



PIC16F870/871

PIC16F870/871 Rev. A1 Silicon Errata Sheet

The PIC16F871/870 Rev. A1 parts you have received conform functionally to the Device Data Sheet (DS30569A), except for the anomalies described below.

All the problems listed here will be addressed in future revisions of the PIC16F871/870 silicon.

1. Module: Electrical Specifications

The supply voltage specification has not yet met the design target (data sheet specification). The specification for these devices is shown in Table 1.

2. Programming Issues

Problems may be experienced when programming devices with date codes earlier than and including 0025NNN. These devices are shipped with Low Voltage In-Circuit Serial Programming™ (ICSP) (LVP) enabled. In this mode, the I/O pin, RB3, is used to place the device in Programming mode. Most programmers will leave this pin floating, which may cause the device to enter Programming mode before MCLR has been released from ground. This sequence of events prevents the device from entering Programming mode properly.

Work around

Connect a 10 kΩ resistor from pin RB3 to ground. This resistor can be placed in the programming socket when the device is programmed in a programmer.

When programming, using ICSP with the device mounted on the target board, pin RB3 must be pulled or driven low during programming.

If Low Voltage ICSP Programming is not required in the application, it should be disabled. All future programming cycles will not require pin RB3 to be pulled, or driven low after LVP is disabled.

3. Module: Timer1

When Timer1 is running in Asynchronous mode and then disabled, data in the Timer1 register (TMR1) may become corrupted. Corruption occurs when the timer enable is turned off at the same instant that a ripple carry occurs in the timer module.

This issue only occurs in asynchronous operation. In synchronous operation, the relevant signals are latched with the CPU clock and the problem condition does not arise.

Work around

When Timer1 is configured to operate as an asynchronous counter, care must be taken that there is no incoming pulse while the module is being turned off. If an incoming pulse arrives while Timer1 is being turned off, the value of register TMR1 may become corrupted.

If an application requires that Timer1 be turned off, and if it is possible that Timer1 may receive an incoming pulse while being turned off, synchronize the external clock first by clearing the T1SYNC bit of register T1CON (T1CON<2>). Please note, however, that this may cause Timer1 to miss up to one count.

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 (DS30569A), the following clarifications and corrections should be noted.

1. The supply voltage specification (parameter D001) has changed. The new value is shown in Table 1.

TABLE 1: DC SPECIFICATION CHANGES FROM DATA SHEET

Param. No.	Symbol	Characteristic	Tested Specification			Data Sheet Specification			Units
			Min	Typ	Max	Min	Typ	Max	
D001	VDD	Supply Voltage	2.2	—	5.5	2.0	—	5.5	V

REVISION HISTORY

Rev A Document (6/2000)

Original errata document.

Issues 1 (Electrical Specifications) and 2
(Programming Issues), page 1.

Clarification of supply voltage (page 2).

Rev B Document (2/01)

Issue 3 (Timer1), page 1.

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NOTES:

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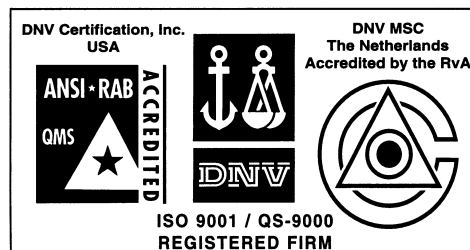
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