GigaDevice Semiconductor Inc.

Device limitations of GD32F3x0

Errata Sheet
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1. **Introduction**

This document applies to GD32F3x0 product series, as shown in Table 1-1. Applicable products. It provides the technical details that need to be paid attention to in the process of using GD32 MCU, as well as solutions to related problems.

**Table 1-1. Applicable products**

<table>
<thead>
<tr>
<th>Type</th>
<th>Part Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCU</td>
<td>GD32F310xx series</td>
</tr>
<tr>
<td></td>
<td>GD32F330xx series</td>
</tr>
<tr>
<td></td>
<td>GD32F350xx series</td>
</tr>
</tbody>
</table>

1.1. **Revision identification**

The device revision can be determined by the mark on the top of the package. The 1st code on the line 3 of the mark represents product revision code. As the picture shown in Figure 1-1. Device revision code of GD32F3x0.

**Figure 1-1. Device revision code of GD32F3x0**

1.2. **Summary of device limitations**

The device limitations of GD32F3x0 are shown in Table 1-2. Device limitations, please refer to section 2 for more details.

**Table 1-2. Device limitations**

<table>
<thead>
<tr>
<th>Module</th>
<th>Limitations</th>
<th>Workaround</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMU</td>
<td><em>MCU can not be waked up when an interrupt occurs before entering deep-sleep</em></td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td><em>Standby mode can not be entered normally</em></td>
<td>Y</td>
</tr>
<tr>
<td>TIMER</td>
<td><em>TIMER comparator triggers BREAK failure</em></td>
<td>Y</td>
</tr>
<tr>
<td>I2C</td>
<td><em>Read one more data because the BTC flag was not cleared</em></td>
<td>Y</td>
</tr>
</tbody>
</table>
Device limitations of GD32F3x0

Note:
Y = available
N = not available
2. Descriptions of device limitations

2.1. PMU

2.1.1. MCU can not be waked up when an interrupt occurs before entering deep-sleep

Description & impact

When system application programme exists other interrupt code (such as systick / timer period interrupt) and needs to enter deep-sleep mode through WFE or WFI instruction, the system will exist the risk of not being wakedup after running for some time.

Workarounds

Application programme needs to mask all interrupts except EXTI for wakeup source before entering deep-sleep mode, then unmask the needed interrupts after wakeup. The latest firmware library of GD32F3x0 series has circumvented this problem.

2.1.2. Standby mode can not be entered normally

Description & impact

When system application programme exists other interrupt code (such as systick 1us period interrupt) and needs to enter standby mode through WFI instruction, the system can not enter the standby mode normally.

Workarounds

Application programme needs to mask all interrupts except wakeup source before entering standby mode, then unmask the needed interrupts after wakeup.

2.2. TIMER

2.2.1. TIMER comparator triggers BREAK failure

Description & impact

The break signal of the comparator output controlling the TIMER has no effect.

Workarounds

When the comparator triggers a break, it can only be triggered if the break polarity is configured to be active high.
2.3. I2C

2.3.1. Read one more data because the BTC flag was not cleared

Description & impact

If an interrupt occurs before reading I2C_DATA register when RBNE flag is set and BTC flag is reset, I2C will read an additional data if BTC flag is set during the interrupt processing because the read data operation can not clear the BTC flag.

Workarounds

1) Using interrupt method to read the I2C_DATA register.
2) Using DMA method to read the I2C_DATA register.
3. Revision history

Table 3-1. Revision history

<table>
<thead>
<tr>
<th>Revision No.</th>
<th>Description</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0</td>
<td>Initial Release</td>
<td>Aug.30 2022</td>
</tr>
</tbody>
</table>
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