PIC16F87XA

PIC16F87XA Rev. B6 Silicon Errata

The PIC16F87XA Rev. B6 parts you have received conform functionally to the Device Data Sheet (DS39582**B**), except for the anomalies described below.

All the issues listed here will be addressed in future revisions of the PIC16F87XA silicon.

The following silicon errata apply only to PIC16F87XA devices with these Device/Revision IDs:

Part Number	Device ID	Revision ID
PIC16F873A	00 1110 010	00111
PIC16F874A	00 1110 011	00111
PIC16F876A	00 1110 000	00111
PIC16F877A	00 1110 001	00111

1. Module: A/D (Operation)

The ADC is disabled when ADCON1<3:0> = `011x` (all inputs digital) and CMCON<2:0> = `111` (comparators are off). This is a special case that conflicts with the second sentence of Note 1 on page 131 of the device data sheet: “Pins configured as digital inputs will convert an analog input.”

Work around

For the ADC module to be enabled, it is necessary to either:

1. Enable the comparators (CMCON<2:0> ≠ `111`);
   or
2. Configure at least one ADC channel as an analog input (ADCON1<3:0> ≠ `011x`).

2. Module: (Program Memory)

A very small number of applications are experiencing a low failure rate when using self-write through code types of applications. The most common of these are bootloader operations. This type of failure is characterized by a few bytes in program memory not being written as expected. If this failure is going to occur, it will occur during a self-write operation. If a failure is not immediately observed, then there will be no data retention issues. The failure does not occur when using an external programmer through In-Circuit Serial Programming™ (ICSP™).

This failure is dependent on the sequence of instructions executed after self-writes. Most of the failures observed have occurred in applications running at 5V and with an operating frequency of 12 MHz to 17 MHz.

Good power supply decoupling minimizes this issue. It is recommended that you use a 0.1 µF decoupling capacitor with each power pin pair. The decoupling capacitor should be placed very close to power pins.

It is recommended that you perform statistically significant testing within your application’s operating range (i.e., temperature and voltage) with devices from multiple lots.

Work around

If your devices are exhibiting this type of failure, please contact your Microchip sales representative.

Clarifications/Corrections to the Data Sheet:

In the Device Data Sheet (DS39582**B**), the following clarifications and corrections should be noted.

None.

REVISION HISTORY

Rev A Document (8/2005)
Original version of this document. Includes silicon issues 1 (A/D Operation) and 2 (Program Memory).

Note the following details of the code protection feature on Microchip devices:

- Microchip products meet the specification contained in their particular Microchip Data Sheet.
- Microchip believes that its family of products is one of the most secure families 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 Microchip products in a manner outside the operating specifications contained in Microchip's Data Sheets. Most likely, the person doing so is engaged in theft of intellectual property.
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07/01/05