

PIC12F508/509 Rev. A Silicon/Data Sheet Errata

The PIC12F508/509 parts you have received conform functionally to the Device Data Sheet (DS41236C), except for the anomalies described below.

All problems listed here will be addressed in future revisions of the **PIC12F508/509 silicon**. Where noted, problems apply to listed revision only.

1. Module: MPLAB® IDE, Revision 6.61 and Earlier

MPLAB IDE 6.61 does not look for or set the Configuration Word in the hex file at the conventional logical location of 0xFFF.

Work around:

The CONFIG data must be assigned in two locations within the assembly code to ensure proper Configuration Word placement in the hex file. This is only required for MPLAB IDE version 6.61 and earlier.

Fixed Code

```
org      0xYYYY
data    _CP_OFF & _WDT_ON & etc.
__CONFIG _CP_OFF & _WDT_ON & etc.
```

Re-locatable Code

```
.config  code 0xYYYY
data    data _CP_OFF & _WDT_ON &
etc.
__CONFIG data _CP_OFF & _WDT_ON &
etc.
```

Configuration Word Address

Device	YYYY
PIC12F508	03FF
PIC12F509	07FF

Note: YYYY is the address of the Configuration Word for the part.

2. Module: PIC12F509 debugging with ICD2 (PIC16F505-ICD silicon) – Invalid FSR Power-Up Initialization

The FSR on the PIC16F505-ICD debugger silicon initializes to an invalid state. When using the ICD to debug software with the PIC16F505-ICD, bit 5 in the FSR register must be manually cleared to '0' prior to saving data in user RAM space. The power-up default is '1', which causes the device to Access Bank 1. The power-up defaults are correct on the non-ICD version of the PIC12F509 devices.

Work around:

Add the following line of code to the top of your program;

```
BCF FSR,5 ;set bank pointers to bank 0
```

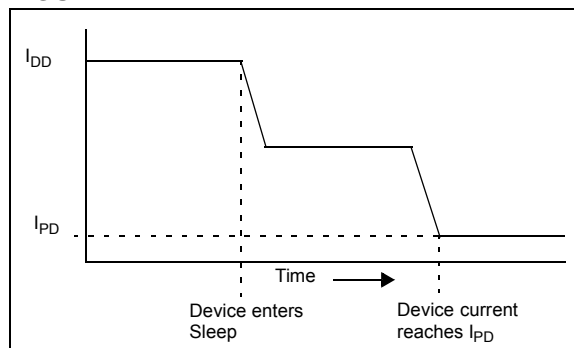
This will have no effect on non-ICD devices, but will correct for the initialization errata on -ICD devices.

3. Module: I_{PD}, Power-Down Base current

On the PIC12F508/509 silicon, revisions earlier than A3, the power-down base current may remain higher than the specification for a short time when entering Sleep.

The following graph illustrates the device current upon entering Sleep:

FIGURE 1:



The length of time between the device entering Sleep mode and the device current reaching I_{PD} increases as both temperature and voltage decrease.

Work around

This issue is fixed in Revisions A3 and later.

PIC12F508/509

Clarifications/Corrections to the Data Sheet:

In the Device Data Sheet (DS41236C), the following clarifications and corrections should be noted.

None.

Revision History

Rev A Document (05/2004)

First revision of this document.

Rev B Document (9/2004)

Added Module 2:, MPLAB IDE and the `_CONFIG` assembly directive.

Rev C Document (2/2006)

Added Module 1: "Electrical Characteristics" to the Clarifications/Corrections to the Data Sheet

Rev D Document (5/2006)

Added Module 3: "PIC12F509 debugging with ICD2 (PIC16F505-ICD silicon) - Invalid FSR Power-Up Initialization" to the Silicon Errata. Updated min/max values in table 10-4.

Rev E Document (1/2007)

Removed Module 1: Oscillators and renumbered accordingly.

Rev F Document (04/2007)

Data Sheet Clarifications/Corrections section:
Removed Module 1 per data sheet update.

Rev G Document (07/2007)

Added Module 3: I_{PD} Power-Down Base current.

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