GigaDevice Semiconductor Inc.

GD32E235 芯片使用限制

勘误手册

1.2 版本

（2026 年 8 月）

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1. 前言

该文档适用于 GD32E235 产品，具体参考*表 1-1. 适用产品*。该文档提供了在使用 GD32 MCU 过程中需要注意的技术细节，以及相关问题的解决方案。

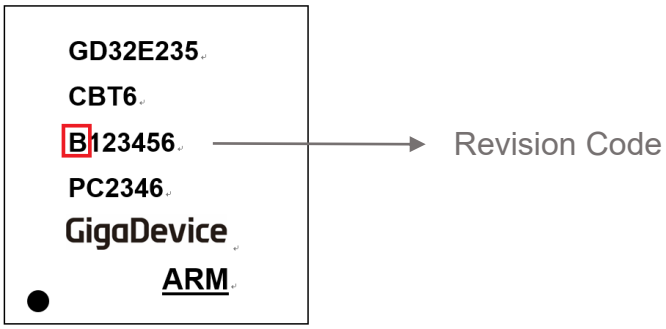
表 1-1. 适用产品

类型	产品系列
MCU	GD32E235xx 系列

1.1. 芯片版本定义

可通过芯片丝印上的标记来确定当前芯片的版本。丝印上第 3 行的第 1 个编码表示芯片当前版本，如*图 1-1. GD32E235 的芯片修订版本*所示。

图 1-1. GD32E235 的芯片修订版本



1.2. 芯片使用限制总览

GD32E235 芯片使用限制参考*表 1-2. 芯片使用限制*。关于芯片使用限制的更多详细信息请参考第 2 章。

表 1-2. 芯片使用限制

模块	使用限制	解决方案
		修订版本 B
RCU	*系统时钟从高频切换到低频时会导致系统运行故障*	Y
CMP	*CMP0 高迟滞模式不可用*	N

注意：

Y = 存在使用限制且存在解决方案

N = 存在使用限制但不存在解决方案

'--' = 使用限制已修复

2. 芯片使用限制描述

2.1. RCU

2.1.1. 系统时钟从高频切换到低频时会导致系统运行故障

描述与影响

当系统时钟从高频直接切换到低频时，会导致系统运行故障。

解决方案

首先，降低系统频率（例如 HCLK / 2 或 HCLK / 4）；其次，延迟超过 20 个 HCLK 周期；最后，切换到低频时钟。参考固件库中 system_gd32e23x.c 文件的 RCU_MODIFY 宏。RCU_MODIFY 的参考代码如下：

```
#define RCU_MODIFY(__delay)     do{                                         \
                                    volatile uint32_t i;                    \
                                    if(0 != __delay){                       \
                                        RCU_CFG0 |= RCU_AHB_CKSYS_DIV2; \
                                        for(i=0; i<__delay; i++){           \
                                        }                                   \
                                        RCU_CFG0 |= RCU_AHB_CKSYS_DIV4; \
                                        for(i=0; i<__delay; i++){           \
                                        }                                   \
                                    }                                       \
                                }while(0)
```

2.2. CMP

2.2.1. CMP0 高迟滞模式不可用

描述与影响

CMP0 高迟滞模式不可用。如果配置为高迟滞模式，则会现比较器输出结果不正确的功能性错误。

解决方案

避免使用比较器高迟滞模式。用户应使用无迟滞、低迟滞、中迟滞模式代替。

3. 版本历史

表 3-1. 版本历史

版本号.	说明	日期
1.0	首次发布	2024 年 3 月 27 日
1.1	添加 RCU 限制描述，参考***系统时钟从高频切换到低频时会导致系统运行故障***	2024 年 9 月 1 日
1.2	添加 CMP 限制描述，参考 ***CMP0 高迟滞模式不可用***	2026 年 8 月 20 日

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