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## AN4808 MCP2517FD to MCP2518FD Migration Guide

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### Introduction

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The MCP2517FD is a cost-effective, small-footprint External CAN FD Controller that can easily be added to a microcontroller with an available SPI interface. A CAN FD channel can be added to a microcontroller that is either lacking a CAN FD peripheral, or does not have enough CAN FD channels.

The MCP2518FD is designed to be pin and functionally compatible with the MCP2517FD. In addition, there are enhancements that give the device better robustness and new possibilities for low-power applications.

For most applications, the MCP2518FD can be used as a replacement for existing MCP2517FD designs without modifications.

When evaluating an upgrade to the MCP2518FD, there are some considerations to take into account.

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## Table of Contents

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Introduction.....	1
1. Migration Considerations.....	3
2. Revision History.....	4
Microchip Information.....	5
The Microchip Website.....	5
Product Change Notification Service.....	5
Customer Support.....	5
Microchip Devices Code Protection Feature.....	5
Legal Notice.....	5
Trademarks.....	6
Quality Management System.....	7
Worldwide Sales and Service.....	8

# 1. Migration Considerations

### Hardware Considerations

The latest package information can be found at: [www.microchip.com/en-us/support/package-drawings](http://www.microchip.com/en-us/support/package-drawings).

The MCP2517FD and MCP2518FD each have slightly different QFN packages. The MCP2518FD uses a QFN package with step-cut wettable (Drawing: C04-21361) flanks. The MCP2517FD uses a QFN package with dimpled wettable flanks (Drawing: C04-1198). There are slight differences in the tolerances. It is suggested to check the footprint used on the PCB to verify if a replacement is possible.

### Software Considerations

Some configuration bits have been added to the MCP2518FD. If the software is written so that reserved bits on the MCP2517FD are handled correctly, no changes are necessary.

Added LPMEN bit in register OSC. This bit was reserved in the MCP2517FD. If written to 0, the device has the same behavior as before. If written to 1, a low power mode is selected in which RAM and register values are lost when going to sleep mode.

The sequence field was extended from 7 to 23 bits – the bits were reserved and read as 0 before. It is a larger counter now.

A device ID register was added (which currently for the MCP2518FD reads 0 and read as 0 – reserved for the MCP2517FD).

### Linux Driver Considerations

The mainline Linux driver has a built-in detection of whether an MCP2517FD or an MCP2518FD is connected and will automatically use the correct settings.

### General Considerations

Electrical characteristics always vary from device to device and hence also between different devices like the MCP2517FD and MCP2518FD. While the electrical min/max values are largely the same the application still needs to be verified to be working with the new devices.

## 2. Revision History

### Revision A (November 2022)

Initial release of this document.

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## Microchip Information

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- **Product Support** – Data sheets and errata, application notes and sample programs, design resources, user's guides and hardware support documents, latest software releases and archived software
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- Distributor or Representative
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- Technical Support

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