

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 $+85^\circ\text{C}$

Symbol	Parameter	Max Spec	Max Value	Units	Test Conditions
I_{PD}	Power-down Current	20	35	μA	$V_{RET} < V_{DD} < 5.5\text{V}$
I_{PD}	Power-down Current	10	20	μA	$V_{RET} < V_{DD} < 3.6\text{V}$

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:

```
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     SSSCON,#40h ;or 44h: clear SSI flag
        setb     SDA     ;data line is now driven by controller
```

In C language, the workaround is:

```
SSDAT = data;           //load transmit buffer
if(!(data&0x80))       //test MSB
{
    SDA = 0;           //stretch data line (P1.7) to low level
}
SSCON = 0x40;         //or 0x44: clear SSI flag
SDA = 1;              //data line is now driven by controller
```



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