Active Errata List

- Power-down Mode Current Out of Specification in ROMless Mode
- Power-fail Threshold Out of Specification
- TWI Data Transmission in Slave Transmitter Mode

Errata History

Lot Number	Errata List	
All lot numbers affected	1, 3	
All TSC8725G2D EPROM devices are affected	2	

Errata Description

1. Power-down Mode Current Out of Specification in ROMless Mode

 I_{PD} is out of specification when EA pin is tied to a low level. The ROMless products and EPROM and ROM products used as ROMless (EA = 0) are consuming extra current in power-down mode. Table 1 below shows the power-down current maximum value and specification for high speed in low voltage versions.

Table 1. DC Characteristics – T_A = -40 to +85°C

Symbol	Parameter	Max Spec	Max Value	Units	Test Conditions
I _{PD}	Power-down Current	20	35	μΑ	V _{RET} < V _{DD} < 5.5V
I _{PD}	Power-down Current	10	20	μΑ	V _{RET} < V _{DD} < 3.6V

Workaround

None.

2. Power-fail Threshold Out of Specification

The tolerance on the power-fail reset voltage threshold is out of specification. The device may never exit reset at power-up when power-fail reset is enabled.

Workaround

Some devices may need a higher voltage to exit reset. The RSTD bit has to be set in POWM register to disable the Power-fail Reset detector before the voltage is reduced.

3. Two-wire Interface Data Transmission in Slave Transmitter Mode

When in slave transmitter mode, if the slave transmits data starting with a low level on the bus (MSB is logic 0), data set-up time is not respected and leads to a bus error.

Workaround

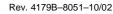
The workaround proposed consists in removing the set-up violation by stretching the SDA line (P1.7) when the MSB of the data to transmit is logic 0. This workaround must be implemented in states A8h, B0h, and B8h when data is written to the serial data register (SSDAT).



8051 Microcontrollers

TS80C251G2D TS83C251G2D TS87C251G2D

Errata Sheet







In assembler the workaround is:

SSCON = 0x40;

SDA = 1;

```
mov
                A,data
                                     ;read data to transmit
       mov
                SSDAT, A
                                     ;load transmit buffer
       jb
                 ACC.7,Msb_tst
                                      ;test MSB
       clr
                 SDA
                                      ;stretch data line (P1.7) to low level
Msb_tst:mov
                 SSCON, #40h
                                      ;or 44h: clear SSI flag
                 SDA
                                     ;data line is now driven by controller
       setb
In C language, the workaround is:
     SSDAT = data;
                                    //load translit buffer
     if(!(data&0x80))
                                    //test MSB
       SDA = 0;
                                    //stretch data line (P1.7) to low level
```

//or 0x44: clear SSI flag

//data line is now driven by controller



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