

LCD MODULES USING IST3004-TX DRIVER IC

Dear valued customers,

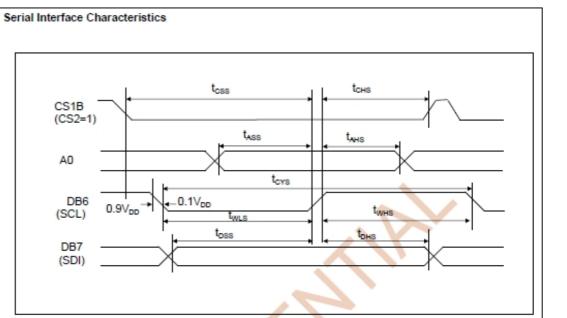
due to some claims of customers using the SPI Interface and previously modules with we herewith inform as follows:

In many cases customers using SPI Interface the timing needs to have special attention.

It is important to understand that the command/data signal (A0) needs to be set only after the chip select (CS) is set.

The previous IC was faster and not that sensitive to this issue and allowed the A0 to be set before the CS.

Here again the table of the IST3004-TX SPI Timing as per Spec. Ver.003:



						(VDD = 2.4 ~ 3.6V, Ta = -30~80°C)		
Item	Signal	Symbol	Min.	Тур.	Max.	Unit	Remark	
Serial clock cycle SCL high pulse width SCL low pulse width	DB6 (SCL)	tCYS tWHS tWLS	200 90 90	-	-	ns		
Address setup time Address hold time	AO	tASS tAHS	45 45	-		ns		
Data setup time Data hold time	DB7 (SDI)	tDSS tDHS	45 45	-		ns		
CS1B setup time CS1B hold time	CS1B	tCSS tCHS	90 90	-	-	ns		



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We recommend the following INT-CODE proposal for the SPI-Interface:

```
void data trans(unsigned char tdata)
     {
  uchar i;
 CS=0; //The CS must be before the A0
 A0=1;
 SCL=0;
  for(i=0;i<8;i++)
    {
      SI=((tdata & 0x80) = = 0x80);
         SCL=0;
         NOP;
     SCL=1;
     tdata <<=1;
     }
  CS=1;
         }
void ins trans(unsigned char tcom)
     {
  uchar i;
 CS=0; //The CS must be before the A0
 A0=0;
 SCL=0;
  for(i=0;i<8;i++)
    {
      SI=((tcom&0x80)==0x80);
         SCL=0;
         NOP;
     SCL=1;
     tcom <<=1;
     }
  CS=1;
         }
```