

Precautions on Flash erase operation in zero-wait area

Questions:

What should we know about Flash erase operation in zero-wait area?

Answer:

Performing Flash erase operation when both conditions below are met will cause the application program to abandon its normal sequence:

1. Zero-wait area (ZW) is being erased;
2. During erase operation, the CPU has the following behavior:
Fetch a command from a zero-wait area -> Jump to a non-zero-wait area to fetch a command

For example, after the page erase operation in a zero-wait area is enabled, the application first goes to check Flash busy flag (this process is done in a zero-wait area) before responding to interrupt. But if the interrupt function contains a code to be executed in NZW area, an error will occur when accessing the code by the application program.

Option 1: Disable interrupt before enabling erase, and then enable it after the completion of erase

```
__disable_irq();
Erase();
__enable_irq();
```

Option 2: Ensure that all function codes are in zero-wait areas during erase operation.

Type: MCU applications

Applicable products: AT32F413, AT32F403, AT32F403A, AT32F407

Main function: Flash

Minor function: None

Document revision history

Date	Revision	Changes
2022.2.28	2.0.0	Initial release

IMPORTANT NOTICE – PLEASE READ CAREFULLY

Purchasers are solely responsible for the selection and use of ARTERY's products and services, and ARTERY assumes no liability whatsoever relating to the choice, selection or use of the ARTERY products and services described herein

No license, express or implied, to any intellectual property rights is granted under this document. If any part of this document deals with any third party products or services, it shall not be deemed a license granted by ARTERY for the use of such third party products or services, or any intellectual property contained therein, or considered as a warranty regarding the use in any manner of such third party products or services or any intellectual property contained therein.

Unless otherwise specified in ARTERY's terms and conditions of sale, ARTERY provides no warranties, express or implied, regarding the use and/or sale of ARTERY products, including but not limited to any implied warranties of merchantability, fitness for a particular purpose (and their equivalents under the laws of any jurisdiction), or infringement on any patent, copyright or other intellectual property right.

Purchasers hereby agree that ARTERY's products are not designed or authorized for use in: (A) any application with special requirements of safety such as life support and active implantable device, or system with functional safety requirements; (B) any aircraft application; (C) any aerospace application or environment; (D) any weapon application, and/or (E) or other uses where the failure of the device or product could result in personal injury, death, property damage. Purchasers' unauthorized use of them in the aforementioned applications, even if with a written notice, is solely at purchasers' risk, and Purchasers are solely responsible for meeting all legal and regulatory requirements in such use.

Resale of ARTERY products with provisions different from the statements and/or technical characteristics stated in this document shall immediately void any warranty grant by ARTERY for ARTERY's products or services described herein and shall not create or expand any liability of ARTERY in any manner whatsoever.

© 2022 Artery Technology -All rights reserved