## 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 | µA | $V_{RET} < V_{DD} < 5.5V$ |
| $I_{PD}$ | Power-down Current | 10 | 20 | µA | $V_{RET} < V_{DD} < 3.6V$ |

**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

Rev. 4179B–8051–10/02

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

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
      }
      SSCON = 0x40;                 //or 0x44: clear SSI flag
      SDA = 1;                      //data line is now driven by controller
```

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