Future Technology Devices International Ltd.

TN_126 FT4232H Errata Technical Note

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The intention of this errata technical note is to give a detailed description of known functional or electrical issues with the FTDI FT4232H devices. The current revision of the FT4232H is revision C, released March 2010. At the time of releasing this Technical Note there are no known issues with this silicon revision.
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1 FT4232H Revision

FT4232H part numbers are listed in Table 1. The letter at the end of date code identifies the device revision.

The current revision of the FT4232H is revision C, released March 2010. At the time of releasing this Technical Note there are no known issues with this silicon revision.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Package</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT4232HL</td>
<td>64 Pin LQFP</td>
</tr>
<tr>
<td>FT4232HQ</td>
<td>64 Pin QFN</td>
</tr>
</tbody>
</table>

Table 1 FT4232H Part Numbers

This errata technical note covers the revisions of FT4232H listed in Table 2.

<table>
<thead>
<tr>
<th>Revision</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>First device revision</td>
</tr>
<tr>
<td>B</td>
<td>Second device revision</td>
</tr>
<tr>
<td>C</td>
<td>Third device revision</td>
</tr>
</tbody>
</table>

Table 2 FT4232H Revisions
## 2 Errata History Table – Functional Problems

<table>
<thead>
<tr>
<th>Functional Problem</th>
<th>Short description</th>
<th>Errata occurs in device revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT4232H</td>
<td>Error reading EEPROM interface</td>
<td>A</td>
</tr>
<tr>
<td>FT4232H</td>
<td>3 Phase clocking in MPSSE mode incorrect</td>
<td>A</td>
</tr>
</tbody>
</table>

### 2.1 Errata History Table – Electrical and Timing Specification Deviations.

<table>
<thead>
<tr>
<th>Deviations</th>
<th>Short description</th>
<th>Errata occurs in device revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suspend timer failure (USB Chapter 9 Compliance)</td>
<td>The USB specification requires a maximum time to suspend of 3.125ms. The device takes up to 4ms to suspend.</td>
<td>A, B</td>
</tr>
</tbody>
</table>
3 Functional Problems of FT4232H

3.1 Revision A

3.1.1 Error reading EEPROM Interface

Introduction:

The FT4232H uses an external EEPROM to store USB descriptors. These descriptors must be correctly read for the device to be properly identified and configured.

Problem:

There is an issue that under the right conditions the internal address counter can increment by 2 (incorrectly). This appears as though the data read from the EEPROM has missed a byte.

Workaround:

There are no known workarounds available. This issue is corrected at silicon revision B.

Package specific:

The effected packages are listed in Table 3.

<table>
<thead>
<tr>
<th>Package</th>
<th>Applicable (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT4232HL</td>
<td>Y</td>
</tr>
<tr>
<td>FT4232HQ</td>
<td>Y</td>
</tr>
</tbody>
</table>

Table 3

3.2 Revision B

3.2.1 3 Phase clocking in MPSSE mode incorrect

Introduction:

The FT4232H introduced a new function to the MPSSE mode called 3 phase clocking to allow data to be clocked on both edges.

Problem:

3 Phase clocking was not being enabled.

Workaround:

There are no known workarounds available. This issue is corrected at silicon revision B.
The effected packages are listed in Table 4.

<table>
<thead>
<tr>
<th>Package</th>
<th>Applicable (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT4232HL</td>
<td>Y</td>
</tr>
<tr>
<td>FT4232HQ</td>
<td>Y</td>
</tr>
</tbody>
</table>

Table 4
4 Electrical and Timing specification deviations of FT4232H

4.1 Revision A

4.1.1 Suspend Timer Failure

Introduction:
The FT4232H has the ability to be put into suspend by the host to conserve power usage.

Problem:
The USB specification chapter 9 compliance tests require the device to go into suspend within 3.125ms. The device is taking up to 4ms to enter suspend state.

Workaround:
There are no known workarounds available. This issue is corrected at silicon revision C.

Package specific:
The effected packages are listed in Table 5.

<table>
<thead>
<tr>
<th>Package</th>
<th>Applicable (Yes/No)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FT4232HL</td>
<td>Y</td>
</tr>
<tr>
<td>FT4232HQ</td>
<td>Y</td>
</tr>
</tbody>
</table>

Table 5
5 FT4232H Package Markings

FT4232H is available in a RoHS Compliant package, 64 pin LQFP and 64 pin QFN. An example of the markings on the package is shown in Figure 3-x.

![Figure 5-1 Package Markings – FT4232HQ](image)

![Figure 5-2 Package Markings – FT4232HL](image)
6 Contact Information

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## Appendix C – Revision History

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>First Release</td>
<td>05/11/2010</td>
</tr>
</tbody>
</table>