



PIC16F872

PIC16F872 Rev. A0 Silicon Errata Sheet

The PIC16F872 (Rev. A0) parts you have received conform functionally to the Device Data Sheet (**DS30221A**), except for the anomalies described below.

All of the problems listed here will be addressed in future revisions of the PIC16F872 silicon.

1. Module: Program Memory Writes

When both CP bits (CP1 or CP0) are clear, program memory writes are disabled. Table 1 shows how the data sheet specifies writes to the protected FLASH memory (CP1:CP0 = 00).

Devices marked "ES" (Engineering Sample) have program memory writes disabled for the configuration shown in the shaded cell of Table 1.

The data sheet specification for CP operation (when CP1:CP0 = 00) was enhanced after manufacturing began on the "ES" (Engineering Sample) revision of the device. Future devices will operate to the Data Sheet specification (**DS30221A**).

Work Around

None

Date Codes that pertain to this issue:

All devices marked "ES" (Engineering Sample)

Note: When the manufacture date of a newer version of silicon is in production, the last date where this issue may occur will be specified in the errata sheet.

TABLE 1: READ/WRITE STATE OF INTERNAL FLASH PROGRAM MEMORY

| Configuration Bits | | | Program Memory Locations | Internal Operation | | ICSP | |
|--------------------|-----|-----|--------------------------|--------------------|-------|------|-------|
| CP1 | CP0 | WRT | | Read | Write | Read | Write |
| 0 | 0 | 1 | All | Yes | Yes | No | No |
| 0 | 0 | 0 | All | Yes | No | No | No |
| 0 | 1 | 0 | Unprotected | Yes | No | Yes | No |
| 0 | 1 | 0 | Protected | Yes | No | No | No |
| 0 | 1 | 1 | Unprotected | Yes | Yes | Yes | No |
| 0 | 1 | 1 | Protected | Yes | No | No | No |
| 1 | 0 | 0 | Unprotected | Yes | No | Yes | No |
| 1 | 0 | 0 | Protected | Yes | No | No | No |
| 1 | 0 | 1 | Unprotected | Yes | Yes | Yes | No |
| 1 | 0 | 1 | Protected | Yes | No | No | No |
| 1 | 1 | 0 | All | Yes | No | Yes | Yes |
| 1 | 1 | 1 | All | Yes | Yes | Yes | Yes |

Note: As with any windowed EPROM device, please cover the window at all times, except when erasing.

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Clarifications/Corrections to the Data Sheet:

In the Device Data Sheet (**DS30221A**), the following clarifications and corrections should be noted.

1. Module: Program Memory Code Protect Range

The partial code protect modes are not supported on production devices. Devices marked “ES” (Engineering Sample) do not reflect this change. Table 2 compares how the program memory regions are protected in “ES” (Engineering Sample) silicon vs. data sheet vs. Production silicon.

REVISION HISTORY

Rev A Document

TABLE 2: CODE PROTECT RANGES

| CP1:CP0 | Program Memory Range Protected | | |
|---------|--------------------------------|---------------|--------------------|
| | Devices Marked “ES” | Data Sheets | Production Devices |
| 11 | None | None | None |
| 10 | 0700h — 07FFh | 0000h — 06FFh | Not supported |
| 01 | 0400h — 07FFh | 0000h — 03FFh | Not supported |
| 00 | 0000h — 07FFh | 0000h — 07FFh | 0000h — 07FFh |

Work Around

None

Date Codes that pertain to this issue:

All devices marked “ES” (Engineering Sample)

| |
|--|
| Note: When the manufacture date of a newer version of silicon is in production, the last date where this issue may occur will be specified in the errata sheet. |
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NOTES:

Note the following details of the code protection feature on PICmicro® MCUs.

- The PICmicro family meets the specifications contained in the Microchip Data Sheet.
- Microchip believes that its family of PICmicro microcontrollers is one of the most secure products of its kind on the market today, when used in the intended manner and under normal conditions.
- There are dishonest and possibly illegal methods used to breach the code protection feature. All of these methods, to our knowledge, require using the PICmicro microcontroller in a manner outside the operating specifications contained in the data sheet. The person doing so may be engaged in theft of intellectual property.
- Microchip is willing to work with the customer who is concerned about the integrity of their code.
- Neither Microchip nor any other semiconductor manufacturer can guarantee the security of their code. Code protection does not mean that we are guaranteeing the product as “unbreakable”.
- Code protection is constantly evolving. We at Microchip are committed to continuously improving the code protection features of our product.

If you have any further questions about this matter, please contact the local sales office nearest to you.

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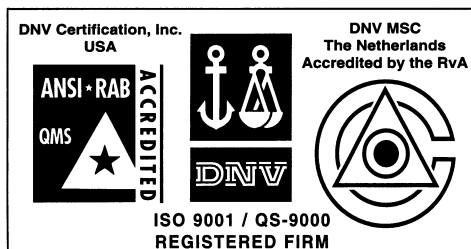
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