



February 2, 2010

C8051T620/1 C8051T320/1/2/3 Revision D Errata

Errata Status Summary

Errata #	Title	Impact	Status	
			Affected Revisions	Fixed Revision
1	USB D+/D- Driver Impedance	Minor	Revision D	Not Fixed
2	GPIO Signals Driven Low After Power Cycling	Major	Revision A - D	Not Fixed

Impact Definition: Each erratum is marked with an impact, as defined below:

- Minor—Workaround exists.
- Major—Errata that do not conform to the data sheet or standard.
- Information—The device behavior is not ideal but acceptable. Typically, the data sheet will be changed to match the device behavior.

Errata Details

1. **Description:** The output impedance of the drivers on the USB D+ and D- data lines is nominally $28\ \Omega$ but, in some cases, may be as low as $26\ \Omega$. The minimum USB specification for full-speed devices on the D+ and D- data lines is $28\ \Omega$.

Impact: This may impact systems that need to be submitted for USB compliance testing. The specification for USB compliance is a system-level parameter, not a chip-level parameter. In most systems, the lower impedance of the device will not be a factor. A typical PCB will add 2-3 Ω to the effective driver impedance and bring the system level impedance within specifications.

Workaround: For systems that require USB certification, it is recommended to add some series impedance (between 5 and 8 Ohms, $\frac{1}{4}$ watt or higher) to D+ and D- in the PCB design.

2. **Description:** The GPIO signals will be driven low for approximately 40 microseconds after power cycling the device and then return to the configured reset state.

Impact: This may impact systems where the T62x/T32x is connected to devices that are powered from a separate supply and turned on before the T62x/T32x receives power through the 5 volt regulator or through VDD and VIO pins. The drop of the T62x/T32x signals may be seen as invalid data to the connected devices.

Workaround: In systems that are affected by this drop, the T62x/T32x should be powered through the 5 volt regulator or through the VDD and VIO pins from the same supply used by devices that are connected to the GPIO signals of the T62x/T32x.