 Lines	LED Selection
DIGITAL OUTPUTS	LD1	P1.16	  - LED Enable  - LED Disable
	LD2	P1.17	
	LD3	P1.18	
	LD4	P1.19	
	LD5	P1.20	
	LD6	P1.21	
	LD7	P1.22	
	LD8	P1.23	

Circuit Diagram to Interface LED with LPC2148



```
#include<LPC214x.h> // Define LPC2148 Header File
#define led IOPIN1 // Define LED to Port1
#define tled IO1DIR // Define Port1 as output
void delay(int x);
void main()
{
 PINSEL2 = 0x00000000; // Define port lines as GPIO
 tled = 0x00FF0000; // Define P1.16 – P1.23 as O/P
 led = 0x00000000; // Define P1.16 – P1.23 as zero
 while(1) // Loop forever
 {
 led = 0x00FF0000; // Turn ON P1.16 – P1.23
 delay(2000);
 led = 0x00000000; // Turn OFF P1.16 – P1.23
 delay(2000);
 }
 }
void delay(int x)
{
 unsigned int k,l;
 for(k = x;k > 0;k--)
 for(l = 0;l < x;l++);
}
```

Circuit Diagram to Interface 7 segment with LPC2148

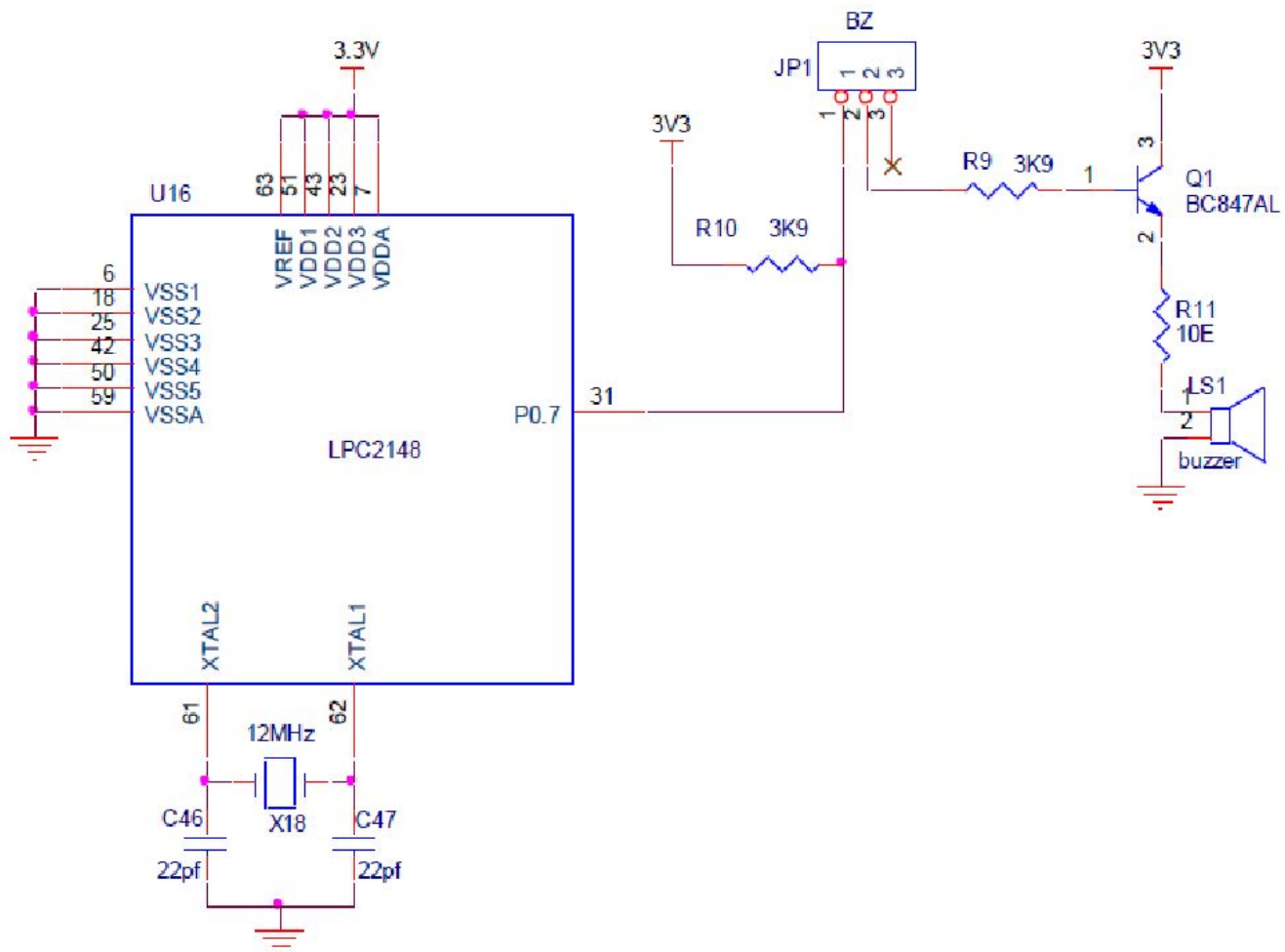


7 SEGMENT DISPLAY

```
#include <LPC214x.h>
#include <stdio.h>
#include "7SEG.H"
unsigned int thou,hun,ten,single;
unsigned int x;
void main(void)
{
 PINSEL0 = 0;
 PINSEL1 = 0;
 PINSEL2 &= 0x0000000C;
 IODIR0 |= 0x0F << 10 ; // P0.10 - P0.13 Control Lines
 IODIR1 |= 0xfF << 16; // P1.16 - P1.23 are Outputs
 while(1)
 {
 if(x == 300)
 {
 x=0;
 single++;
 if(single>9)
 {
 single=0;
 ten++;
 if(ten>9)
 {
 ten=0;
 hun++;
 if(hun>9)
 {
 hun=0;
thou++;
if(thou>9)
```

```
thou=0;
 }
 }
}
}
x++;
 Segment_Disp(&IOPIN1, 16,thou, hun, ten, single);
}
}
void DelayMs(unsigned int count) { unsigned int i,j;
 for(i=0;i<count;i++) { for(j=0;j<3000;j++);
 }
}
```

Circuit Diagram to Interface Buzzer with LPC2148



```
#include <LPC214x.h>
#include <stdio.h>
#define BUZZ 7
void Delay(void);
void Wait(void);
void main()
{
 PINSEL0 = 0x00; //Configure Port0.7 as GPIO
 IODIR0 = 3 << BUZZ; //Configure Port0.7 as O/P pin
 while(1)
 {
 IOSET0 = 1 << BUZZ;
 Delay();
 IOCLR0 = 1 << BUZZ;
 Delay();

 }
}
void Delay()
{
 unsigned int i,j;
 for(i=0;i<1000;i++)
 for(j=0;j<700;j++);
}
```